EP Variation Application

Rainham Clinical Waste Treatment Centre (EPR/PP3707BB)

SHSMT_2023.02 - September 2023

Application for an environmental permit Part A – About you

You will need to fill in this part A if you are applying for a new permit, applying to change an existing permit or surrender your permit, or want to transfer an existing permit to yourself. Please check that this is the latest version of the form available from our website.

You can apply online for Waste standard rules environmental permits, bespoke waste permits and bespoke Medium combustion plant permits

Apply online for an environmental permit.

Please read through this form and the guidance notes that came with it.

The form can be:

1) **saved onto a computer and then filled in. Please note that the form follows a logic that means questions will open or stay closed depending on a previous answer. So you may not be able to enter text in some boxes.**
2) **printed off and filled in by hand. Please write clearly in the answer spaces.**

Note: if you believe including information on a public register would not be in the interests of national security you must enclose a letter telling us that you have told the Secretary of State. We will not include the information in the public register unless directed otherwise.

It will take less than one hour to fill in this part of the application form.

Where you see the term 'document reference' on the form, give the document references and send the documents with the application form when you've completed it.

Contents

1 About you

Are you applying as an individual, an organisation of individuals (for example, a partnership), a company (this includes Limited Liability Partnerships) or a public body?

An individual	☐ Now go to section 2 and if you are applying for a new permit or transferring a permit for an installation or waste activity please also fill in Appendix 1
An organisation of individuals (for example, a partnership)	☐ Now go to section 3 and if you are applying for a new permit or transferring a permit for an installation or waste activity please also fill in Appendix 1
A public body	☐ Now go to section 4
A registered company or other corporate body	☑ Now go to section 5 and if you are applying for a new permit or transferring a permit for an installation or waste activity please also fill in Appendix 1

2 Applications from an individual

2a Please give us the following details

Name

Title (Mr, Mrs, Miss and so on) _____

First name _____

Last name _____

Now go to section 6

3 Applications from an organisation of individuals or charity

3a Type of organisation

For example, a charity, a partnership, a group of individuals or a club

3b Details of the organisation or charity

If you are an organisation of individuals, please give the details of the main representative below. If relevant, provide details of other members (please include their title Mr, Mrs and so on) on a separate sheet and tell us the document reference you have given this sheet

Contact name

Title (Mr, Mrs, Miss and so on)

First name

Last name

Now go to question 3c or section 6

3c Details of charity

Full name of charity

This should be the full name of the legal entity not any trading name.

3d Company registration number

If you are registered with Companies House please tell us your registration number

3e Charity Commission number

If you are registered with the Charity Commission please tell us your registration number

Now go to section 6

4 Applications from public bodies

4a Type of public body

For example, NHS trust, local authority, English county council

4b Name of the public body

4c Please give us the following details of the executive

An officer of the public body authorised to sign on your behalf

Name

Title (Mr, Mrs, Miss and so on)

First name

Last name

Position

Now go to section 6

5 Applications from companies or corporate bodies

5a Name of the company

Sharpsmart Limited

5b Company registration number

04261387

Date of registration (DD/MM/YYYY)

30/07/2001

If you are applying as a corporate organisation that is not a limited company, please provide evidence of your status and tell us below the reference you have given the document containing this evidence.

Document reference

5 Applications from companies or corporate bodies, continued

5c Please give details of the directors

If relevant, provide details of other directors and company secretary, if there is one, on a separate sheet and tell us the reference you have given this sheet.

Document reference: See Supporting Statement, Section 2.1

Details of company secretary (if relevant) and director/s

Title (Mr, Mrs, Miss and so on):

First name:

Last name:

Title (Mr, Mrs, Miss and so on):

First name:

Last name:

Now go to section 6

6 Your address

6a Your main (registered office) address

For companies this is the address on record at Companies House.

Contact name

Title (Mr, Mrs, Miss and so on): Mr

First name: Dan

Last name: Daniels

Address: Unit 1 Enterprise Point
Enterprise City, Meadowfield Avenue
Spennymoor
Durham, England

Postcode: DL16 6JF

Contact numbers, including the area code

Phone: 01388 810310

Fax:

Mobile:

Email:

For an organisation of individuals every partner needs to give us their details, including their title Mr, Mrs and so on. So, if necessary, continue on a separate sheet and tell us below the reference you have given the sheet.

Document reference: N/A

6b Main UK business address (if different from above)

Contact name

Title (Mr, Mrs, Miss and so on): Mr

First name: Robert

Last name: Green

Address: Unit 9 Charterpoint Way
Asby-de-la-Zouch
Leicestershire

Postcode: LE65 1NF

6 Your address, continued

Contact numbers, including the area code

Phone

Fax

Mobile 07594 521626

Email RGreen@sharpsmart.co.uk

Now go to section 7

7 Contact details

7a Who can we contact about your application?

It will help us if there is someone we can contact if we have any questions about your application. The person you name should have the authority to act on your behalf.

Please add a second contact on a separate sheet if this person is not always available.

Document reference of this separate sheet

This can be someone acting as a consultant or an 'agent' for you.

Contact name

Title (Mr, Mrs, Miss and so on) Miss

First name Rebecca

Last name Hodkinson

Address Reva Environmental Ltd

156 Russell Drive

Wollaton

Nottingham

Postcode NG8 2BE

Contact numbers, including the area code

Phone

Fax

Mobile 07949 178558

Email rebecca@revaenvironmental.co.uk

7b Who can we contact about your operation (if different from question 7a)?

Contact name

Title (Mr, Mrs, Miss and so on) Mr

First name Robert

Last name Green

Address As per 6b above

Postcode

Contact numbers, including the area code

Phone

Fax

Mobile

Email

7 Contact details, continued

7c Who can we contact about your billing or invoice?

Note: Please provide the name and address that all invoices should be sent to for your subsistence fees.

As in question 7a ☐

As in question 7b ☑

Please give details below if different from question 7a or 7b.

Contact name

Title (Mr, Mrs, Miss and so on)

First name

Last name

Address

Postcode

Contact numbers, including the area code

Phone

Fax

Mobile

Email

8 How to contact us

If you need help filling in this form, please contact the person who sent it to you or contact us as shown below.

General enquiries: 03708 506 506 (Monday to Friday, 8am to 6pm)

Textphone: 03702 422 549 (Monday to Friday, 8am to 6pm)

Email: enquiries@environment-agency.gov.uk

Website: www.gov.uk/government/organisations/environment-agency

If you are happy with our service, please tell us. It helps us to identify good practice and encourages our staff. If you're not happy with our service, please tell us how we can improve it. More information on how to do this is available at: www.gov.uk/government/organisations/environment-agency/about/complaints-procedure.

Please tell us if you need information in a different language or format (for example, in large print) so we can keep in touch with you more easily.

9 Where to send your application

For how many copies to send see the guidance note on part A.

For water discharges by email to PSC-WaterQuality@environment-agency.gov.uk

For waste and installations by email to PSC@environment-agency.gov.uk

For flood risk activity permits send 1 copy only to enquiries@environment-agency.gov.uk or to the local Environment Agency office for where the work is proposed to be carried out.

Or

Permitting Support, NPS Sheffield
Quadrant 2
99 Parkway Avenue
Parkway Business Park
Sheffield
S9 4WF

Feedback

(You don't have to answer this part of the form, but it will help us improve our forms if you do.)

We want to make our forms easy to fill in and our guidance notes easy to understand. Please use the space below to give us any comments you may have about this form or the guidance notes that came with it.

How long did it take you to fill in this form?

We will use your feedback to improve our forms and guidance notes, and to tell the Government how regulations could be made simpler.

Would you like a reply to your feedback?

Yes please ☐

No thank you ☐

Crystal Mark 19101
Clarity approved by Plain English Campaign

For Environment Agency use only

Date received (DD/MM/YYYY)

Our reference number

Payment received?

No ☐

Yes ☐ Amount received

£

Appendix 1 – Date of birth information for installation and waste activities (applications for a new permit or transferring a permit) only

Date of birth information in this appendix will not be put onto our Public Register

Are you applying as an individual, an organisation of individuals (for example, a partnership) or a company (this includes Limited Liability Partnerships)?

An individual ☐ Now go to 2

An organisation of individuals (for example, a partnership) ☐ Now go to 3

A registered company or other corporate body ☐ Now go to 4

2 Applications from an individual

Please give us the following details

Name

Date of birth (DD/MM/YY)

3 Applications from an organisation of individuals or charity

Details of the organisation or charity

If you are an organisation of individuals, please give the date of birth details of the main representative below. If relevant, provide details of other members on a separate sheet and tell us the document reference you have given this sheet.

Name

Date of birth (DD/MM/YY)

Document reference

4 Applications from companies or corporate bodies

Name of the company

Please give the date of birth details for all directors and company secretary if there is one. If relevant, provide those details of other directors on a separate sheet and tell us the document reference you have given this sheet.

Details of company secretary (if relevant) and director/s

Name

Date of birth (DD/MM/YY)

Name

Date of birth (DD/MM/YY)

Name

Date of birth (DD/MM/YY)

Document reference

Application for an environmental permit
Part C2 – General – varying a bespoke permit

Fill in this part of the form, together with part A and the relevant parts of C3 to C7 and part F1 or F2, if you are applying to vary (change) the conditions or any other part of the permit. Please check that this is the latest version of the form available from our website.

You only need to give us details in this application for the parts of the permit that will be affected (for example, if you are adding a new facility or changing existing ones).

Waste operation changing to installation or vice versa?

If your changes mean that a waste operation becomes an installation (or vice versa) you also need to fill in either part C3 (waste to installation) or part C4 (installation to waste).

You do not need to resend any information from your original permit application if it is not affected by your proposed changes.

Please read through this form and the guidance notes that came with it.

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2) printed off and filled in by hand. Please write clearly in the answer spaces.

It will take less than two hours to fill in this part of the application form.

Contents

1 About the permit

Note: If you are applying to convert your existing permit to a standard permit or add a standard facility you need to fill out form C1.

1a Discussions before your application

If you have had discussions with us before your application, give us the permit reference or details on a separate sheet. Tell us below the reference you have given this extra sheet.

Permit or document reference: See Appendix A

1b Permit number

What is the permit number that this application relates to? EPR/PP3707BB (see Appendix B)

1c Site details

What is the name, address and postcode of the site?

Site name: Rainham Clinical Treatment Centre

Address: Unit 21
Barlow Way
Rainham
Essex

Postcode: RM13 8BT

2 About your proposed changes

2a Type of variation

What type of variation are you applying for?

Minor technical ☐

Normal variation ☐

Substantial ☑

2 About your proposed changes, continued

2b Changes or additions to existing activities

Please give us brief details in the box below. More detailed information can be given in Table 1 below.

See Section 1.3 of the Supporting Statement for details. In summary the application seeks to increase shredding capacity, reflect the replacement of the existing rotoclaves with a static autoclave, increase throughputs for existing activities, and include new emission sources from filtered local exhaust ventilation (LEV) systems.

Fill in Table 1 with details of all the proposed changes to current activities. In the final column of the table, give us the document reference for the proposed changes and send them to us with your filled in application form.

Fill in a separate table for each activity you are applying to vary or add. Use a separate sheet if you have a long list and send it to us with your application form. Tell us below the reference you have given this document.

Document reference

You only need to fill in one table for your mining waste operations.

2c Consolidating (combining) or updating existing permits

If your proposed change is to modernise (update) your permit, now answer 2c1; otherwise go to 2d.

If your proposed change is to consolidate (combine) a number of permits, now answer 2c2; otherwise go to 2d.

Note: In both cases we may require additional information from you about, for example, your management system. Therefore we would always advise you to talk to us before you submit any application to modernise or consolidate permits.

2c1 Do you want to have a modern style permit?

No ☐

Yes ☑

2c2 Identify all the permits you want to consolidate (combine) by listing the permit numbers in Table 2 below

Table 2 – Permit numbers

N/A - already a consolidated permit.

2d Treating batteries

2d Are you proposing to treat batteries?

No ☑

Yes ☐ Tell us how you will do this and send us a copy of your explanation and tell us below the reference you have given this explanation

Document reference for the explanation

2e Ship recycling

2e1 Is your activity covered by the Ship Recycling Regulations 2015? (See the guidance notes on part C2.)

No ☑

Yes ☐ Tell us how you will do this. Please send us a copy of your explanation and your facility recycling plan, and tell us below the reference numbers you have given these documents

Document reference for the explanation

Document reference for the facility recycling plan

2e2 Is this a renewal of an existing authorisation covered by the Ship Recycling Regulations 2015?

No ☑

Yes ☐ Tell us the expiry date of your existing authorisation (DD/MM/YYYY)

2 About your proposed changes, continued

Table 1 – Changes to existing activities

Fill in Table 1 with details of all the proposed changes to current activities. In the final column of the table, give us the document reference for the proposed changes and send them to us with your filled in application form.

Name	Installation schedule 1 references	Description of the installation activity	Description of waste operation	Description of the mining waste operations	Description of water discharge activity	Description of groundwater activity	Proposed changes document reference
i.e. name of installation, waste operation, mining waste operation, water discharge activity or groundwater activity							
Example – effluent unique name					Example – treated sewage effluent		
If you do not have enough room, go to the line below or send a separate document and give us the document reference here							
Rainham Clinical	5.3 A(1)(a)(ii)	Shredding haz waste					See Supporting
Treatment Centre	5.3 A(1)(a)(ii)	Autoclave haz waste					Statement
	5.3 A(1)(a)(iv)	Repackaging sharps					(SHSMT_2023.02/01)
	5.6 A(1)(a)	Storage of haz waste					
			Light compaction of				
			offensive waste				
			Storage of non-haz				
			waste				

2 About your proposed changes, continued

2f Low impact installations (installations only)

2f1 Will any changes mean that any of the regulated facilities will become low impact installations?

No ☑ Now go to section 3

Yes ☐ If yes, tell us how you meet the conditions for a low impact installation (see the guidance notes on part C2 – Appendix 1)

Document reference

Tick the box to confirm you have filled in the low impact installation checklist in appendix 1 for each regulated facility ☐

3 Your ability as an operator

If you are applying to add waste installations or waste operations to a permit that has not previously had them, you need to fill in all of section 3.

If you are applying to consolidate (combine) two or more permits or have an updated permit you must fill in question 3d.

This section does not apply for applications to surrender a permit.

3a Relevant offences

Installations and waste operations only (see the guidance notes on part C2).

3a1 Have you, or any other relevant person, been convicted of any relevant offence?

No ☐ Now go to question 3b

Yes ☐ Please give details below

Name of the relevant person

Title (Mr, Mrs, Miss and so on)

First name

Last name

Position held at the time of the offence

Name of the court where the case was dealt with

Date of the conviction (DD/MM/YY)

Offence and penalty set

Date any appeal against the conviction will be heard (DD/MM/YYYY)

If necessary, use a separate sheet to give us details of other relevant offences and tell us below the reference number you have given the extra sheet.

Document reference

Now go to question 3b

Please also complete the details in Appendix 2.

3b Technical ability

Specified waste management activities and waste operations only (see the guidance notes on part C1).

Please indicate which of the two schemes you are using to demonstrate you are technically competent to operate your facility and the evidence you have enclosed to demonstrate this.

ESA/EU skills

I have enclosed a copy of the current Competence Management System certificate ☐

CIWM/WAMITAB scheme

Please select **one** of the following:

- I have enclosed a copy of:
  - the relevant qualification certificate/s ☐

  or
  - evidence of deemed competence ☐

  or

3 Your ability as an operator, continued

- Environment Agency assessment ☐

or

- evidence of nominated manager status under the transitional provisions for previously exempt activities ☐

and, if deemed competent or Agency-assessed, or if there is evidence of a nominated manager, or if the original qualification is over two years old:

I have enclosed a copy of the relevant current continuing competence certificate/s ☐

For each technically competent manager please give the following information. If necessary, use a separate sheet to give us these details and tell us below the document reference you have given the extra sheet.

Title (Mr, Mrs, Miss and so on)

First name

Last name

Phone

Mobile

Email

Please provide the environmental permit number/s and site address for **all** other waste activities that the proposed technically competent manager provides technical competence for, including permits held by other operators. Continue on a separate sheet as required.

Permit number	Site address	Postcode

Document reference

Now go to question 3c

Please also complete the details in Appendix 2.

3c Finances

Installations, waste operations and mining waste operations only (see the guidance notes on part C2).

Please note that if you knowingly or carelessly make a statement that is false or misleading to help you get an environmental permit (for yourself or anyone else), you may be committing an offence under the Environmental Permitting (England and Wales) Regulations 2016.

Do you or any relevant person or a company in which you were a relevant person have current or past bankruptcy or insolvency proceedings against you?

No ☐

Yes ☐ Please give details below, including the required set-up costs (including infrastructure), maintenance and clean up costs for the proposed facility against which a credit check may be assessed

We may want to contact a credit reference agency for a report about your business's finances.

3 Your ability as an operator, continued

Landfill, Category A mining waste facilities and mining waste facilities for hazardous waste only

How do you plan to make financial provision (to operate a landfill or a mining waste facility you need to show us that you are financially capable of meeting the obligations of closure and aftercare)?

Renewable bonds ☐

Cash deposits with the Environment Agency ☐

Other – provide comprehensive details ☐

Document reference

Provide a cost profile and expenditure plan of your estimated costs throughout the aftercare period of your site.

Document plan reference

Now go to question 3d

3d Management systems

You must have an effective, written management system in place that identifies and reduces the risk of pollution. You may show this by using a certified scheme or your own system.

Your permit requires you (as the operator) to ensure that you manage and operate your activities in accordance with a written management system.

You need to be able to explain what happens at each site and which parts of the overall management system apply. For example, at some sites you may need to show you are carrying out additional measures to prevent pollution because they are nearer to sensitive locations than others.

You can find guidance on management systems on our website at www.gov.uk/government/organisations/environment-agency.

Tick this box to confirm that you have read the guidance and that your management system will meet our requirements ☐

What management system will you provide for your regulated facility?

ISO 14001 ☐

BS 8555 (Phases 1–5) ☐

Acorn ☐

Green dragon ☐

Own management system ☐

Please make sure you send us a summary of your management system with your application.

Document reference/s

4 Consultation

Fill in 4a to 4c for installations and waste operations and 4d for installations only.

Could the waste operation or installation involve releasing any substance into any of the following?

4a A sewer managed by a sewerage undertaker?

No ☐

Yes ☑ Please name the sewerage undertaker — Thames Water - no change as a result of this variation

4b A harbour managed by a harbour authority?

No ☑

Yes ☐ Please name the harbour authority

4c Directly into relevant territorial waters or coastal waters within the sea fisheries district of a local fisheries committee?

No ☑

Yes ☐ Please name the fisheries committee

4 Consultation, continued

4d Is the installation on a site for which:

4d1 a nuclear site licence is needed under section 1 of the Nuclear Installations Act 1965?

No ☑

Yes ☐

4d2 a policy document for preventing major accidents is needed under regulation 5 of the Control of Major Accident Hazards Regulations 2015, or a safety report is needed under regulation 7 of those Regulations?

No ☑

Yes ☐

5 Supporting information

5a Provide a plan or plans for the site

See the guidance notes on part C2 for what needs to be marked on the plan.

Clearly mark the site boundary or discharge point, or both. Also include site drainage plans, site layout plans, and plant design drawings/process flow diagrams (as required). (See the guidance notes on part C2.)

Document reference/s of the plans: See Appendix C for a set of site plans and PFD

5b Do any of the variations you plan to make need extra land to be included in the permit?

No ☑

Yes ☐ Please provide a site report for the extra land

Document report reference/s:

5c Provide a non-technical summary of your application

Document reference of the summary: See Appendix D for the Non-Technical Summary

5d Risk of fire from sites storing combustible waste

Are you applying for an activity that includes the storage of combustible wastes?

(This applies to all activities excluding standalone water and groundwater discharges.)

No ☑ Go to question 5f

Yes ☐ Go to question 5e

5e Will your variation increase the risk of a fire occurring or increase the environmental risk if a fire occurs?

See the guidance notes on part C2.

No ☐

Yes ☐ Provide a fire prevention plan. You need to highlight any changes you have made since your pre-application discussions

Document reference of the plan:

5f Adding an installation

If you are applying to add an installation, tick the box to confirm that you have sent in a baseline report and provide a reference ☐

Document reference of the report:

6 Environmental risk assessment

If you need one, see the guidance notes on part C2.

Provide an assessment of any additional risks the proposed changes or additions to your regulated facilities poses to the environment as part of your application to vary this permit. The risk assessment must follow the methodology set out in 'Risk assessments for your environmental permit' at https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit or an equivalent method.

Document reference for the assessment: See Appendix E, ERA Addendum (ref. SHSMT_2023.02/03)

7 How to contact us

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Textphone: 03702 422 549 (Monday to Friday, 8am to 6pm)

Email: enquiries@environment-agency.gov.uk

Website: www.gov.uk/government/organisations/environment-agency

If you are happy with our service, please tell us. It helps us to identify good practice and encourages our staff. If you're not happy with our service, please tell us how we can improve it.

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How long did it take you to fill in this form?

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Would you like a reply to your feedback?

Yes please ☐

No thank you ☐

Crystal Mark 19110 Clarity approved by Plain English Campaign

For Environment Agency use only

Date received (DD/MM/YYYY)

Our reference number

Payment received?

No ☐

Yes ☐ Amount received

£

Plain English Campaign's Crystal Mark does not apply to appendix 1.

Appendix 1 – Low impact installation checklist

Installation reference				
Condition	Response			Do you meet this?
A – Management techniques	Provide references to show how your application meets A			Yes ☐ No ☐
	References			
B – Aqueous waste	Effluent created		m^3/day	Yes ☐ No ☐
C – Abatement systems	Provide references to show how your application meets C			Yes ☐ No ☐
	References			
D – Groundwater	Do you plan to release any hazardous substances or non-hazardous pollutants into the ground?		Yes ☐ No ☐	Yes ☐ No ☐
E – Producing waste	Hazardous waste		Tonnes per year	Yes ☐ No ☐
	Non-hazardous waste		Tonnes per year	
F – Using energy	Peak energy consumption		MW	Yes ☐ No ☐
G – Preventing accidents	Do you have appropriate measures to prevent spills and major releases of liquids? (See 'How to comply'.)		Yes ☐ No ☐	Yes ☐ No ☐
	Provide references to show how your application meets G			
	References			
H – Noise	Provide references to show how your application meets H			Yes ☐ No ☐
	References			
I – Emissions of polluting substances	Provide references to show how your application meets I			Yes ☐ No ☐
	References			
J – Odours	Provide references to show how your application meets J			Yes ☐ No ☐
	References			
K – History of keeping to the regulations	Say here whether you have been involved in any enforcement action as described in Compliance History Appendix 1 explanatory notes		Yes ☐ No ☐	

Appendix 2 – Date of birth information for Relevant offences and/or Technical ability questions only

Date of birth information in this appendix will not be put onto our Public Register

Have you filled in the Relevant Offences question?

Yes ☐

No ☐

Have you filled in the Technical ability question?

Yes ☐

No ☐

2 Relevant Offences - date of birth information

Please give us the following details

Name

Date of birth (DD/MM/YY)

3 Technical ability - date of birth information

Name

Date of birth (DD/MM/YY)

Application for an environmental permit
Part C3 – Variation to a bespoke installation permit

Environment Agency

Fill in this part of the form, together with part A, part C2 and part F1, if you are applying to vary (change) the conditions or any other part of the permit.

Please check that this is the latest version of the form available from our website.

You only need to give us details in this application for the parts of the permit that will be affected (for example, if you are adding a new facility or making changes to existing ones).

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It will take less than three hours to fill in this part of the application form.

Contents

1 What activities are you applying to vary?

Fill in Table 1a below with details of all the activities listed in schedule 1 or other references (see note 1) of the Environmental Permitting Regulations (EPR) and all directly associated activities (DAAs) (in separate rows), that you propose to vary.

Note: if you want to add a Medium Combustion Plant or Specified Generator (MCP/SG) to your installation please use part C2.5 instead. If you want to vary an intensive farm permit please use part C3.5 instead.

Fill in a separate table for each installation you are applying to vary. Use a separate sheet if you have a long list and send it to us with your application form. Tell us below the reference you have given the document.

Document reference: See Section 1.3 of the Supporting Statement

1 What activities are you applying to vary?, continued

Table 1a – Types of activities

Schedule 1 listed activities						
Installation name	Schedule 1 or other references (See note 1)	Description of the activity (See note 2)	Activity capacity (See note 3)	Annex I (D codes) and Annex II (R codes) and descriptions	Hazardous waste treatment capacity (if this applies) (See note 3)	Non-hazardous waste treatment capacity (if this applies) (See note 3)
If there are not enough rows, send a separate document and give the document reference number here	Put your main activity first			For installations that take waste only	For installations that take waste only	For installations that take waste only
Directly associated activities (See note 4)						
Name of DAA If there are not enough rows, send a separate document and give the document reference number here		Description of the DAA (please identify the schedule 1 activity it serves)				
		See Section 1.3 of the Supporting Statement				
For installations that take waste (See note 5 below)		Total storage capacity				
		Annual throughput (tonnes each year)				

1 What activities are you applying to vary?, continued

Notes

1. Quote the section number, part A1 or A2 or B, then paragraph and sub paragraph number as shown in EPR part 2 of schedule 1.
2. Use the description from schedule 1 of EPR. Include any extra detail that you think would help to accurately describe what you want to do.
3. By 'capacity', we mean:

- the total incineration capacity (tonnes every hour) for waste incinerators
- the total landfill capacity (cubic metres) for landfills
- the total capacity (cubic metres) for the recovery of hazardous waste on land
- the total treatment capacity (tonnes each day) for waste treatment operations
- the total storage capacity (tonnes) for waste storage operations
- the processing and production capacity for manufacturing operations, or
- the thermal input capacity for combustion activities

4. Fill this in as a separate line and give an accurate description of any other activities associated with your schedule 1 activities. You cannot have Directly Associated Activities (DAAs) as part of a mobile plant application.
5. By 'total storage capacity', we mean the maximum amount of waste, in tonnes, you store on the site at any one time.

Types of waste accepted

For those installations that take waste, for each line in Table 1a (including DAAs), fill in a separate document to list those wastes you will accept on to the site for that activity. Give the List of Wastes catalogue code and description (see https://www.gov.uk/government/publications/waste-classification-technical-guidance).

If you need to exclude waste from your activity or facility by restricting the description, quantity, physical nature, hazardous properties, composition or characteristic of the waste, include these in the document. Send it to us with your application form.

Please provide the reference for each document.

You can use Table 1b as a template.

If you want to accept any waste with a code ending in *99*, you must provide more information and a full description of the waste in the document, (for example, detailing the source, nature and composition of the waste). Where you only want to receive specific wastes within a waste code you can provide further details of the waste you want to receive. Where a waste is dual coded you should use both codes for the waste.

Document reference of this extra information: No change to waste types as a result of this variation

1 What activities are you applying to vary?, continued

Table 1b – Template example – types of waste accepted and restrictions

Waste code	Description of the waste
Example	Example
02 01 08*	Agrochemical waste containing hazardous substances
18 01 03*	Infectious clinical waste, not contaminated with chemicals or medicines – human healthcare (may contain sharps) for alternative treatment
17 05 03*/17 06 05*	Non-hazardous soil from construction or demolition contaminated with fragments of asbestos cement sheet

1c Recovery of hazardous waste on land

Are you applying for a waste recovery activity involving the permanent deposit of inorganic hazardous waste on land for construction or land reclamation?

No ☑ Now go to question 2

Yes ☐

Have you written a waste recovery plan (WRP) that shows that you will use waste to perform the same function as non waste materials you would have used?

No You must write a WRP to support your application.

Yes

Have we advised you during pre-application discussions that we believe the activity is waste recovery?

No

Yes

Have there been any changes to your proposal since the discussions?

No

Yes

Please send us a copy of your current waste recovery plan that complies with our guidance at https://www.gov.uk/government/publications/deposit-for-recovery-operators-environmental-permits/waste-recovery-plans-and-deposit-for-recovery-permits. You need to highlight any changes you may have made since your pre-application discussions.

Document reference

Please note that there is an additional charge for the assessment or re assessment of a waste recovery plan that must be submitted as part of this application. For the charge see https://www.gov.uk/government/publications/environmental-permitting-charges-guidance/environmental-permitting-charges-guidance

2 Point source emissions to air, water and land

Fill in Table 2 below with details of the point source emissions that result from the operating techniques at each of your installations.

Fill in one table for each installation, continuing on a separate sheet if necessary.

Table 2 – Emissions (releases)

Installation name	Rainham Clinical Treatment Centre			
Point source emissions to air				
Emission point reference and location	Source	Parameter	Quantity	Unit
See Section 2.3.2 of Supporting Statement				
and Site Layout Plan in Appendix C				
Point source emissions to water (other than sewers)				
Emission point reference and location	Source	Parameter	Quantity	Unit
N/A				
Point source emissions to sewers, effluent treatment plants or other transfers off site				
Emission point reference and location	Source	Parameter	Quantity	Unit
No change to existing consent to foul				
sewer				
Point source emissions to land				
Emission point reference and location	Source	Parameter	Quantity	Unit
N/A				

You will also need to complete application form part C6 if your variation includes changing or adding a point source emission(s) to:

- water
- groundwater or
- sewer

Supporting information

3 Operating techniques

3a Technical standards

Fill in Table 3a for each activity at the installation you refer to in Table 1a above and list the 'Best Available Techniques' you are planning to use. If you use the standards set out in the relevant BAT conclusion(s), BAT reference document(s) (BREF) and/or technical guidance(s) (TGN) there is no need to justify using them within your documents in Table 3a.

For Part A(2) activities refer to https://www.gov.uk/government/collections/integrated-pollution-prevention-and-control-sector-guidance-notes and for Part B and Schedule 14 activities see https://www.gov.uk/government/collections/local-air-pollution-prevention-and-control-lappc-process-guidance-notes

You must justify your decisions in a separate document if:

- there is no technical standard
- the technical guidance provides a choice of standards, or
- you plan to use another standard

This justification could include a reference to the Environmental Risk Assessment provided in part C2 (general bespoke permit) of the application form.

For each of the activities listed in Table 1a, the documents in Table 3a should summarise:

- the operations undertaken
- the measures you will use to control the emissions from your process, as identified in your risk assessment or the relevant BAT conclusions, BREF or technical guidance
- how you will meet other standards set out in the relevant BAT conclusions document, BREF or technical guidance

Table 3 – Technical standards

Fill in a separate table for each activity at the installation.

Installation name	Rainham Clinical Treatment Centre	
Description of the schedule 1 activity or directly associated activity	Best available technique (BATC, BREF or TGN reference) (see footnote below)	Document reference (if appropriate)
See Section 2.3.3 of the Supporting Statement - existing BAT applies as no new techniques		

* Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control)

In all cases, describe the type of facility or operation you are applying for and provide site infrastructure plans, location plans and process flow diagrams or block diagrams to help describe the operations and processes undertaken. Give the document references you use for each plan, diagram and description.

Document reference: Appendix C, Site Plans. Supporting Statement.

3a1 Does your permit (in Table 1.2 Operating Techniques or similar table in the permit) have references to any of your own documents or parts of documents submitted as part of a previous application for this site?

No ☐ Now go to 3b

Yes ☑ Please tell us in a separate document what document references are no longer valid or have been superseded and why

Please also tell us below the reference number you have given the document and send it in with your application

Document reference: Section 2.3.4 of the Supporting Statement

3b General requirements

Fill in a separate Table 4 for each installation.

Table 4 – General requirements

Name of the installation	Rainham Clinical Treatment Centre
If the technical guidance or your risk assessment shows that emissions of substances not controlled by emission limits are an important issue, send us your plan for managing them	Document reference or references N/A
Where the technical guidance or your risk assessment shows that odours are an important issue, send us your odour management plan	Document reference or references See Appendix F: Updated OMP
If the technical guidance or your risk assessment shows that noise or vibration are important issues, send us your noise or vibration management plan (or both)	Document reference or references N/A

For guidance on risk assessments for your environmental permit see https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit

3c Types and amounts of raw materials

Fill in Table 5 for all schedule 1 activities. Fill in a separate table for each installation.

Table 5 – Types and amounts of raw materials

Name of the installation		Rainham Clinical Treatment Centre		
Capacity (See note 1 below)		See Section 2.3.6 of the Supporting Statement		
Schedule 1 activity	Description of raw material and composition	Maximum amount (tonnes) (See note 2 below)	Annual throughput (tonnes each year)	Description of the use of the raw material including any main hazards (include safety data sheets)

Notes

1 By 'capacity', we mean the total storage capacity (tonnes) or total treatment capacity (tonnes each day).

2 By 'maximum amount', we mean the maximum amount of raw materials on the site at any one time.

Use a separate sheet if you have a long list of raw materials, and send it to us with your application form. Please also provide the reference of this extra sheet.

Document reference

3d Information for specific sectors

For some of the sectors, we need more information to be able to set appropriate conditions in the permit. This is as well as the information you may provide in sections 5, 6 and 7. For those activities listed below, you must answer the questions in the related document.

Table 6 – Questions for specific sectors

Sector	Appendix
Combustion	See the questions in appendix 1
Chemicals	See the questions in appendix 2
Incinerating waste	See the questions in appendix 3
Landfill and recovery of hazardous waste on land	See the questions in appendix 4

General information

Complete section 4 if you are proposing to change or add an emission point(s).

4 Monitoring

4a Describe the measures you use for monitoring emissions by referring to each emission point in Table 2 above

You should also describe any environmental monitoring. Tell us:

- how often you use these measures
- the methods you use
- the procedures you follow to assess the measures

Document reference: See Section 2.3.7 of the Supporting Statement

4b Point source emissions to air only

4b1 Has the sampling location been designed to meet BS EN 15259 clause 6.2 and 6.3?

No ☐
Yes ☐

4b2 Are the sample ports large enough for monitoring equipment and positioned in accordance with section 6 and appendix A of BS EN 15259?

No ☐
Yes ☐

4b3 Is access adjacent to the ports large enough to provide sufficient working area, support and clearance for a sample team to work safely with their equipment throughout the duration of the test?

No ☐
Yes ☐

4b4 Are the sample location(s) at least 5 HD from the stack exit

No ☐
Yes ☐

4b5 Are the sample location(s) at least 2 HD upstream from any bend or obstruction?

No ☐
Yes ☐

4b6 Are the sample location(s) at least 5 HD downstream from any bend or obstruction?

No ☐
Yes ☐

4b7 Does the sample plane have a constant cross sectional area?

No ☐
Yes ☐

4b8 If horizontal, is the duct square or rectangular (unless it is less than or equal to 0.35 m in diameter)

No ☐
Yes ☐

4b9 If you have answered 'No' to any of the questions 4b1 to 4b8 above, provide an assessment to how the standards in BS EN 15259 will be met.

Document reference of the assessment

5 Environmental impact assessment

5a Have your proposals been the subject of an environmental impact assessment under Council Directive 85/337/EEC of 27 June 1985 [Environmental Impact Assessment] (EIA)?

No ☑ Now go to question 6

Yes ☐ Please provide a copy of the environmental statement and, if the procedure has been completed:

- a copy of the planning permission
- the committee report and decision on the EIA

Document reference of the copy

6 Resource efficiency and climate change

If the site is a landfill or a recovery of hazardous waste on land activity, you only need to fill in this section if the application includes gas engines.

6a Describe the basic measures for improving how energy efficient your activities are

Document reference of the description: No change as a result of this application

6b Provide a breakdown of any changes to the energy your activities use up and create

Document reference of the description: See Section 2.3.8 of the supporting statement

6c Have you entered into, or will you enter into, a climate change levy agreement?

No ☑ Describe the specific measures you use for improving your energy efficiency

Document reference of the description: No change as a result of this application

Yes ☐ Please give the date you entered (or the date you expect to enter) into the agreement (DD/MM/YYYY)

Please also provide documents that prove you are taking part in the agreement.

Document reference of the proof

6d Explain and justify the raw and other materials, other substances and water that you will use

Document reference of the justification: No change as a result of this application

6e Describe how you avoid producing waste in line with Council Directive 2008/98/EC on waste

If you produce waste, describe how you recover it. If it is technically and financially impossible to recover the waste, describe how you dispose of it while avoiding or reducing any effect it has on the environment.

Document reference of the description: The facility's purpose is to treat waste for recovery

7 How to contact us

If you need help filling in this form, please contact the person who sent it to you or contact us as shown below.

General enquiries: 03708 506 506 (Monday to Friday, 8am to 6pm)

Textphone: 03702 422 549 (Monday to Friday, 8am to 6pm)

Email: enquiries@environment-agency.gov.uk

Website: https://www.gov.uk/government/organisations/environment-agency

If you are happy with our service, please tell us. It helps us to identify good practice and encourages our staff. If you're not happy with our service, please tell us how we can improve it.

Please tell us if you need information in a different language or format (for example, in large print) so we can keep in touch with you more easily.

Feedback

(You don't have to answer this part of the form, but it will help us improve our forms if you do.)

We want to make our forms easy to fill in and our guidance notes easy to understand. Please use the space below to give us any comments you may have about this form or the guidance notes that came with it.

How long did it take you to fill in this form?

We will use your feedback to improve our forms and guidance notes, and to tell the Government how regulations could be made simpler.

Would you like a reply to your feedback?

Yes please ☐

No thank you ☐

Crystal Mark 19107
Clarity approved by Plain English Campaign

For Environment Agency use only

Date received (DD/MM/YYYY)

Payment received?

No ☐

Yes ☐ Amount received

Our reference number

£

Plain English Campaign's Crystal Mark does not apply to appendices 1 to 4.

Appendix 1 – Specific questions for the combustion sector

1 Identify the type of fuel burned in your combustion units (including when your units are started up, shut down and run as normal). If your units are dual fuelled (that is, use two types of fuel), list both the fuels you use

Fill in a separate table for each installation.

Installation reference			
Type of fuel	When run as normal	When started up	When shut down
Coal	☐	☐	☐
Gas oil	☐	☐	☐
Heavy fuel oil	☐	☐	☐
Natural gas	☐	☐	☐
WID waste	☐	☐	☐
Biomass (see notes 1 and 2 below)	☐	☐	☐
Biomass (see notes 1 and 2 below)	☐	☐	☐
Biomass (see notes 1 and 2 below)	☐	☐	☐
Biomass (see notes 1 and 2 below)	☐	☐	☐
Biomass (see notes 1 and 2 below)	☐	☐	☐
Landfill gas	☐	☐	☐
Other	☐	☐	☐

Notes

1. Not covered by Industrial Emissions Directive 2010/75/EU.
2. 'Biomass' is referred to The Renewables Obligation Order 2002 (https://www.legislation.gov.uk/uksi/2002/914/contents/made)

Give extra information if it helps to explain the fuel you use.

Document reference

Appendix 1 – Specific questions for the combustion sector, continued

2 Give the composition range of any fuels you are currently allowed to burn in your combustion plant

Fill in a separate table for each installation, continuing on a separate sheet if necessary

Fuel use and analysis					
Installation reference					
Parameter	Unit	Fuel 1	Fuel 2	Fuel 3	Fuel 4
Maximum percentage of gross thermal input	%				
Moisture	%				
Ash	% wt/wt dry				
Sulphur	% wt/wt dry				
Chlorine	% wt/wt dry				
Arsenic	% wt/wt dry				
Cadmium	% wt/wt dry				
Carbon	% wt/wt dry				
Chromium	% wt/wt dry				
Copper	% wt/wt dry				
Hydrogen	% wt/wt dry				
Lead	% wt/wt dry				
Mercury	% wt/wt dry				
Nickel	% wt/wt dry				
Nitrogen	% wt/wt dry				
Oxygen	% wt/wt dry				
Vanadium	mg/kg dry				
Zinc	mg/kg dry				
Net calorific value	MJ/kg				

Appendix 1 – Specific questions for the combustion sector, continued

3 If NOx factors are necessary for reporting purposes (that is, if you do not need to monitor emissions), please provide the factors associated with burning the relevant fuels

Fill in a separate table for each installation.

Installation reference	
Fuel	NOx factor (kgt^{-1})
Fuel 1	
Fuel 2	
Fuel 3	
Fuel 4	

Note: kgt^{-1} means kilograms of nitrogen oxides released for each tonne of fuel burned.

4 Will your combustion plant be subject to Chapter III of the Industrial Emissions Directive 2010/75/EU?

No ☐ Now fill in application form part F

Yes ☐

5 What is your plant?

an existing one ☐ A plant licensed before 1 July 1987

a new one ☐ A plant licensed on or after 1 July 1987 but before 27 November 2002, or a plant for which an application was made before 27 November 2002 and which was put into operation before 27 November 2003

a new-new one ☐ A plant for which an application was made on or after 27 November 2002 If you run more than one type of plant or a number of the same type of plant on your installation, please list them in the table below

6 If you run more than one type of plant or a number of the same type of plant on your installation, please list them in the table below

Fill in a separate table for each installation.

Installation reference	
Type of plant	Number within installation
Existing	
New	
New-new	
Gas turbine (group A)	
Gas turbine (group B)	

Appendix 1 – Specific questions for the combustion sector, continued

7 If you run an existing plant, have you submitted a declaration for the 'limited life derogation' set out in Article 33 of Chapter III of the Industrial Emissions Directive?

No ☐ Now go to question 9

Yes ☐

8 Have you subsequently withdrawn your declaration?

No ☐

Yes ☐

9 List the existing large combustion plants (LCPs) which have annual mass allowances under the National Emission Reduction Plan (NERP), and those with emission limit values (ELVs) under the LCPD

Installation reference	
LCPs under NERP	LCPs with ELVs

10 Do you meet the monitoring requirements of Chapter III of the Industrial Emissions Directive?

No ☐

Yes ☐ Document reference

11 Are you substantially refurbishing an existing installation according to the meaning given in Article 14 of the Energy Efficiency Directive?

No ☐

Yes ☐ Now go to question 12

12 Have you carried out a cost–benefit assessment (CBA) of opportunities for cogeneration (combined heat and power) or district heating under Article 14 of the Energy Efficiency Directive?

No ☐ Please provide supporting evidence of why a CBA is not required (for example, an agreement from us)

Document reference of this evidence

Yes ☐ Please submit a copy of your CBA

Document reference of the CBA

Appendix 2 – Specific questions for the chemical sector

1 Please provide a technical description of your activities

- The description should be enough to allow us to understand:
- the process
- the main plant and equipment used for each process
- all reactions, including significant side reactions (that is, the chemistry of the process)
- the material mass flows (including by products and side streams) and the temperatures and pressures in major vessels
- the all emission control systems (both hardware and management systems), for situations which could involve releasing a significant amount of emissions – particularly the main reactions and how they are controlled
- a comparison of the indicative BATs and benchmark emission levels standards: technical guidance notes (TGNs) (see https://www.gov.uk/government/collections/technical-guidance-for-regulated-industry-sectors-environmental-permitting); additional guidance 'The production of large volume organic chemicals' (EPR 4.01); 'Speciality organic chemicals sector' (EPR 4.02); 'Inorganic chemicals sector' (EPR 4.03); and best available techniques reference documents (BREFs) for the chemical sector

Document reference

2 If you are applying for a multi-purpose plant, do you have a multi-product protocol in place to control the changes?

No ☐

Yes ☐ Provide a copy of your protocol to accompany this application

Document reference

3 Does Chapter V of the Industrial Emissions Directive (IED) apply to your activities?

No ☐

Yes ☐ Fill in the following

3a List the activities which are controlled under the IED

Installation reference	
Activities	

3b Describe how the list of activities in question 3a above meets the requirements of the IED

Document reference

Appendix 3 – Specific questions for the waste incineration sector

If you are proposing to accept clinical waste, please complete your answer to question 3a 'Technical standards' with reference to relevant parts of our healthcare waste appropriate measures guidance (see https://www.gov.uk/guidance/healthcare-waste-appropriate-measures-for-permitted-facilities)

1a Do you run incineration plants as defined by Chapter IV of the Industrial Emissions Directive (IED)?

No ☐ You do not need to answer any other questions in this appendix

Yes ☐ IED applies

1b Are you subject to IED as

An incinerator? ☐

A co-incinerator? ☐

2 Do any of the installations contain more than one incineration line?

No ☐ Now go to question 4

Yes ☐

3 How many incineration lines are there within each installation?

Fill in a separate table for each installation.

Installation reference		
Number of incineration lines within the installation		
Reference identifiers for each line		

You must provide the information we ask for in questions 4, 5 and 6 below in separate documents. The information must at least include all the details set out in section 2 ('Key Issues') of S5.01 'Incineration of waste: additional guidance' (under the sub heading 'European legislation and your application for an EP Permit'). See https://www.gov.uk/government/collections/technical-guidance-for-regulated-industry-sectors-environmental-permitting.

You must answer questions 7 to 13 on the form below.

4 Describe how the plant is designed, equipped and will be run to make sure it meets the requirements of IED, taking into account the categories of waste which will be incinerated

Document reference

5 Describe how the heat created during the incineration and co-incineration process is recovered as far as possible (for example, through combined heat and power, creating process steam or district heating)

Document reference

Appendix 3 – Specific questions for the waste incineration sector, continued

6 Describe how you will limit the amount and harmful effects of residues and describe how they will be recycled where this is appropriate

Document reference

For each line identified in question 3, answer questions 7 to 13 below

Question 3 identifier, if necessary

7 Do you want to take advantage of the Article 45 (1)(f) allowance (see below) if the particulates, CO or TOC continuous emission monitors (CEM) fail?

No ☐

Yes ☐ This allows 'abnormal operation' of the incineration plant under certain circumstances when the CEM for releases to air have failed. Annex VI, Part 3(2) sets maximum half hourly average release levels for particulates (150 mg/m3), CO (normal ELV) and TOC (normal ELV) during abnormal operation.

Describe the other system you use to show you keep to the requirements of Article 13(4) (for example, using another CEM, providing a portable CEM to insert if the main CEM fails, and so on).

8 Do you want to replace continuous HF emission monitoring with periodic hydrogen fluoride (HF) emission monitoring by relying on continuous hydrogen chloride (HCl) monitoring as allowed by IED Annex VI, Part 6 (2.3)?

Under this you do not have to continuously monitor emissions for hydrogen fluoride if you control hydrogen chloride and keep it to a level below the HCl ELVs.

No ☐

Yes ☐ Please give your reasons for doing this

Appendix 3 – Specific questions for the waste incineration sector, continued

9 Do you want to replace continuous water vapour monitoring with pre-analysis drying of exhaust gas samples, as allowed by IED Annex VI, Part 6 (2.4)?

Under this you do not have to continuously monitor the amount of water vapour in the air released if the sampled exhaust gas is dried before the emissions are analysed.

No ☐

Yes ☐ Please give your reasons for doing this

10 Do you want to replace continuous hydrogen chloride (HCl) emission monitoring with periodic HCl emission monitoring, as allowed by IED Annex VI, Part 6 (2.5), first paragraph?

Under this you do not have to continuously monitor emissions for hydrogen chloride if you can prove that the emissions from this pollutant will never be higher than the ELVs allowed.

No ☐

Yes ☐ Please give your reasons for doing this

Appendix 3 – Specific questions for the waste incineration sector, continued

11 Do you want to replace continuous HF emission monitoring with periodic HF emission monitoring, as allowed by IED Annex VI, Part 6 (2.5), first paragraph?

Under this you do not have to continuously monitor emissions for hydrogen fluoride if you can prove that the emissions from this pollutant will never be higher than the ELVs allowed.

No ☐

Yes ☐ Please give your reasons for doing this

12 Do you want to replace continuous SO_2 emission monitoring with periodic sulphur dioxide (SO_2) emission monitoring, as allowed by IED Annex VI, Part 6 (2.5), first paragraph?

Under this you do not have to continuously monitor emissions for sulphur dioxide if you can prove that the emissions from this pollutant will never be higher than the ELVs allowed.

No ☐

Yes ☐ Please give your reasons for doing this

Appendix 3 – Specific questions for the waste incineration sector, continued

13 If your plant uses fluidised bed technology, do you want to apply for a derogation of the CO WID ELV to a maximum of 100 mg/m³ as an hourly average, as allowed by IED Annex VI, Part 3?

No ☐

Does not apply ☐

Yes ☐ Please give your reasons for doing this

14 Are you substantially refurbishing an existing installation according to the meaning given in Article 14 of the Energy Efficiency Directive?

No ☐

Yes ☐ Please go to question 15

Document reference of the CHP-ready assessment

15 Have you carried out a cost–benefit assessment (CBA) of opportunities for cogeneration (combined heat and power) or district heating under Article 14 of the Energy Efficiency Directive?

No ☐ Please provide supporting evidence of why a CBA is not required (for example, an agreement from us)

Document reference of this evidence

Yes ☐ Please submit a copy of your CBA

Document reference of the CBA

Appendix 4 – Specific questions for the landfill sector and recovery of hazardous waste on land activities

1. For the landfill sector, provide your Environmental Setting and Installation Design (ESID) report and any other risk assessments to control emissions.

For recovery of hazardous waste on land activities, provide your Environmental Setting and Site Design (ESSD) report and any other risk assessments to control emissions

Document reference

2. For recovery of hazardous waste on land activities, provide your Waste Acceptance Procedures (including Waste Acceptance Criteria)

Document reference

Refer to our guidance at
https://www.gov.uk/government/publications/deposit-for-recovery-operators-environmental-permits/waste-acceptance-procedures-for-deposit-for-recovery

3. Provide your hydrogeological risk assessment (HRA) for the site

Document reference

4. Provide your outline engineering plan for the site

Document reference

5. Provide your stability risk assessment (SRA) for the site

Document reference

6. Provide your landfill gas risk assessment (LFGRA) for the site

Document reference

We have developed guidance on these assessments and their reports which can be found at
https://www.gov.uk/government/collections/environmental-permitting-landfill-sector-technical-guidance

7. For recovery of hazardous waste on land activities, have you completed a monitoring plan for the site?

No ☐ Please refer to the section of your ESSD that explains why this is unnecessary for your site

Document reference of this evidence

Yes ☐ Document reference

8. Have you completed a proposed plan for closing the site and your procedures for looking after the site once it has closed?

No ☐ If you have answered 'no' for recovery of hazardous waste on land activities, refer to the section of your ESSD that explains why this is unnecessary for your site

Document reference of this evidence

Yes ☐ For landfill you must provide a closure and aftercare plan

Document reference

Application for an environmental permit Part F1 – Charges and declarations

You will need to use an Adobe Acrobat reader product to complete this form. The form may not work properly if you use a different pdf reader, such as the one built-in to your internet browser.

Fill in this part for all applications for:

- installations (excluding new permit and variation applications for intensive farming. Use application form Part B3.5 or C3.5 instead)
- waste operations
- mining waste operations
- medium combustion plant
- specified generators
- water discharges (excluding small discharges of 23m^3 per day if using Part B6.5)
- groundwater activities (excluding small discharges of 15m^3 per day or less if using Part B6.5 OR existing small discharges to Source Protection Zone1 if using Part B6.6)

Please check that this is the latest version of the form available from our website.

Please read through this form and the guidance notes that came with it.

The form can be:

1) saved onto a computer and then filled in.
2) printed off and filled in by hand. Please write clearly in the answer spaces.

It will take less than two hours to fill in this part of the application form.

Contents

1 Working out charges

You must fill in this section.

You have to submit an application fee with your application. For guidance on the fee and how to pay your charges, please see our charging guidance (**https://www.gov.uk/government/publications/environmental-permitting-charges-guidance**) and associated links to the current charging scheme. You can also contact us for pre-application to help work out charges

Please that there is an annual subsistence charge to cover the costs we incur in the ongoing regulation of the permit.

1 Working out charges, continued

Table 1 – Type of application (fill number of activity being applied for in each column)

Installation	Waste	Mining waste	Medium Combustion Plant (MCP)/ Specified Generator (SG)	Water discharge	Groundwater activity
1	0	0	0	0	0

Table 2 – Charge type (A)

Charge activity reference	Charge activity description	What are you applying to do? For example, a new permit, minor variation, normal variation, substantial variation, surrender, low risk surrender, transfer	Amount
e.g. 1.17.3	e.g. Section 5.2 – landfill for hazardous waste	e.g. transfer application	e.g. £5,561
1.16.2	5.3 Physico - chemical treatment of haz	Substantial Variation	14401
	waste >10 tpd		
1.16.2	5.3 Physico - chemical treatment of haz	Substantial Variation	14401
	waste >10 tpd		
	See Supporting Statement Section 2.4	re derogation of this fee	
Total A			17601.10

1 Working out charges, continued

Table 3 – Additional assessment charges (B)

Part 1.19 Charges for plans and assessments			Tick appropriate
Reference	Plan or assessment	Charge	
1.19.1	Waste recovery plan	£1,231	☐
1.19.2	Habitats assessment (except where the application activity is a flood risk activity)	£779	☐
1.19.3	Fire prevention plan (except where the application activity is a farming installation)	£1,241	☐
1.19.4	Pests management plan (except where the application activity is a farming installation)	£1,241	☐
1.19.5	Emissions management plan (except where the application activity is a farming installation)	£1,241	☐
1.19.6	Odour management plan (except where the application activity is a farming installation)	£1,246	☐
1.19.7	Noise and vibration management plan (except where the application activity is a farming installation)	£1,246	☐
1.19.8	Ammonia emissions risk assessment (intensive farming applications only)	£620	☐
1.19.9	Dust and bio-aerosol management plan (intensive farming applications only)	£620	☐
	Advertising	£500	☐
Total B			

Total charges

Total A plus total B

17601.10

2 Payment

Tick below to show how you have paid.

☐ Cheque

☐ Credit or debit card

☑ Electronic transfer (for example, BACS)

Cheques

You should make cheques payable to 'Environment Agency' and make sure they have 'A/c Payee' written across them if it is not already printed on.

Please write the name of your company and application reference number on the back of your cheque. We will not accept cheques with a future date on them.

2 Payment, continued

Credit/debit cards

If you are paying by credit or with debit card we will call you. We can accept payments by Visa, MasterCard or Maestro card only.

☐ Call me to arrange payment by debit or credit card

Electronic transfer BACS

If you choose to pay by electronic transfer, you will need to use the following information to make your payment:

Company name	Environment Agency
Company address	SSCL (Environment Agency), PO Box 797, Newport Gwent, NP10 8FZ
Bank	RBS/NatWest
Address	London Corporate Service Centre, CPB Services, 2nd Floor, 280 Bishopsgate, London EC2M 4RB
Sort code	60-70-80
Account number	10014411
Account name	EA RECEIPTS
Payment reference number	PSCAPPXXXXXYYY

You need to create your own reference number. It should begin with PSCAPP (to reflect that the application is for a permitted activity) and it should include the first five letters of the company name (replacing the X's in the above reference number) and a unique numerical identifier (replacing the Y's in the above reference number). The reference number that you supply will appear on our bank statements.

You should also email your payment details and reference number to **ea_fsc_ar@gov.sscl.com**.

If you are making your payment from outside the United Kingdom, it must be in sterling. Our IBAN number is GB23NWBK60708010014411 and our SWIFTBIC number is NWBKGB2L.

If you do not quote your reference number, there may be a delay in processing your payment and application.

Provide a unique reference number for the application, i.e. do not only use the company name only

PSCAPPSHARPxxx

State who is paying (full name and whether this is the agent/applicant/other)

Sharpsmart Limited (applicant)

Fee paid

£ 17601.10

Date payment sent (DD/MM/YYYY)

26/09/2023

3 Privacy notice

The Environment Agency runs the environmental permit application service.

See **https://www.gov.uk/guidance/environmental-permits-privacy-notice** for how we use your personal information in services to services to support environmental permitting.

4 Confidentiality and national security

Confidentiality

We will normally put all the information in your application on a public register of environmental information. However, we may not include certain information in the public register if this is in the interests of national security, or because the information is confidential.

You can ask for information to be made confidential by enclosing a letter with your application giving your reasons. If we agree with your request, we will tell you and not include the information in the public register. If we do not agree with your request, we will let you know how to appeal against our decision, or you can withdraw your application. You can find guidance on confidentiality in 'Environmental permitting guidance: core guidance', published by Defra and available at **https://www.gov.uk/government/publications/environmental-permitting-guidance-core-guidance--2**.

Only tick the box below if you wish to claim confidentiality for parts of your application

☐ Please treat the specified information in my application as confidential

National security

You can tell the Secretary of State that you believe including information on a public register would not be in the interests of national security. You must enclose a letter with your application telling us that you have told the Secretary of State and you must still include the information in your application. We will not include the information in the public register unless the Secretary of State decides that it should be included.

You can find guidance on national security in 'Environmental permitting guidance: core guidance', published by Defra and available at **https://www.gov.uk/government/publications/environmental-permitting-guidance-core-guidance--2**

You cannot apply for national security via this application.

Now fill in section 5

5 Declaration

If you knowingly or carelessly make a statement that is false or misleading to help you get an environmental permit (for yourself or anyone else), you may be committing an offence under the Environmental Permitting (England and Wales) Regulations 2016.

A relevant person should make the declaration (see the guidance notes on part F1). An agent acting on behalf of an applicant is NOT a relevant person.

Each individual (or individual trustee) who is applying for their name to appear on the permit must complete this declaration. You will have to print a separate copy of this page for each additional individual to complete.

If you are transferring all or part of your permit, both you and the person receiving the permit must make the declaration. You must fill in the declaration directly below; the person receiving the permit must fill in the declaration under the heading 'For transfers only'.

Note: we will issue a letter to both current and new holders to confirm the transfer. If you are changing address we will need to send this letter to your new address; therefore please tell us your new address in a separate letter.

If you are unable to trace one or more of the current permit holders please see below under the transfers declaration.

5 Declaration, continued

I declare that the information in this application is true to the best of my knowledge and belief. I understand that this application may be refused or approval withdrawn if I give false or incomplete information.

If you deliberately make a statement that is false or misleading in order to get approval you may be prosecuted.

☑ Tick this box to confirm that you understand and agree with the declaration above, then fill in the details below (you do not have to provide a signature as well)

☐ I confirm that my standard facility will fully meet the rules that I have applied for (this only applies if the application includes standard facilities)

☐ Tick this box if you do not want us to use information from any ecological survey that you have supplied with your application (for further information please see the guidance notes on part F1)

Name

Title

Mr

First name

Dean

Last name

McPhee

on behalf of (if relevant; for example, a company or organisation and so on)

Sharpsmart Limited

Position (if relevant; for example, a company or organisation and so on)

Director

Today's date (DD/MM/YYYY)

26/09/2023

For transfers only – declaration for person receiving the permit

A relevant person should make the declaration (see the guidance notes on part F1). An agent acting on behalf of an applicant is NOT a relevant person.

I declare that the information in this application to transfer an environmental permit to me is true to the best of my knowledge and belief. I understand that this application may be refused or approval withdrawn if I give false or incomplete information.

Note: If you cannot trace a person or persons holding the permit you may be able to transfer the permit without their declaration as above. Please contact us to discuss this and supply evidence in your application to confirm you are unable to trace one or all of the permit holders.

If you deliberately make a statement that is false or misleading in order to get approval you may be prosecuted.

☐ Tick this box to confirm that you understand and agree with the declaration above, then fill in the details below (you do not have to provide a signature as well)

5 Declaration, continued

Name

Title

First name

Last name

on behalf of (if relevant; for example, a company or organisation and so on)

Position (if relevant; for example, a company or organisation and so on)

Today's date (DD/MM/YYYY)

Now go to section 6

6 Application checklist

You must fill in this section.

If your application is not complete, we will return it to you. If you aren't sure about what you need to send, contact us before you submit your application. For further information on pre-application advice, see **https://www.gov.uk/guidance/get-advice-before-you-apply-for-an-environmental-permit.**

You must do the following:

- ☑ Complete legibly all parts of the application form that are relevant to you and your activities
- ☑ Identify relevant supporting information in the form and send it with the application
- ☑ List all the documents you are sending in the table below. If necessary, continue on a separate sheet. This separate sheet also needs to have a reference number and you should include it in the table below
- ☑ For new permit applications or any changes to the site plan, provide a plan that meets the standards given in the guidance note on part F1
- ☐ Provide a supporting letter for any claim that information is confidential
- ☑ Get the declaration completed by a relevant person (not an agent)
- ☑ Send the correct fee

6 Application checklist, continued

Question reference	Document title	Document reference
	EA Application Form	Parts A, C2, C3 and F1
	Supporting Statement	Ref. SHSMT_2023.02/01_v1
Part C2 Qu.1a	EA Pre - Application Screening	Appendix A
	Copy of Current EP	Appendix B
Part C2 Qu.5a	Site Plans & Process Flow Diagram	Appendix C
Part C2 Qu.5c	Non - Technical Summary	Appendix D (ref. SHSMT_2023.02/02_v1)
Part C2 Qu.6	ERA Addendum	Appendix E (ref. SHSMT_2023.02/03_v1)
Part C3 Qu.3b	Updated Odour Management Plan	Appendix F (ref. SHSMT_2023.02/04_v5)

7 How to contact us

If you have difficulty filling in this form, please contact the person who sent it to you or contact us as shown below.

General enquiries: 03708 506 506 (Monday to Friday, 8am to 6pm)

Textphone: 03702 422549 (Monday to Friday, 8am to 6pm)

Email: **enquiries@environment-agency.gov.uk**

Website: **www.gov.uk/government/organisations/environment-agency**

If you are happy with our service, please tell us. It helps us to identify good practice and encourages our staff. If you're not happy with our service, or you would like us to review a decision we have made, please let us know. More information on how to do this is available at: **https://www.gov.uk/government/organisations/environment-agency/about/complaints-procedure.**

Please tell us if you need information in a different language or format (for example, in large print) so we can keep in touch with you more easily.

8 Where to send your application

For how many copies to send see the guidance note on part F1.

Please send your filled in application form and supporting documents to:

For water discharges and groundwater activities by email to
PSC-WaterQuality@environment-agency.gov.uk

For waste, installations, medium combustion plant and specified generators by email to
PSC@environment-agency.gov.uk

For large electronic documents (too large for email attachment) you can upload your applications to file sharing sites and send us a link to download the documents. Alternatively, you can send more than one email with documents attached.

Or by post to:

Permitting Support, NPS Sheffield
Quadrant 2
99 Parkway Avenue
Parkway Business Park
Sheffield
S9 4WF

Do you want all information to be sent to you by email?

☑ Please tick this box if you wish to have all communication about this application sent via email (we will use the details provided in part A)

Feedback

(You don't have to answer this part of the form, but it will help us improve our forms if you do.)

We want to make our forms easy to fill in and our guidance notes easy to understand. Please use the space below to give us any comments you may have about this form or the guidance notes that came with it.

How long did it take you to fill in this form?

We will use your feedback to improve our forms and guidance notes, and to tell the Government how regulations could be made simpler.

Would you like a reply to your feedback?

☐ Yes please

☐ No thank you

Crystal Mark 19132 Clarity approved by Plain English Campaign

For Environment Agency use only

Date received (DD/MM/YYYY)

Our reference number

Payment received?

☐ No

☐ Yes

Amount received (£)

EP Variation Application

Rainham Clinical Waste Treatment Centre (EPR/PP3707BB)

SUPPORTING STATEMENT

SHSMT_2023.02/01 - September 2023

Project details	Environmental Permit Variation Application – EPR PP3707BB/A005 Sharpsmart Limited – Rainham Clinical Waste Treatment Centre
Applicant details	Sharpsmart Limited Unit 21 Barlow Way Rainham Essex RM13 8BT
Report details	**EP Variation Application – Supporting Statement** **Document reference: SHSMT_2023.02/01_v1**
Report date	18 September 2023
Submitted to	Permitting and Support Centre Environmental Permitting Team Environment Agency Quadrant 2 99 Parkway Avenue Parkway Business Park Sheffield S9 4WF Email: PSC@environment-agency.gov.uk
Author	Rebecca Hodkinson EHS Consultant
Signature	

Reva Environmental Ltd

Tel: [+44] 07949 178558 www.revaenvironmental.co.uk
Company Registered in England No. 11506654

Table of Contents

1 Introduction

1.1 General

Sharpsmart Ltd (the 'applicant') has requested that Reva Environmental Ltd (the 'agent') prepares an Environmental Permit (EP) variation application, for its Rainham Clinical Waste Treatment Centre at Uni 21, Barlow Way, Rainham, Essex, RM13 8BT.

1.2 Current Site Status

The facility is currently authorised by EP ref. EPR/PP3707BB. The EP history is shown in Table SS1.

Table SS1 Permit History

Description	Date	Details
Original permit EPR/EP3597LU	04/11/2009	Permit issued to GW Butler.
Variation EPR/EP3597LU/V002	19/08/2010	Variation to increase treatment capacity.
Variation EPR/EP3597LU/V003	04/09/2013	Variation to change fuel type and add a waste code.
Variation EPR/EP3597LU/V004 (variation and consolidation)	08/06/2015	Variation to increase annual throughput and conduct shredding before autoclaving. Permit updated to modern conditions.
Transfer EPR/PP3707BB	31/03/2020	Transfer of permit in full to Sharpsmart Limited
Variation EPR/PP3707BB/V002	14/10/2020	Variation to reflect change in Sharpsmart Limited's registered office address.
Variation EPR/PP3707BB/V003	24/03/2021	Variation to add sharps bin wash plant, new boiler, treatment of additional infectious wastes, shredding of non-hazardous offensive waste.
Variation EPR/PP3707BB/V004 (variation and consolidation)	14/12/2022	Variation following Regulation 61 notice and EA statutory review of the permit.

The current EP allows the following listed activities to be carried out at the facility (explicitly stated in Table S1.1 of EPR/PP3707BB/V004):

- AR1 – Section 5.3 A(1)(a)(ii) Disposal or recovery of hazardous waste by physico-chemical treatment (shredding) with a capacity exceeding 10 tonnes per day (R3, D9);
- AR2 – Section 5.3 A(1)(a)(ii) Disposal or recovery of hazardous waste by physico-chemical treatment (autoclaving) with a capacity exceeding 10 tonnes per day (R3, R4, D9);
- AR3 – Section 5.3 A(1)(a)(iv) Disposal or recovery of hazardous waste by physico-chemical treatment (operation of sharps bin wash plant and repackaging/bulking of emptied sharps) with a capacity exceeding 10 tonnes per day (R12, D14);
- AR4 – Section 5.3 A(1)(a)(iv) Disposal or recovery of hazardous waste by physico-chemical treatment (repackaging) with a capacity exceeding 10 tonnes per day (R12); and
- AR5 – Section 5.6 A(1)(a) Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes (R13, D15).

The following directly associated activities (DAAs) are included in the EP:

- AR6 – Operation of an LPG steam raising boiler with a net rated thermal input of 2.5 MW;

- AR7 – Cleaning and disinfection of containers and carts. This activity comprises the use of the automated wash plant; and
- AR8 – Raw material handling and storage.

The following Waste Operations are included in the EP:

- AR9 – Shredding and compaction of non-hazardous waste (R3, D9);
- AR10 – Light compaction of non-infectious offensive waste (R12, D14);
- AR11 – Repackaging of non-hazardous waste (R12, D14); and
- AR12 – Storage of non-hazardous waste (R13, D15).

The EP currently limits the acceptance of waste for treatment (shredding and thermal treatment) to 20 tonnes per day and total throughput for treatment to 30,000 tonnes per year (of which up to 20,000 can be hazardous waste for shredding and thermal treatment); sharps bin waste throughput is limited to 11 tonnes per day; offensive waste treatment is limited to 24 tonnes per day; and storage of hazardous and non-hazardous waste is limited to 55 tonnes at any one time whilst post treatment (floc) is limited to 40 tonnes.

A copy of the current EP is provided in **Appendix B** of this variation application.

1.3 Application Objective

The objective of this application is to reflect the replacement of the existing rotoclaves with a single large autoclave and to reflect the increased treatment capacity resulting from this in an increase the limits (tonnages) for a number of the other existing operations. The proposed changes are tabulated below and relate back to the activities in the permit, as listed in Section 1.2 above.

Table SS2: Proposed Changes

Activity Ref.	Description	Proposed Changes
AR1	Section 5.3 A(1)(a)(ii) Disposal or recovery of hazardous waste by physico-chemical treatment (shredding) with a capacity exceeding 10 tonnes per day (R3, D9). Currently limited to 20 tonnes per day.	The variation seeks to add a second shredder to the site. The two combined will be capable of processing up to 70 tonnes per day (maximum capacity). The limit of this activity is therefore requested to be increased to 70 tonnes per day as a combined capacity of the two shredders.
AR2	Section 5.3 A(1)(a)(ii) Disposal or recovery of hazardous waste by physico-chemical treatment (autoclaving) with a capacity exceeding 10 tonnes per day (R3, R4, D9. Currently limited to 20 tonnes per day.	The replacement of the rotoclaves with the autoclave will provide additional treatment capacity; as per above, up to 70 tonnes per day. Additionally, to reflect the increased throughput the site can accommodate up to 6 container skips for the storage of waste arising from AR1, AR9 and AR10). There will be 1 in use at any one time, with provision for 5 to be stored in the yard area. The limit in the permit is therefore requested to be raised from 40 tonnes to 75 tonnes to reflect this.

AR3	Section 5.3 A(1)(a)(iv) Disposal or recovery of hazardous waste by physico-chemical treatment (operation of sharps bin wash plant and repackaging/bulking of emptied sharps) with a capacity exceeding 10 tonnes per day (R12, D14). Currently limited to 11 tonnes per day	The variation seeks to increase the limit to 50 tonnes per day to reflect the potential expansion of operational shifts into evenings and weekends.
AR4	Section 5.3 A(1)(a)(iv) Disposal or recovery of hazardous waste by physico-chemical treatment (repackaging) with a capacity exceeding 10 tonnes per day (R12).	No changes are proposed.
AR5	Section 5.6 A(1)(a) Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes (R13, D15). The permit currently limits the total storage of waste (including non-hazardous) to 55 tonnes at any one time.	The variation seeks to increase the limit to 130 tonnes. This is to reflect the storage of non-hazardous effluent from the autoclaves (est. 12,000 litre tank) and the increase to 6 x skips (referred to re AR2 above). The existing limit of 55 tonnes would remain sufficient for the hazardous waste, with a further 75 tonnes required for non-hazardous waste.
AR6	Operation of an LPG steam raising boiler with a net rated thermal input of 2.5 MW.	No changes are proposed.
AR7	Cleaning and disinfection of containers and carts. This activity comprises the use of the automated wash plant.	No changes are proposed.
AR8	Raw material handling and storage.	No changes are proposed.
AR9	Shredding and compaction of non-hazardous waste (R3, D9).	The limits would need to reflect the increase to 6 x skips (referred to re AR3 above).
AR10	Light compaction of non-infectious offensive waste (R12, D14).	To reflect the increased throughput the site can accommodate up to 6 container skips for the storage of waste arising from AR1, AR9 and AR10 combined). There will be 1 in use at any one time, and provision for 5 in the yard area. The limit in the permit is therefore requested to be raised from 40 tonnes to 75 tonnes to reflect this.
AR11	Repackaging of non-hazardous waste (R12, D14).	No changes are proposed.
AR12	Storage of non-hazardous waste (R13, D15).	To reflect the increased throughput the site can accommodate up to 6 container skips for the storage of waste arising from AR1, AR9 and AR10 combined). The limit in the permit is therefore requested to be raised from 40 tonnes to 75 tonnes to reflect this. The existing limit of 55 tonnes would remain sufficient for the hazardous waste (AR5),

		with a further 75 tonnes required for non-hazardous waste.

In addition to these changes, the applicant is seeking to include the following new emission sources:

- A6 – Secondary shredder LEV directed via HEPA and carbon filters; and
- A7 – LEV over indoor floc compactor unit, filtered for particulates via HEPA filter and for VOCs by way of carbon filter.

Emission point A2 in the current permit relates to the appropriate measures guidance requirement to monitor at the autoclave door. This is not currently possible with the rotoclave system however this will apply to the new autoclave once installed.

It is noted that the emissions from A2, A3, A6 and A7 will be combined via a single HEPA filter and carbon filter i.e., there will be just one emission point to air from these.

1.4 Process Description

The new autoclave is a static unit into which waste is loaded, contained in autoclave carts. The technology is more efficient than the existing rotoclaves; the rotoclave can process approximately 0.8 tonnes per cycle compared to the autoclave which can process up to 3 tonnes per cycle. The existing claves receive shredded waste from 770-litre carts that are emptied into it. The autoclave will receive shredded waste in 1800-litre autoclave carts which are loaded into the vessel. A redesign of the clave cart to make it narrower and taller results in the capacity of the autoclave increasing by one cart. The overall result is that where the current site can process up to 20 tonnes per day; the autoclave will be able to process up to 70 tonnes per day.

The process itself, of steam sterilisation, is unchanged to that already permitted. Whereas it is not physically possible to install an LEV system for the charging of the existing rotoclaves, this can and will be done for the new autoclave; there will be a filtered LEV that will capture air from around the autoclave doors during loading (this will fall under existing permitted emission point A2). This follows Healthcare Waste: Appropriate Measures guidance.

The existing EP includes pre-shredding of waste before thermal treatment. This remains the case, but with the addition of a second shredder to reflect the increased capacity of the autoclaves and to manage shredding of other (non-autoclaved) waste streams. These will both benefit from the filtered LEV system (A3 is the emission point from the existing shredder, A6 is the new emission point from the second shredder).

The existing wash plant remains in place but is being upgraded to include a new larger tipping head which is capable of tipping the operator's 64-series container (which have a maximum fill weight of 18kg) hence the request in this application to increase the throughput for this activity.

The EP includes compaction of waste and the associated temporary storage of waste pending that process. It also includes several directly associated activities (DAAs) for the operation of a steam boiler, the washing of bins, and the handling of raw materials. Additionally, the EP allows the storage and repackaging of non-hazardous waste, the light compaction of offensive waste, and the shredding and compaction of non-hazardous waste as Waste Operations.

None of these activities are subject to a physical change as a result of this variation application, however it is noted that a new 12,000 litre tank will be installed to collect the autoclave condensate effluent (for batches that require collection rather than being discharged to sewer under existing consent); this will replace the current system which is to hold the effluent in a number of IBCs.

A process flow diagram for the proposed consolidated plant is provided in **Appendix C** alongside the site plans.

2 Application Form

An application to vary a bespoke Waste Installation EP requires the completion of the EA application form parts A, C2, C3 and F1. As stated in the guidance notes for the form, details only need to be included in relation to the parts of the existing permit (and permitted activities) that will be affected by the variation application. Details have primarily been provided on the form.

This section provides additional supporting information and signposts to supplementary documents provided in support of the variation application.

The application form is provided at the front of this EP variation application document.

2.1 Form Part A

Contact details for the agent and the applicant are provided in this part of the application form. As required by Question 5c of the form, details are provided for the relevant persons as follows:

- Dean Justin McPhee (secretary) – Date of Birth: [redacted]
- Dan Paul Daniels (Director) – Date of Birth: [redacted]

2.2 Form Part C2

Question 1a refers to pre-application discussions. A pre-application request was submitted to the EA, requesting the basic advice and a conservation screening assessment. A copy of the EA screening assessment is provided in **Appendix A**. A copy of the current EP (V004) is included in **Appendix B**.

Question 2 refers to the type of variation being applied for. As set out in Section 1.3 above, the variation includes an increase in shredding capacity that itself exceeds the listed activity threshold. In accordance with EA guidance this is considered to constitute a substantial variation.

Question 3 refers to the applicant's ability as an operator and to management systems. This question does not apply to this application as it does not seek to add any waste installations or waste operations to the permit that are a type not already permitted.

Question 4 requires confirmation of the sewerage undertaker where a discharge is part of the activity being applied for. There is a discharge consent at the facility currently (for point W1 "discharge to foul sewer"). This will remain in place and is unaffected by the proposed changes at the site. A copy of the current discharge consent is provided in **Appendix B** alongside the current EP document.

Question 5a requires site plans to be provided in support of the variation application. These are provided in **Appendix C** and are as follows:

- Waste Storage Plan (including emission points), v2 dated 30 April 2023; and
- Rainham Drainage Plan dated 01 September 2023.

Question 5c requires the provision of a non-technical summary. This is provided in **Appendix D** of the application (ref. SHSMT_2023.02/02_v1).

Question 5e requires the submission of a fire prevention plan (FPP) if the variation to the facility includes the storage of combustible waste. The EA considers that the accident and fire prevention measures specified in the healthcare waste appropriate measures guidance are appropriate and sufficient for the management the fire risk. As such, no FPP has been submitted with the variation application.

Question 5f requires the submission of a baseline (site condition) report where the application includes the addition of a new installation. This is not the case for this application and is therefore deemed not to be required.

Question 6 requires the provision of an environmental risk assessment (ERA). There is an existing qualitative assessment in place at the site for the current activities and it follows the EA's source-pathway-receptor model (ref. SHSMT_2020.02/04 v2 dated 28 October 2020). A review of the existing ERA has been undertaken to assess the proposed changes to the existing activities only. A copy of the ERA addendum is provided in **Appendix E** of this application (ref. SHSMT_2023.02/03_v1). This sits alongside the existing ERA for the facility. No new habitats need to be considered in the ERA; the screening report provided by the EA (dated 19/07/2023) matches that provided on 06/05/2020 for the previous variation application (V002) for the same site.

An H1 (quantitative) assessment has not been carried out at this stage. As noted above, the new autoclave will replace the existing rotoclaves and permitted emission point A2 will apply to this with immediate effect, and monitoring will be carried out as per the permit. The two new emission sources are the floc compactor and the second shredder. The extract from these will be combined with that from the autoclave and the first shredder and filtered through a HEPA and carbon filter system. Representative data from the applicant's Stoke facility (carried out in August 2023) is presented in Figures SS1 and SS2 and shows that the likely emissions from these are significantly below any environmental assessment limit.

Figure SS1: Autoclave Emissions Data

Monitoring Results

where MU = Measurement Uncertainty associated with the result (95% Confidence)

		Concentration				Mass Emission				
Substance		Limit (mg/m³)	Result (mg/m³)	Measurement Uncertainty (MU) +/-	Reference Conditions	Limit (g/hr)	Result (g/hr)	Measurement Uncertainty (MU) +/-	Sampling Date	Sampling Times
Total VOC	R1	30	2.2	6.1	273k, 101.3kPa, Wet Gas	-	9.0	24.5	04/08/2023	12:03-13:03
VOC Screen	R1	-	< 0.16	-	273k, 101.3kPa, Wet Gas	-	0.65	-	04/08/2023	12:04-13:04
Volumetric Flow (Actual)	R1	-	4,564 m³/h	207	As Measured	-	-	-	04/08/2023	11:50-12:00

Figure 2: Compactor Emissions Data

Monitoring Results

where MU = Measurement Uncertainty associated with the result (95% Confidence)

		Concentration				Mass Emission				
Substance		Limit (mg/m³)	Result (mg/m³)	Measurement Uncertainty (MU) +/-	Reference Conditions	Limit (g/hr)	Result (g/hr)	Measurement Uncertainty (MU) +/-	Sampling Date	Sampling Times
Total VOC	R1	30	4.3	2.4	273k, 101.3kPa, Wet Gas	-	18.0	10.0	04/08/2023	10:09-11:09
VOC Screen	R1	-	< 0.47	-	273k, 101.3kPa, Wet Gas	-	1.95	-	04/08/2023	10:09-11:09
Volumetric Flow (Actual)	R1	-	4,493 m³/h	204	As Measured	-	-	-	04/08/2023	09:50-10:00

2.3 Form Part C3

2.3.1 Question 1

This requires the provision of information relating to proposed changes to the existing listed activities and DAAs. Details are provided in Section 1.3 above.

2.3.2 Question 2a

This requires information regarding any new point source emissions. The existing permit specifies the existing emission points to air in Table S3.1; these are as follows:

- A1 – Boiler stack from LPG Boiler;
- A2 – Autoclave exhaust vent directed via a HEPA filter and carbon filter (for particulates and VOC abatement respectively);
- A3 – Shredder LEV directed via HEPA and carbon filters;
- A4 – Wash plant extract via HEPA filter; and
- A5 – Wash plant dryer extract.

The variation application seeks to add new emissions sources; these are as follows:

- A6 – Secondary shredder LEV directed via HEPA and carbon filters; and
- A7 – LEV over the indoor floc compactor unit, filtered for particulates via HEPA filter and for VOCs by way of carbon filter.

Emission point A2 in the current permit relates to the appropriate measures guidance requirement to monitor at the autoclave door. This is not currently possible with the rotoclave system however this will apply to the new autoclave once installed.

It is noted that the extract from A2, A3, A6 and A7 will be combined via a single HEPA filter and carbon filter i.e., there will be just one emission point to air from these. The result is that following the development of the site, the number of emission points will reduce by one, as follows:

- Current: A1, A2, A3, A4 and A5;
- Proposed: A1, A2/A3/A6/A7 combined, A4 and A5.

The existing discharge to foul sewer (W1) will remain unaffected by the proposed changes. Discharge is regulated under the existing consent which sets a number of limits, and these will continue to be complied with.

2.3.3 Question 3a

This requires confirmation that the proposals meet the relevant Best Available Technique (BAT) standards. A BAT assessment was produced for the existing permitted activities and, since this application doesn't involve the addition of any new activities (just expansion/replacement/duplication of existing activities), this has not been revisited.

Whilst this is a substantial variation application, no new installations or waste operations are being added.

2.3.4 Question 3a

This requires confirmation of the status of documents previously submitted and referred to in the 'operating techniques' table of the extant EP.

Table S1.2 is reproduced here as **Table SS3.** This application provides several updated documents that will supersede any previous versions of the same, held by the EA. These are defined in this table.

Table SS3: Updates to Operating Techniques

Description	Parts	Date Received	Status
Variation application EPR/PP3707BB/V003	Supporting Statement – Section 1.4 Appendix G: BAT Assessment – sections 2, 3 and 4 Appendix H: Accident management plan – risk assessment and emergency plan	30/10/2020	The supporting statement is superseded by this variation application submission. The BAT assessment and Accident management plan remain relevant.
Variation application EPR/PP3707BB/V003 further information (response to Schedule 5 Notice)	Response to questions: 2e, 2g – regarding operation of wash plant; 3a, 3c, 3d, 3g – regarding treatment of medicinally contaminated wastes; 4a, 4c – regarding treatment of single use instruments; 5b, 5d – regarding shredding of offensive waste	15/01/2021	This information remains relevant.
Variation application EPR/PP3707BB/V003 further information (response to Schedule 5 Notice)	Appendix I – Odour Management Plan (document dated 11/02/2021) Response to questions 4, 5, 6, 7 and 9	18/02/2021	Superseded by Odour Management Plan updated for this application. Appendix F (SHSMT_2023.01/04_v1)
Healthcare waste: appropriate measures for permitted facilities Version published 13 July 2020	All parts of the appropriate measures guidance shall apply other than: Those parts to which an improvement programme requirement applies in Table S1.3 and until the agreed completion date for that improvement.	N/A	This remains relevant.

2.3.5 Question 3b

This requires inclusion of management plans where the sector guidance or site risk assessment shows that certain emissions are an important issue. This includes odour and noise/vibration.

The proposed variation does not alter the types of waste that will be accepted at the site from those which already are and have been under the existing EP. However, it does augment the existing activities, and add new activities that are potential odour sources. The site already has an Odour Management Plan (OMP) but this has been updated for this variation to reflect the changes, and is provided in **Appendix F** of the application (ref. SHSMT_2023.02/04_v5).

2.3.6 Question 3c

The current operations at the facility use a disinfecting chemical ('B-Wash' and 'Fresh plus' from CiS) to clean the 770-litre waste containers in the wash plant and to clean the shredder plant. The wash plant uses 'Solid Hero' and Pep Active' from Ecolab. The former is a detergent that contains 35 to <50% sodium hydroxide, the latter is a general-purpose surface cleaner. There will be no change in the type of detergents used however there will be an increase in usage resulting from the increased throughput of waste and addition of a second shredder.

Filter media is currently used at the site for the filtered LEVs. Whilst the type of filters being added by way of the new LEV systems and emission points are no different to that already used, the quantity of filters/filter media will increase proportionately. As described in the BAT assessment for the existing permitted activities, it is confirmed that the HEPA filters can become blinded with particulate over time, increasing the resistance to air flow through them, reducing the flow and potentially resulting in a reduction in air quality. Filters usually last anything from 1 – 5 years depending on the loading. When they require replacement, the spent filters are disposed of at an appropriate facility, suitable for the waste type. The carbon filters can become saturated, and their absorptive capacity reduces over time. When they require replacement, the spent filters are disposed of at an appropriate facility, suitable for the waste type.

The quantity of chemicals, filters and reagents used at the facility is recorded and tracked during the lifetime of the EP and assessed at regular intervals.

2.3.7 Question 4

This requires information regarding monitoring of any new emissions. Section 2.3.2 above details both the existing emissions and the proposed additional ones.

Where the EA deems monitoring to be required, Sharpsmart will carry this out in accordance with EA guidance, specifically with respect to the location of monitoring ports and will use an appropriately accredited contractor to carry out the monitoring.

2.3.8 Question 6a & b

This section relates to energy consumption and energy efficiency. The energy efficiency measures in place at the site are as described in the existing BAT Assessment which is unchanged as a result of this variation application. Whilst the inclusion of a second shredder will increase energy use, the result is that the ability to treat waste for recovery will increase. The replacement of the existing (old) rotoclave treatment plants with static autoclave plants will also serve to improve efficiency.

The use of energy at the facility is recorded and tracked during the lifetime of the EP and assessed at regular intervals.

2.4 Form Part F1

The application fee has been identified using the April 2022 EA guidance. It is made up of the following components:

- Substantial variation for the increase in throughput for the autoclaving activity - ref. 1.16.2 in Table 1.16: £14,401
- Substantial variation for the addition of a second shredder, itself above the threshold for a listed activity - ref 1.16.2 in Table 1.16: £14,401

This is a total fee of £28,802. The 2022 guidance however states that a variation application should not cost more than a new application for the same activities. It is noted that if these two activities were applied for as new it would cost £16,001 for the first one, but only £1,600.10 for the second activity as a 90% reduction is applied to any subsequent activities that fall under the same activity reference. The new application fee is therefore less, at £17,601.10, and it this fee that is due.

Payment of £17,601.10 has been made (ref. PSCAPPSHARPxxx) by BACS on 26 September 2023.

EP Variation Application

Rainham Clinical Waste Treatment Centre (EPR/PP3707BB)

APPENDIX A: PRE-APP SCREENING REPORT

SHSMT_2023.02 - September 2023

Nature and Heritage Conservation

Screening Report: Bespoke Installation

Reference	**EPR/PP3707BB/P001**
NGR	**TQ 51010 81740**
Buffer (m)	**20**
Date report produced	**19/07/2023**
Number of maps enclosed	**4**

The nature conservation sites identified in the table below must be considered in your application.

Nature and heritage conservation sites	Screening distance (km)	Further information
Sites of Special Scientific Interest (SSSI)	2	Natural England
Ingrebourne Marshes		
Inner Thames Marshes		
Local Nature Reserve (LNR)	2	Natural England
Crossness		
Ingrebourne Marshes		
Rainham Marshes		
Beam Valley		
Beam Valley (Environment Agency)		

Local Wildlife Sites (LWS) **Wennington, Aveley and Rainham Marshes** **Rainham Railsides** **Mudlands** **Ingrebourne Valley** **River Thames and Tidal Tributaries** **Belvedere Dykes** **Riverside Sewage Treatment Works** **Dagenham Breach and the lower Beam River in Dagenham** **Lower River Beam and Ford Works Ditches** **Erith Marshes** **Beam Valley South in Dagenham and the Wantz Stream** **Beam Valley South in Havering**	2	Appropriate Local Record Centre (LRC) Appropriate Wildlife Trust

Protected Species	Screening distance (m)	Further Information
Smelt **European Eel** **Twaite Shad** **Allis Shad** **European Water Vole**	up to 500m	Natural England Appropriate Local Record Centre (LRC) National Biological Network (NBN) Environment Agency. Dial 03708 506 506 for your local Fisheries and Biodiversity team

Where protected species are present, a licence may be required from Natural England or the Welsh Government to handle the species or undertake the proposed works.

The relevant Local Records Centre must be contacted for information on the features within local wildlife sites. A small administration charge may also be incurred for this service.

Please note we have screened this application for protected and priority sites, habitats and species for which we have information. It is however your responsibility to comply with all environmental and planning legislation, this information does not imply that no other checks or permissions will be required.

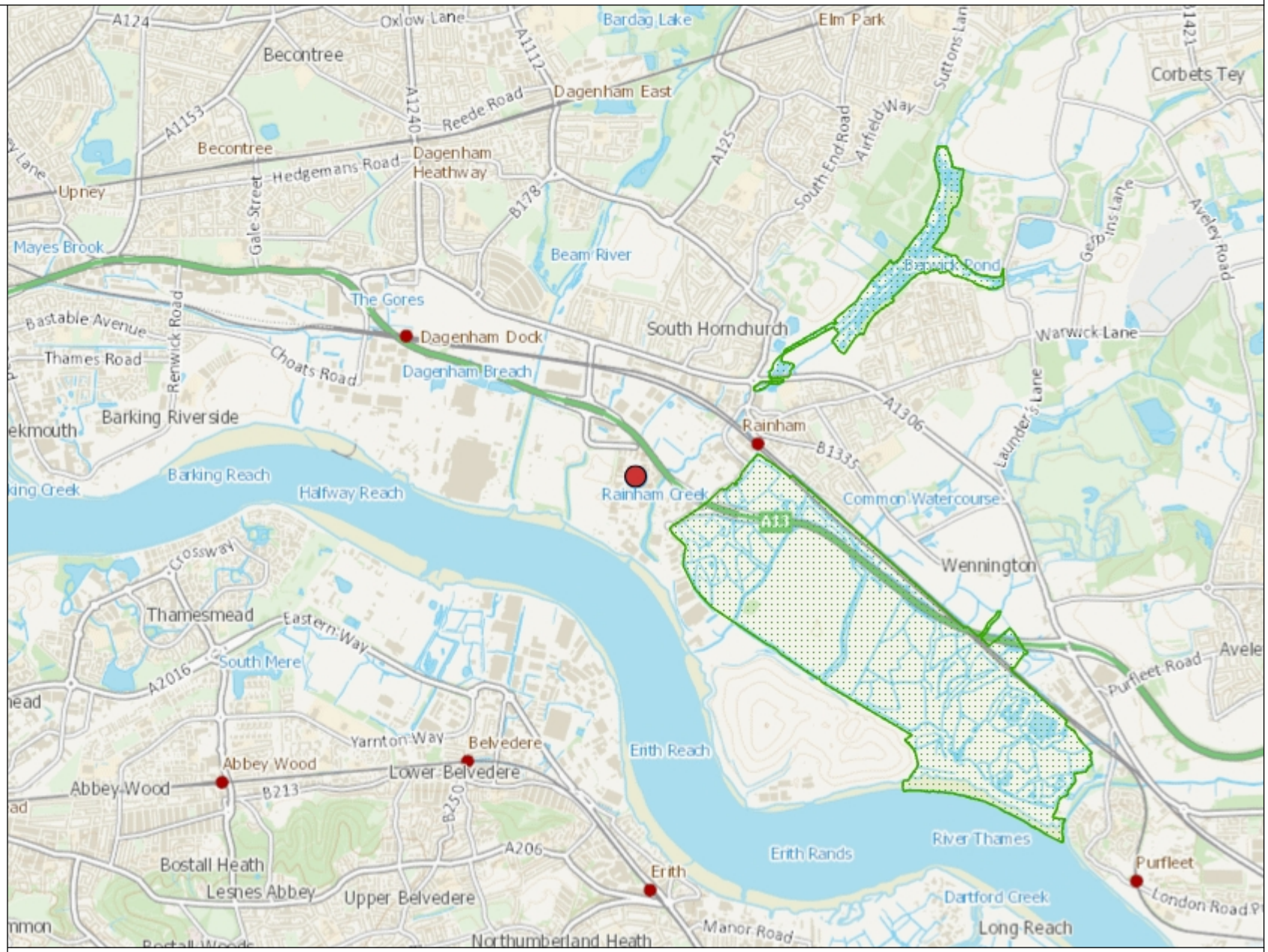
Please note the nature and heritage screening we have conducted as part of this report is subject to change as it is based on data we hold at the time it is generated. We cannot guarantee there will be no changes to our screening data between the date of this report and the submission of the permit application, which could result in the return of an application or requesting further information.

Sites of Special Scientific Interest

Environment Agency

Legend

SSSI (England)



1: 50,000

0 1,250

Metres

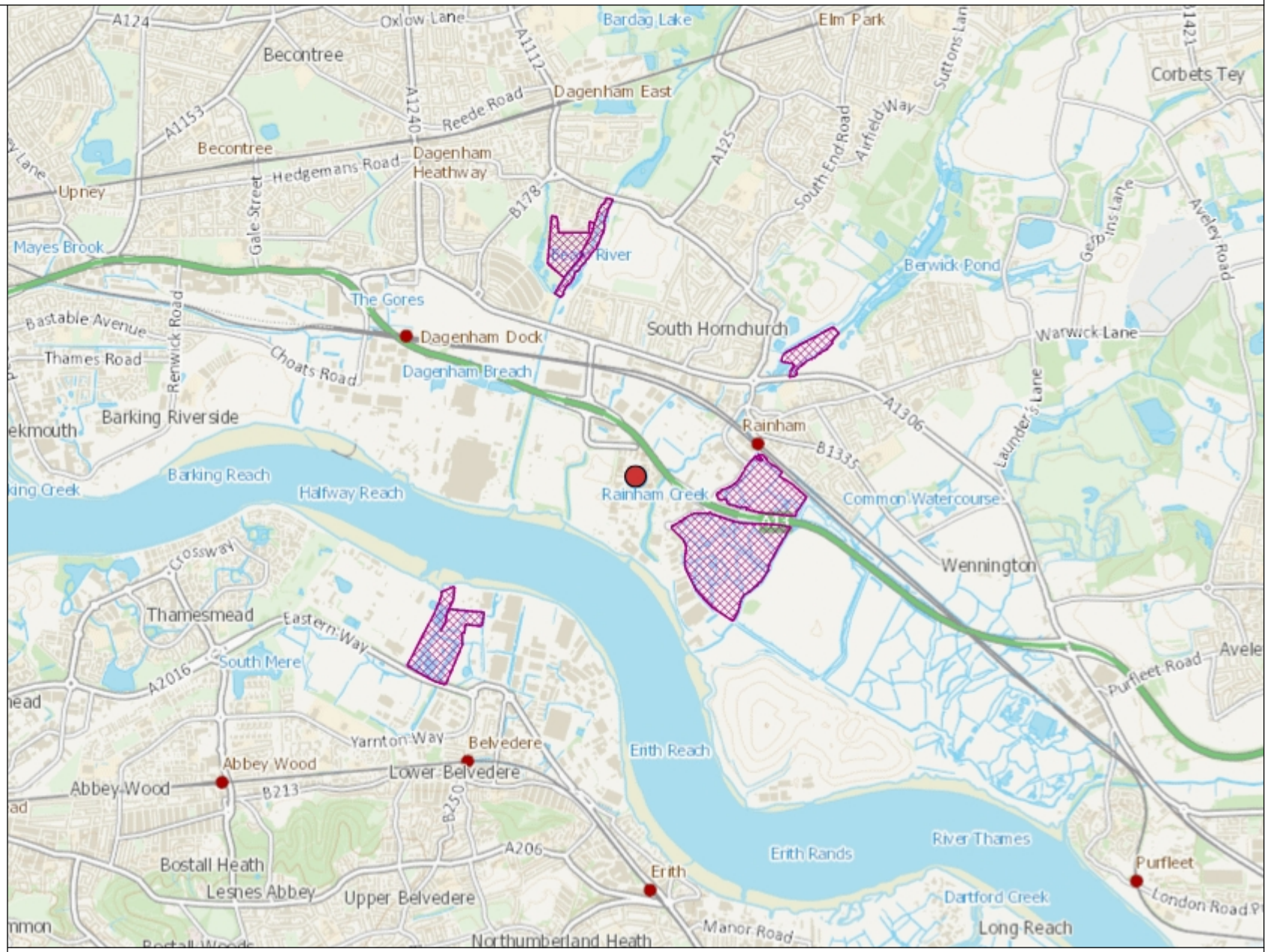
N W E S

Local Nature Reserves

Environment Agency

Legend

LNR (England)



1: 50,000

0 1,250

Metres

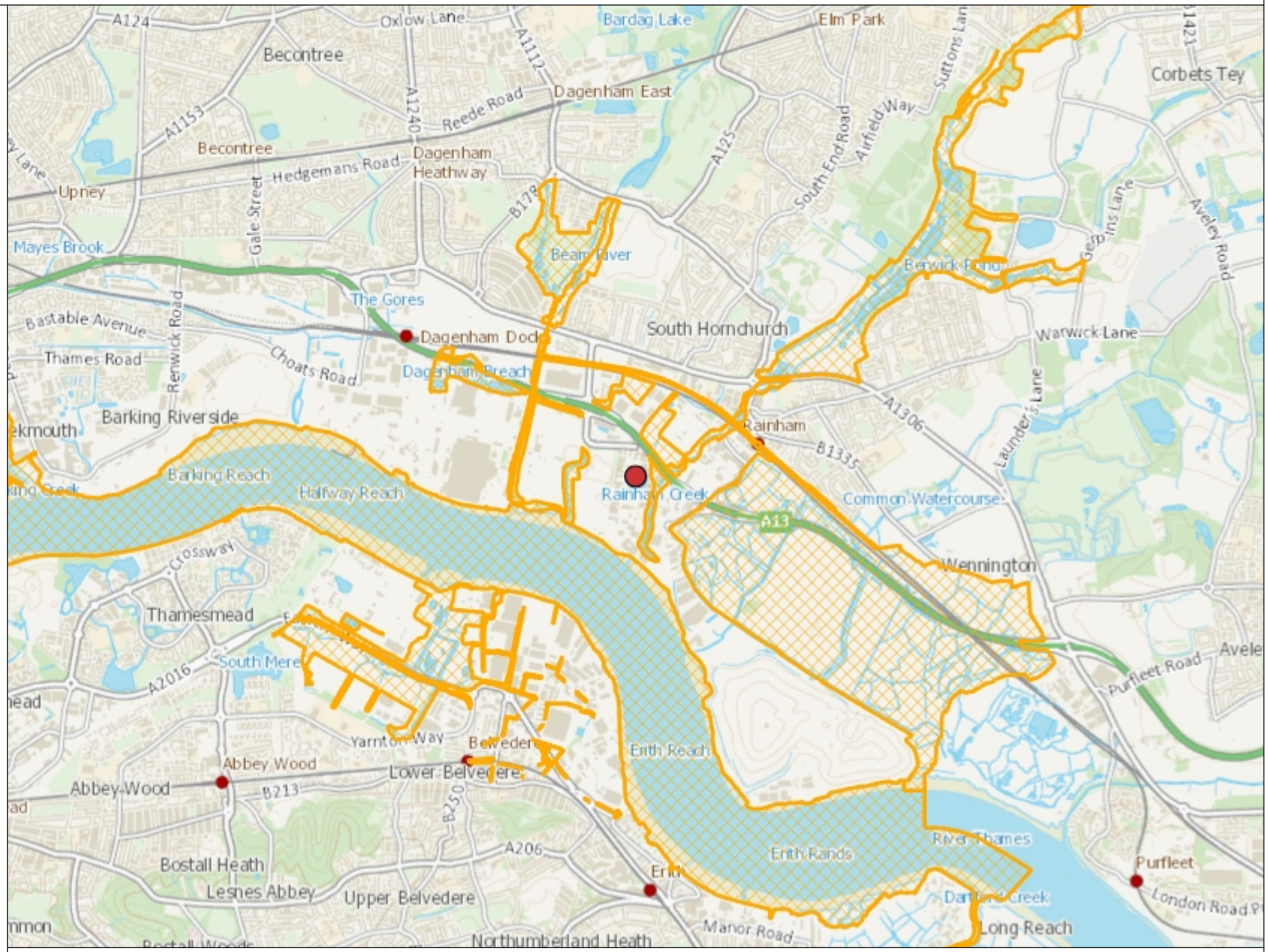
N W E S

Local Wildlife Sites

Environment Agency

Legend

Local Wildlife Sites



1: 50,000

0 1,250

Metres

N W E S

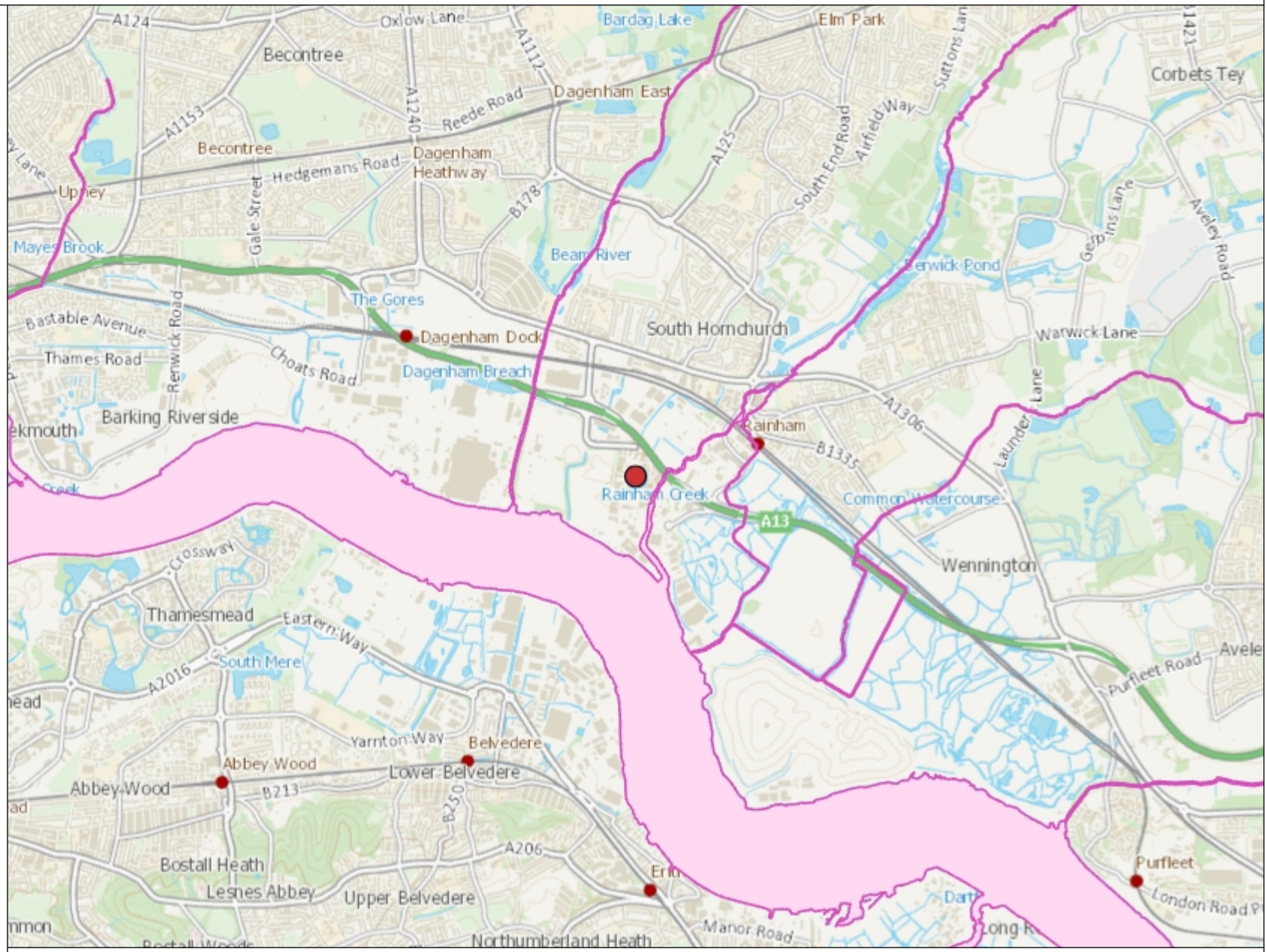
Protected Species

Environment Agency

Legend

Protected species screened for Env Permits - complete set

- Protected species, non fish
- Protected fish
- Protected fish migratory route



1: 50,000

0 1,250

Metres

N W E S

EP Variation Application

Rainham Clinical Waste Treatment Centre (EPR/PP3707BB)

APPENDIX B: EP and Discharge Consent

SHSMT_2023.02 - September 2023

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Sharpsmart Limited

Rainham Clinical Treatment Centre
Unit 21
Barlow Way
Rainham
Essex
RM13 8BT

Variation application number

EPR/PP3707BB/V004

Permit number

EPR/PP3707BB

Rainham Clinical Treatment Centre
Permit number EPR/PP3707BB

Introductory note

This introductory note does not form a part of the permit

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. All the conditions of the permit have been varied and are subject to the right of appeal.

This permit variation has been issued to implement guidance “Healthcare waste: appropriate measures for permitted facilities”.

Changes introduced by this variation notice/statutory review

The Industrial Emissions Directive (IED) came into force on 7 January 2014 with the requirement to implement all relevant Best Available Techniques (BAT) Conclusions as described in the Commission Implementing Decision. Article 21(3) of the IED requires the Environment Agency to review conditions in permits that it has issued and to ensure that the permit delivers compliance with relevant standards, within four years of the publication of updated decisions on Best Available Techniques (BAT) Conclusions. The BAT Conclusions for Waste Treatment (the BREF) was published on 17 August 2018 following a European Union wide review of BAT, implementing decision (EU) 2018/1147 of 10 August 2018.

On 13 July 2020, Healthcare waste: appropriate measures for permitted facilities guidance was published on gov.uk. The guidance explains the standards that are relevant to regulated facilities with an environmental permit to treat or transfer healthcare waste, providing indicative BAT for those sites.

This variation has been issued to update some of the conditions following a statutory review of the permits in the healthcare waste treatment and transfer sector. The opportunity has also been taken to consolidate the original permit and subsequent variations where appropriate.

Brief description of the process

The regulated facility comprises:

- pre-shredding and steam disinfection of infectious waste, compaction and storage of treatment residues;
- repackaging of hazardous waste;
- repackaging, cleaning and disinfection of reusable sharps containers;
- temporary storage of hazardous waste;
- steam generation, container washing and raw material storage;
- compaction of offensive waste;
- repackaging of non-hazardous waste;
- temporary storage of non-hazardous waste.

The steam disinfection plant consists of two pre-shredders, two autoclaves, compaction and storage of treated floc, and pollution abatement equipment. Waste is shredded under negative pressure before transfer to the treatment chamber where a combination of heat, moisture and residence time is sufficient to disinfect the waste to produce a waste floc. Steam is supplied to the autoclaves from the LPG-fired steam raising plant, which is considered a medium combustion plant.

Off-gases from the autoclaves are cooled in a condenser with the resulting water being discharged to foul sewer or sent for incineration if it has resulted from the treatment of waste contaminated with non-hazardous medicines. All treated wastes (autoclave floc and compacted offensive waste) are sent for incineration.

The abatement system that serves the autoclaves and shredder is comprised of a high efficiency particulate air (HEPA) filter and carbon filter. These are designed to remove any infectious bio-aerosols, excess moisture and any residual organic compounds and odours from the off-gases before their release to atmosphere.

The schedules specify the changes made to the permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	**Date**	**Comments**
Application EPR/EP3597LU/A001 (EAWML 101162)	Duly made 03/09/2009	-
Permit determined EPR/EP3597LU	04/11/2009	-
Application EPR/EP3597LU/V002	Duly made 14/04/2010	Variation to increase treatment capacity.
Variation determined EPR/EP3597LU/V002	19/08/2010	Varied permit issued.
Application EPR/EP3597LU/V003	Duly made 13/05/2013	Variation to change the main fuel type and add a waste code.
Schedule 5 Notice	09/07/2013	Further information regarding the treatment of 18 01 04 waste.
Variation determined EPR/EP3597LU/V003	04/09/2013	Varied permit issued.
Application EPR/EP3587LU/V004 (variation and consolidation)	Duly made 02/04/2015	Application to vary the permit to increase annual throughput and conduct shredding before autoclaving. The variation will also update the permit to modern conditions.
Variation determined EPR/EP3597LU/V004	08/06/2015	Varied and consolidated permit issued in modern condition format.
Application EPR/PP3707BB/T001 (full transfer of permit EPR/EP3597LU)	Duly made 02/03/2020	Application to transfer the permit in full to Sharpsmart Limited.
Transfer and Environment Agency variation determined EPR/PP3707BB	31/03/2020	Full transfer and Environment Agency initiated variation of permit complete.
Notified of change of Registered Office address	18/09/2020	Registered Office address changed to Unit 1 Enterprise Point, Enterprise City, Meadowfield Avenue, Spennymoor, Durham, DL16 6JF.
Variation issued EPR/PP3707BB/V002	14/10/2020	Varied permit issued to Sharpsmart Limited.
Application EPR/PP3707BB/V003	Duly made 30/10/2020	Application to vary the permit to add sharps bin wash plant, new boiler, treatment of additional infectious wastes, shredding of non-hazardous offensive waste.
Response to Schedule 5 Notice dated 04/12/2020	Response received 15/01/2021	Further information regarding air emissions risk assessment, operation of wash plant, treatment of infectious waste contaminated with non-hazardous medicines and single use instruments, shredding of offensive waste, site capacities and odour management plan.

Status log of the permit		
Description	**Date**	**Comments**
Additional information received by email	Received 11/02/2021	Risk assessment, risk control plan and letter from Health & Safety Laboratory regarding wash plant.
Response to Schedule 5 Notice dated 08/02/2021	Response received 18/02/2021	Further information regarding site plan, operation of wash plant, treatment of infectious waste contaminated with non-hazardous medicines and single use instruments, shredding of offensive waste and waste storage times.
Variation determined EPR/PP3707BB/V003	24/03/2021	Varied permit issued.
Regulation 61 Notice sent to Operator	26/11/2020	Regulation 61 Notice requiring information for statutory review of permit.
Regulation 61 Notice response	10/03/2021	Response received from the operator.
Application (variation and consolidation) EPR/PP3707BB/V004	Environment Agency Initiated Variation	Statutory review of permit occasioned by Waste Treatment BAT Conclusions published on 17 August 2018 and Healthcare waste: appropriate measures for permitted facilities published 13 July 2020.
Additional information received	22/04/2022	Response to request for further information.
Environment Agency Waste Treatment Sector Review Permit reviewed Variation determined EPR/PP3707BB/V004 (PAS Billing Ref: CP3947JM EAWML Billing Ref. EAWML 101162).	14/12/2022	Varied and consolidated permit issued.

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies and consolidates

Permit number

EPR/PP3707BB

Issued to

Sharpsmart Limited ("the operator")

whose registered office is

Unit 1 Enterprise Point
Enterprise City
Meadowfield Avenue
Spennymoor
Durham
England
DL16 6JF

company registration number **04261387**

to operate regulated facilities at

Rainham Clinical Treatment Centre
Unit 21
Barlow Way
Rainham
Essex
RM13 8BT

to the extent authorised by and subject to the conditions of this permit.

Name	Date
Anne Lloyd	**14/12/2022**

Authorised on behalf of the Environment Agency

Schedule 1

All conditions have been varied by the consolidated permit as a result of an Environment Agency initiated variation.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/PP3707BB

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/PP3707BB/V004 authorising,

Sharpsmart Limited ("the operator"),

whose registered office is

Unit 1 Enterprise Point
Enterprise City
Meadowfield Avenue
Spennymoor
Durham
England
DL16 6JF

company registration number 04261387

to operate an installation and waste operations at

Rainham Clinical Treatment Centre
Unit 21
Barlow Way
Rainham
Essex
RM13 8BT

to the extent authorised by and subject to the conditions of this permit.

Name	Date
Anne Lloyd	**14/12/2022**

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

1.1.1 The operator shall manage and operate the activities:

(a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and

(b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.1.4 The operator shall comply with the requirements of an approved competence scheme.

1.2 Energy efficiency

1.2.1 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR8) the operator shall:

(a) take appropriate measures to ensure that energy is used efficiently in the activities;

(b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and

(c) take any further appropriate measures identified by a review.

1.3 Efficient use of raw materials

1.3.1 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR8) the operator shall:

(a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;

(b) maintain records of raw materials and water used in the activities;

(c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and

(d) take any further appropriate measures identified by a review.

1.4 Avoidance, recovery and disposal of wastes produced by the activities

1.4.1 The operator shall take appropriate measures to ensure that:

(a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and

(b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and

(c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the "activities").

2.1.2 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR8) waste authorised by this permit shall be clearly distinguished from any other waste on the site.

2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.

2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation ("plan") specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.

2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.

2.3.4 Waste shall only be accepted if:

(a) it is of a type and quantity listed in schedule 2 tables S2.2, S2.3, S2.4 and S2.5; and

(b) it conforms to the description in the documentation supplied by the producer and holder.

2.3.5 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:

(a) the nature of the process producing the waste;

(b) the composition of the waste;

(c) the handling requirements of the waste;

(d) the hazardous property associated with the waste, if applicable; and

(e) the waste code of the waste.

2.3.6 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.3.7 Hazardous waste shall not be mixed, either with a different category of hazardous waste or with other waste, substances or materials, unless it is authorised by schedule 1 table S1.1 and appropriate measures are taken.

2.4 Improvement programme

2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.

2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

2.5 Pre-operational conditions

2.5.1 The operations specified in schedule 1 table S1.4 shall not commence until the measures specified in that table have been completed.

3 Emissions and monitoring

3.1 Emissions to water, air or land

3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1 and S3.2.

3.1.2 The limits given in schedule 3 shall not be exceeded.

3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.1.4 For the following activities referenced in schedule 1, table S1.1 (AR6) the first monitoring measurements shall be carried out within four months of the issue date of the permit or of the date when the MCP is first put into operation, whichever is later.

3.2 Emissions of substances not controlled by emission limits

3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

3.2.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;

(b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

3.4 Noise and vibration

3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.4.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;

(b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Monitoring

3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:

(a) point source emissions specified in tables S3.1 and S3.2;

(b) fugitive microbial emissions specified in table S3.3;

(c) process monitoring specified in table S3.4.

3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.

3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1 and S3.2 unless otherwise agreed in writing by the Environment Agency.

3.6 Pests

3.6.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.

3.6.2 The operator shall:

(a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution from pests;

(b) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.7 Fire prevention

3.7.1 The operator shall take all appropriate measures to prevent fires on site and minimise the risk of pollution from them including, but not limited to, those specified in any approved fire prevention plan.

3.7.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to a risk of fire, submit to the Environment Agency for approval within the period specified, a fire prevention plan which prevents fires and minimises the risk of pollution from fires;

(b) implement the fire prevention plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

4 Information

4.1 Records

4.1.1 All records required to be made by this permit shall:

(a) be legible;

(b) be made as soon as reasonably practicable;

(c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and

(d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:

(i) off-site environmental effects; and

(ii) matters which affect the condition of the land and groundwater.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR8) a report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:

(a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;

(b) the annual production/treatment data set out in schedule 4 table S4.2; and

(c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

(a) in respect of the parameters and emission points specified in schedule 4 table S4.1;

(b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and

(c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.2.5 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.3 Notifications

4.3.1 In the event:

(a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—

(i) inform the Environment Agency,

(ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and

(iii) take the measures necessary to prevent further possible incidents or accidents;

(b) of a breach of any permit condition the operator must immediately—

(i) inform the Environment Agency, and

(ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;

(c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

(a) any change in the operator's trading name, registered name or registered office address; and

(b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

(a) any change in the operator's name or address; and

(b) any steps taken with a view to the dissolution of the operator.

In any other case:

(a) the death of any of the named operators (where the operator consists of more than one named individual);

(b) any change in the operator's name(s) or address(es); and

(c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

(a) the Environment Agency shall be notified at least 14 days before making the change; and

(b) the notification shall contain a description of the proposed change in operation.

4.3.6 The Environment Agency shall be given at least 14 days' notice before implementation of any part of the site closure plan.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
AR1	Section 5.3 Part A(1)(a)(ii) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment.	Treatment by shredding of infectious waste prior to on-site treatment (AR2). R3 Recycling / reclamation of organic substances which are not used as solvents. D9 Physico-chemical treatment.	From treatment of infectious waste to storage of shredded waste prior to on-site treatment. All treatment shall take place within a building on an impermeable surface with sealed drainage. No more than 20 tonnes per day of infectious waste shall be shredded. Shredded waste shall be stored within fully enclosed, waterproof and leak-proof containers. The shredding of waste shall not change either the maximum storage times for waste on site or the amount that can be stored. There shall be no shredding of waste single use instruments. No waste types shall be submitted to this activity other than those infectious wastes specified in Schedule 2, Table S2.2.
AR2	Section 5.3 Part A(1)(a)(ii) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment.	Treatment of infectious waste by batch thermal treatment in one of 2 autoclaves including post-treatment compaction of treated floc. R3 Recycling / reclamation of organic substances which are not used as solvents. R4 Recycling/ reclamation of metals and metal compounds (treatment of single-use instruments). D9 Physico-chemical treatment.	From treatment of waste to storage of treated waste. All treatment shall take place within a building on an impermeable surface with sealed drainage. No more than 20 tonnes per day of infectious waste shall be treated. The autoclaves shall be operated in accordance with Note 1. Treated waste shall be stored within fully enclosed, waterproof and leak-proof containers for no longer than 7 days if outside, or for no longer than 14 days if stored in a building. A total of no more than 40 tonnes (4 container skips, excluding the compactor skips in use) of treated and compacted waste (autoclave floc and offensive waste resulting from AR1, AR9 and AR10) shall be stored on site at any one time. If stored outside, the waste shall be stored in enclosed and sealed skip containers located on impermeable surfacing in a dedicated area of the external yard. If stored within a building, shredded and compacted waste shall be stored within fully enclosed, waterproof and leak-proof containers.

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
			Waste will be treated to an unrecognisable, unusable condition and patient information destroyed. All waste (including residues, condensate and effluent) resulting from the treatment of waste contaminated with non-hazardous medicines must be sent for incineration. No medicinally contaminated waste or effluent shall be discharged to sewer from this process. Aqueous effluent from the process shall be stored in leak-proof containers for no longer than 7 days within a building on an impermeable surface with sealed drainage. No waste types shall be submitted to this activity other than those infectious wastes specified in Schedule 2, Table S2.2.
AR3	Section 5.3 Part A(1)(a)(iv) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving repackaging.	Operation of sharps bin wash plant and repackaging (bulking) of emptied sharps. R12 Exchange of waste for submission to any of the operations numbered R1 to R11. D14 Repackaging prior to submission to any of the operations numbered D1 to D13.	From repackaging of waste to storage of repackaged waste, washing and disinfection of empty packages and disposal of washings to sewer. Waste may only be removed from its original packaging if it has been designed to be re-used. Repackaging shall take place within a building on an impermeable surface with sealed drainage. The maximum quantity of sharps bin waste treated through the wash plant shall not exceed 11 tonnes per day. Washing and disinfection of reusable sharps bins and repackaging of wastes shall take place within a building on an impermeable surface with sealed drainage. Repackaging of waste shall not change either the maximum storage times for waste on site or the amount that can be stored. No waste types shall be submitted to this activity other than those hazardous wastes specified in Schedule 2, Table S2.3.
AR4	Section 5.3 Part A(1)(a)(iv) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving repackaging.	Repackaging of hazardous waste. R12 Exchange of waste for submission to any of the operations numbered R1 to R11.	Repackaging is limited to: • taking a waste package (for example a bag, drum or box) out of one cart or bulk container (for example a skip) and placing it into another cart or bulk container (for example, a skip) • taking a waste package from a cart or bulk container (for example, skip)

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
		D14 Repackaging prior to submission to any of the operations numbered D1 to D13.	and placing it onto a pallet or vehicle. Repackaging of waste shall not change either the maximum storage times for waste on site or the amount that can be stored. No waste types shall be submitted to this activity other than those hazardous wastes specified in Schedule 2, Table S2.4.
AR5	Section 5.6 Part A(1)(a) Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes.	Storage of hazardous waste. 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). D15 Storage pending any of the operations numbered D 1 to D 14 (excluding temporary storage, pending collection, on the site where the waste is produced).	From receipt and storage of hazardous waste on site, to its treatment or repackaging on site; or its transfer off-site. The total amount of waste stored on site at any one time, including both hazardous and non-hazardous waste, shall not exceed 55 tonnes. All hazardous waste shall be stored inside a building and on impermeable surfacing with sealed drainage. Waste shall not be stored in vehicles or vehicle trailers, unless they are being received for immediate offloading or prepared for imminent transfer (that is, they will be removed from site within 24 hours, or 72 hours if over a weekend). Infectious clinical waste shall be stored for no longer than 14 days. Pharmaceutical, chemical, anatomical and palletised hazardous waste shall be stored securely within designated areas of the building. Refrigerated anatomical waste shall be stored for no longer than 14 days. Unrefrigerated anatomical waste shall be stored for no longer than 24 hours, or up to 72 hours if over a weekend. The following waste types shall be stored on site for no longer than 6 months: • non-infectious cytotoxic and cytostatic medicines • dental amalgam • other hazardous chemicals or other hazardous wastes Notwithstanding the limits given above where a shorter storage time period is given in an agreed management plan then that time period shall take precedence. No waste types shall be submitted to this activity other than those hazardous

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
			wastes specified in Schedule 2, Table S2.4.
	Directly Associated Activity		
AR6	Steam supply, used by autoclaves of activity AR1.	Medium combustion plant comprising 1 x 2.5 MWth liquefied petroleum gas (LPG) fired boiler.	From receipt of LPG to emissions of combustion gases and supply of steam for on-site consumption only. No fuel shall be used other than LPG.
AR7	Cleaning and disinfection of containers and carts.	Automated and contained bin wash facility that cleans and disinfects.	Handling, cleaning and storage of containers and carts prior to dispatch. Washing and disinfection of mobile containers shall only take place in designated areas with an impermeable surface and a sealed drainage system.
AR8	Raw material handling and storage.	Raw material handling and storage.	From receipt and storage to point of use.
Note 1 - The autoclaves shall only be operated: (i) at the time, temperature and pressure settings the plant was validated at (ii) for a total load weight of waste no greater than that proven during validation (iii) for waste types and where relevant quantities of each type proven during validation (iv) if it passes plant validation requirements, including repeated plant validation and routine efficacy monitoring (Table S3.4), as set out in Healthcare waste: appropriate measures for permitted facilities dated 13 July 2020.			

Waste Operations		
Activity reference	**Description of activities for waste operations**	**Limits of activities**
AR9	Treatment by shredding and compaction of non-infectious offensive waste. R3 Recycling / reclamation of organic substances which are not used as solvents. D9 Physico-chemical treatment.	From shredding and compaction of waste to storage of shredded/compacted waste. Prior to treatment, all waste must be stored inside a building and for no longer than 14 days. Offensive waste shall be stored for no longer than 7 days if outside, or for no longer than 14 days if stored in a building. No more than 24 tonnes per day of offensive waste shall be shredded and compacted. Waste shall be shredded inside a building, using an enclosed and abated shredder with HEPA and carbon filters. Compaction of waste shall be undertaken within an enclosed and sealed compaction skip, on an impermeable surface with sealed drainage. The shredding/compaction of offensive waste shall only be carried out when it is necessary for site contingency, as an alternative to the compaction of bagged offensive waste (activity AR10). A total of no more than 40 tonnes (4 container skips, excluding the compactor skips in use) of treated and compacted waste (autoclave floc and offensive waste resulting from AR1, AR2, AR9 and AR10) shall be stored on site at any one time. If stored

Waste Operations		
Activity reference	**Description of activities for waste operations**	**Limits of activities**
		outside, the waste shall be stored in enclosed and sealed skip containers located on impermeable surfacing in a dedicated area of the external yard. If stored within a building, shredded and compacted waste shall be stored within fully enclosed, waterproof and leak-proof containers. The shredding or compaction of waste shall not change either the maximum storage times for waste on site or the amount that can be stored. The aggregated maximum quantity of non-hazardous waste treated for disposal on site shall not exceed 50 tonnes per day. Bin, container or cart washing equipment shall be purpose-built, contained and located in a designated area of the facility provided with self-contained drainage. The cart or bin wash must be designed to collect and contain all wash waters, including any spray. No waste types shall be submitted to this activity other than those non-hazardous wastes specified in Schedule 2, Table S2.5.
AR10	Light compaction of non-infectious offensive waste. R12 Exchange of waste for submission to any of the operations numbered R1 to R11. D14 Repackaging prior to submission to any of the operations numbered D1 to D13.	From light compaction of waste to storage of compacted waste. Compaction of waste shall be undertaken within an enclosed and sealed compaction skip, on an impermeable surface with sealed drainage. Sealed containers shall be kept locked when not being emptied. A total of no more than 40 tonnes (4 container skips, excluding the compactor skips in use) of treated and compacted waste (autoclave floc and offensive waste resulting from AR1, AR2, AR9 and AR10) shall be stored on site at any one time. If stored outside, the waste shall be stored in enclosed and sealed skip containers located on impermeable surfacing in a dedicated area of the external yard. If stored within a building, shredded and compacted waste shall be stored within fully enclosed, waterproof and leak-proof containers. No more than 24 tonnes per day of offensive waste shall be compacted. Bin, container or cart washing equipment shall be purpose-built, contained and located in a designated area of the facility provided with self-contained drainage. The cart or bin wash must be designed to collect and contain all wash waters, including any spray. Compaction of waste shall not change either the maximum storage times for waste on site or the amount that can be stored. The aggregated maximum quantity of non-hazardous waste treated for disposal on site shall not exceed 50 tonnes per day. No waste types shall be submitted to this activity other than those non-hazardous wastes specified in Schedule 2, Table S2.5.
AR11	Repackaging of non-hazardous waste. R12 Exchange of waste for submission to any of the operations numbered R1 to R11. D14 Repackaging prior to submission to any of the	Repackaging is limited to: • taking a waste package (for example a bag, drum or box) out of one cart or bulk container (for example a skip) and placing it into another cart or bulk container (for example, a skip) • Taking a waste package from a cart or bulk container (for example, skip) and placing it onto a pallet or vehicle

Waste Operations		
Activity reference	**Description of activities for waste operations**	**Limits of activities**
	operations numbered D1 to D13.	• transferring, removing or separating waste from its primary packaging into another container Other than waste received in reusable sharps bins that are emptied and cleaned for re-use, waste shall not be transferred, removed or separated from its primary packaging (for example bags, bins, boxes and blister packs). Repackaging of waste shall not change either the maximum storage times for waste on site or the amount that can be stored. Repackaging shall take place within a building on an impermeable surface with sealed drainage. Bin, container or cart washing equipment shall be purpose-built, contained and located in a designated area of the facility provided with self-contained drainage. The cart or bin wash must be designed to collect and contain all wash waters, including any spray. No waste types shall be submitted to this activity other than those non-hazardous wastes specified in Schedule 2, Table S2.4.
AR12	Storage of non-hazardous waste. 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). D15 Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where the waste is produced).	From receipt and storage of non-hazardous waste on site, to its treatment or repackaging on site; or its transfer off-site. The total amount of waste stored on site at any one time, including both hazardous and non-hazardous waste, shall not exceed 55 tonnes. Waste shall not be stored in vehicles or vehicle trailers, unless they are being received for immediate offloading or prepared for imminent transfer (that is, they will be removed from site within 24 hours, or 72 hours if over a weekend). Offensive waste shall be stored for no longer than 7 days if outside, or for no longer than 14 days if stored in a building. Refrigerated anatomical waste shall be stored for no longer than 14 days. Unrefrigerated anatomical waste shall be stored for no longer than 24 hours, or up to 72 hours if over a weekend. Pharmaceutical, chemical and palletised waste shall be stored securely within designated areas of the building. The following non-hazardous waste types shall be stored on site for no longer than 6 months: • non-infectious, non-hazardous medicines • other non-hazardous chemicals or other non-hazardous wastes Notwithstanding the limits given above where a shorter storage time period is given in an agreed management plan then that time period shall take precedence. No waste types shall be submitted to this activity other than those non-hazardous wastes specified in Schedule 2, Table S2.4.

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Variation application EPR/PP3707BB/V003	Supporting Statement - section 1.4 Appendix G: BAT Assessment - sections 2, 3 and 4 Appendix H: Accident management plan - Risk Assessment and Emergency Plan	30/10/2020
Variation application EPR/PP3707BB/V003 further information (response to Schedule 5 notice)	Response to questions: 2e, 2g - regarding operation of wash plant; 3a, 3c, 3d, 3g - regarding treatment of medicinally contaminated wastes; 4a, 4c - regarding treatment of single use instruments; 5b, 5d - regarding shredding of offensive waste	15/01/2021
Variation application EPR/PP3707BB/V003 further information (response to Schedule 5 notice)	Appendix I – Odour Management Plan (document dated 11/02/2021) Response to questions: 4 - regarding treatment of medicinally contaminated wastes 5 - regarding disposal of wash water effluent 6 - regarding cleaning of autoclaves 7 - regarding single use instruments 9 - regarding cleaning of shredder	18/02/2021
Healthcare waste: appropriate measures for permitted facilities Version published 13 July 2020	All parts of the appropriate measures guidance shall apply other than: Those parts to which an improvement programme requirement applies in Table S1.3 and until the agreed completion date for that improvement.	N/A

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC1	The operator shall provide the Environment Agency with a written report for approval on the emissions monitoring and assessment required by table S3.1 and pre-operational condition PO3. The report shall detail the monitoring undertaken and the results and conclusions obtained from it, specifically: I. the composition of the monitored emissions; II. an assessment of the potential environmental impact of any chemical emissions resulting from the treatment of medicinally contaminated wastes (following our H1 risk assessment methodology, unless an alternative is agreed) and a comparison to relevant emission limits provided in technical guidance; III. an assessment of the effectiveness of the control measures in place to prevent and minimise emissions to air; IV. the proposal of any additional appropriate measures or improvements that could be implemented to prevent or minimise emissions further. Based upon the monitoring undertaken, the operator shall also propose emission limits (or 'benchmarks') for ongoing emissions monitoring of the treatment process in accordance with the Emissions monitoring and limits appropriate measures of technical guidance Healthcare waste: appropriate measures for permitted facilities, dated 13 July 2020.	Within 6 months of the commencement of treatment of waste contaminated with non-hazardous medicines (18 01 03* with 18 01 09)
IC2	The operator shall submit a written report to the Environment Agency for approval that includes the results of an updated assessment of the impact of any sanitary or hazardous pollutants in the facility's emissions to sewer using the Environment Agency's 'H1 Environmental Risk Assessment' tool (or equivalent as agreed with the Environment Agency). A monitoring and assessment plan shall be submitted to the Environment Agency for approval prior to commencing testing. The monitoring and assessment shall be undertaken in accordance with the Emissions monitoring and limits appropriate measures of technical guidance Healthcare waste: appropriate measures for permitted facilities (dated 13 July 2020) and shall be undertaken when all relevant plant that produce a process effluent are fully operational (i.e. boiler, wash plant, shredder and autoclaves).	Within 6 months of the commencement of treatment of waste contaminated with non-hazardous medicines (18 01 03* with 18 01 09)
IC3	The operator shall carry out a review of the raw material, water and energy usage of the facility, including new and existing activities and plant against the Process efficiency appropriate measures of technical guidance Healthcare waste: appropriate measures for permitted facilities, dated 13 July 2020. The operator shall submit a written report (or reports) to the Environment Agency for approval, detailing the findings of the review and including a timetable for implementing any recommendations or improvements.	Issue date + 1 day
IC4 Waste pre-acceptance or acceptance procedures	The operator shall review and update their waste pre-acceptance and/or waste acceptance procedures to ensure that they meet the requirements of our guidance Healthcare waste: appropriate measures for permitted facilities. Specifically, they must demonstrate that the following appropriate measure(s) of the guidance will be met: Waste pre-acceptance, acceptance and waste tracking appropriate measures. A copy of the updated procedure(s) shall be submitted to the Environment Agency for approval.	Issue date + 2 months
IC5 Updated emissions inventory	The operator shall submit a written report to the Environment Agency for approval that proposes a monitoring programme to characterise and assess the facility's point source emissions to air and water (including sewer) in accordance with the Emissions monitoring and limits appropriate measures of technical guidance Healthcare waste: appropriate measures	Submission of written report proposing monitoring programme

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
and H1 (air and water)	for permitted facilities, dated 13 July 2020. The report shall detail the parameters and substances that will be tested for, the monitoring methods and equipment that will be used, and a timetable for undertaking the monitoring. The monitoring programme shall be carried out as approved by the Environment Agency. A written report shall submitted to the Environment Agency for approval detailing the results and conclusions of the emissions monitoring and assessment undertaken, including a completed H1 Environmental Risk Assessment and proposals for any ongoing monitoring or further assessment.	Issue date + 2 months. Submission of subsequent written report detailing monitoring and assessment results Issue date + 6 months.
IC6 Autoclave extraction and abatement	The operator shall submit a written report to the Environment Agency for approval detailing the current extraction and abatement methods in place for the autoclaves on site, and a comparison with the requirements set out in Healthcare waste: appropriate measures for permitted facilities dated 13 July 2020. If improvements are needed to meet the requirements of Healthcare waste: appropriate measures for permitted facilities dated 13 July 2020; then proposed timescales must be provided detailing when they will be installed. You must implement the improvements as approved, and from the date stipulated by the Environment Agency.	Issue date + 8 months
IC7 Waste storage plan	The operator shall submit a waste storage plan, in accordance with the waste storage, segregation and handling appropriate measures of technical guidance Healthcare waste: appropriate measures for permitted facilities, dated 13 July 2020 to the Environment Agency for approval, which must clearly establish the maximum storage capacity of the site and designated storage areas and you must not exceed these maximum capacities. You must define capacity in terms of numbers of carts, containers or pallets, as well as by tonnage. You must regularly monitor the quantity of stored waste on the site and designated areas to check against the allowed maximum capacity. The waste storage plan must also as a minimum state: - the maximum height of each storage pile on site - how you will separate different types of waste if required, for example how far apart you will keep waste types that cannot be mixed	Issue date + 3 months
IC8 Washing of carts	The operator shall cease to clean carts by hand held jet washer or other non-official equipment. The replacement washer system must meet the requirements set out in Healthcare waste: appropriate measures for permitted facilities dated 13 July 2020.	Issue date + 3 months

Table S1.4 Pre-operational measures		
Reference	**Operation**	**Pre-operational measures**
PO1	Steam treatment of infectious waste single use instruments in Table S2.2 (18 01 03*)	The operator shall submit a written validation report to the Environment Agency for approval, that demonstrates and confirms: I. the treatment efficacy of the waste facility for the additional waste types (infectious waste single use instruments (18 01 03*)), in accordance with the Waste treatment appropriate measures of technical guidance Healthcare waste: appropriate measures for permitted facilities, dated 13 July 2020;

Table S1.4 Pre-operational measures		
Reference	**Operation**	**Pre-operational measures**
		II. the proposals for routine monitoring of treatment efficacy comply with the Waste treatment appropriate measures of technical guidance Healthcare waste: appropriate measures for permitted facilities, dated 13 July 2020; III. the installation's emissions, in accordance with the Emissions monitoring and limits appropriate measures of technical guidance Healthcare waste: appropriate measures for permitted facilities, dated 13 July 2020; and IV. the proposals for routine monitoring of emissions comply with the Emissions monitoring an limits appropriate measures of technical guidance Healthcare waste: appropriate measures for permitted facilities, dated 13 July 2020. The treatment efficacy tests must take into account the range of permitted waste types that the plant may treat at the same time as the additional waste in question (18 01 03* single use instruments). The operation shall not be made operational until the Environment Agency has given prior written approval under this condition.
PO2	Shredding and steam treatment of infectious waste contaminated with non-hazardous medicines (18 01 03* with 18 01 09), alone or with other permitted types of waste.	The operator shall submit a written validation report to the Environment Agency for approval, that demonstrates and confirms: I. the treatment efficacy of the waste facility for the additional waste types (infectious waste contaminated with non-hazardous medicines (18 01 03* with 18 01 09)), in accordance with the Waste treatment appropriate measures of technical guidance Healthcare waste: appropriate measures for permitted facilities, dated 13 July 2020; II. the proposals for routine monitoring of treatment efficacy comply with the Waste treatment appropriate measures of technical guidance Healthcare waste: appropriate measures for permitted facilities, dated 13 July 2020; III. the installation's emissions, in accordance with the Emissions monitoring and limits appropriate measures of technical guidance Healthcare waste: appropriate measures for permitted facilities, dated 13 July 2020; and IV. the proposals for routine monitoring of emissions comply with the Emissions monitoring and limits appropriate measures of technical guidance Healthcare waste: appropriate measures for permitted facilities, dated 13 July 2020. The treatment efficacy tests must take into account the range of permitted waste types that the plant may treat at the same time as the additional waste in question (18 01 03* with 18 01 09 infectious waste with non-hazardous medicines). Any alternative operating scenarios where the waste in question would be steam treated without first being shredded must also be fully assessed and validated in accordance with the waste treatment appropriate measures of technical guidance Healthcare waste: appropriate measures for permitted facilities (dated 13 July 2020) as part of this pre-operational measure prior to operation.

Table S1.4 Pre-operational measures		
Reference	**Operation**	**Pre-operational measures**
		The operation shall not be made operational until the Environment Agency has given prior written approval under this condition.
PO3	Shredding and steam treatment of waste contaminated with non-hazardous medicines (18 01 03* with 18 01 09)	The operator shall submit a written report to the Environment Agency for approval, that: I. proposes a sampling and testing programme for characterising and assessing emissions to air from the abatement systems of the shredder and autoclaves for total and speciated VOCs and dust; II. considers emissions resulting from both the treatment of waste contaminated with non-hazardous medicines (18 01 03* with 18 01 09) and waste not contaminated with non-hazardous medicines (18 01 03*); III. proposes measures to demonstrate that effective clean down occurs between processing of medicinally contaminated sharps and other waste; IV. proposes measures and a sampling and testing regime for demonstrating that pharmaceutically contaminated autoclave liquors or condensate is not discharged to sewer as a result of the treatment of medicinally contaminated waste (i.e. all pharmaceutically contaminated liquids from the treatment of medicinally contaminated sharps are captured for off-site disposal by incineration). No medicinally contaminated waste shall be accepted for shredding and/or steam treatment unless the Environment Agency has given prior written approval under this condition.
PO4	Shredding and/or autoclaving of waste contaminated with non-hazardous medicines (18 01 03* with 18 01 09)	The operator shall submit to the Environment Agency for approval a copy of the written procedures that will be followed at the facility in order to ensure that relevant plant and equipment are cleaned between treatment cycles of waste contaminated with non-hazardous medicines and waste not contaminated with non-hazardous medicines.
PO5	Shredding of non-hazardous offensive waste (18 01 04)	The operator shall submit to the Environment Agency for approval a copy of the written procedures that will be followed at the facility in order to ensure that relevant plant and equipment are cleaned and disinfected between treatment cycles of infectious waste and non-infectious offensive waste.

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	**Specification**
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Table S2.2 Permitted waste types and quantities for pre-shredding and thermal treatment of hazardous waste (AR1 and AR2)	
Maximum quantity	**The total quantity of wastes accepted at the site shall not exceed 30,000 tonnes per year.** **The maximum amount of hazardous waste treated via pre-shredding and thermal treatment per annum shall be less than 20,000 tonnes.** **No more than 20 tonnes per day of infectious waste shall be shredded.** **No more than 20 tonnes per day of infectious waste shall be subject to thermal treatment via the autoclaves.**
Waste code	**Description**
18	**WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (EXCEPT KITCHEN AND RESTAURANT WASTES NOT ARISING FROM IMMEDIATE HEALTH CARE)**
18 01	**wastes from natal care, diagnosis, treatment or prevention of disease in humans**
18 01 03*	infectious waste, not contaminated with chemicals or medicines (including single-use medical instruments) (Note 1) (Note 2)
18 01 03* and 18 01 09	infectious waste, medicinally contaminated (not cytotoxic or cytostatic) (Note 3)
18 02	**wastes from research, diagnosis, treatment or prevention of disease involving animals**
18 02 02*	infectious waste, not contaminated with chemicals or medicines (Note 1)
20	**MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS**
20 01	**separately collected fractions (except 15 01)**
20 01 99	infectious waste, not contaminated with chemicals or medicines – municipal, separately collected fractions, not from healthcare or research-related sources (Note 1)
Note 1: Excluding: sharps (subject to the approval of PO2, PO3 and PO4); anatomical waste; waste known or likely to contain ACDP Hazard Group 4 biological agents; any waste from a containment level 3 laboratory; all microbiological cultures from any source; and any potentially infected waste from pathology departments and other clinical or research laboratories. Note 2: Single use instruments shall not be shredded. Note 3: Entries dual-coded under 18 01 03* and 18 01 09 are limited to wastes received in yellow lidded, rigid containers that are contaminated with non-hazardous medicines only and do not include other pharmaceutical or pharmaceutically contaminated wastes. These wastes shall not be subject to pre-shredding (AR1) and thermal treatment (AR2) until approval of PO2, PO3, and PO4.	

Table S2.3 Permitted waste types and quantities for sharps bin wash plant and associated repackaging (AR3)	
Maximum quantity	**The total quantity of wastes accepted at the site shall not exceed 30,000 tonnes per year.** **The maximum amount of hazardous waste treated per annum shall be less than 20,000 tonnes.** **The maximum quantity of sharps bin waste treated through the wash plant shall not exceed 11 tonnes per day.**
Waste code	**Description**
18	**WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (EXCEPT KITCHEN AND RESTAURANT WASTES NOT ARISING FROM IMMEDIATE HEALTH CARE)**
18 01	**wastes from natal care, diagnosis, treatment or prevention of disease in humans**
18 01 03*	infectious waste, not contaminated with chemicals or medicines (contains sharps)
18 01 03* and 18 01 08*	infectious waste, medicinally contaminated (cytotoxic or cytostatic) (contains sharps)
18 01 03* and 18 01 09	infectious waste, medicinally contaminated (not cytotoxic or cytostatic) (contains sharps)
18 02	**wastes from research, diagnosis, treatment or prevention of disease involving animals**
18 02 02*	infectious waste, not contaminated with chemicals or medicines (contains sharps)
18 02 02* and 18 02 07*	infectious waste, medicinally contaminated (cytotoxic or cytostatic) (contains sharps)
18 02 02* and 18 02 08	infectious waste, medicinally contaminated (not cytotoxic or cytostatic) (contains sharps)

Table S2.4 Permitted waste types and quantities for repackaging (AR4 and AR11) and storage (AR5 and AR12)	
Maximum quantity	**The total quantity of wastes accepted at the site shall not exceed 30,000 tonnes per year.** **Combined storage capacity of hazardous and non-hazardous waste on site shall not exceed 55 tonnes at any one time.**
Waste code	**Description**
09	**WASTES FROM THE PHOTOGRAPHIC INDUSTRY**
09 01	**wastes from the photographic industry**
09 01 01*	water-based developer and activator solutions
09 01 02*	water-based offset plate developer solutions
09 01 03*	solvent based developer solutions
09 01 04*	fixer solutions
09 01 05*	bleach and bleach fixer solutions
09 01 07	photographic film and paper containing silver or silver compounds
09 01 08	photographic film and paper free of silver or silver compounds
18	**WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (EXCEPT KITCHEN AND RESTAURANT WASTES NOT ARISING FROM IMMEDIATE HEALTH CARE)**

Table S2.4 Permitted waste types and quantities for repackaging (AR4 and AR11) and storage (AR5 and AR12)	
Maximum quantity	**The total quantity of wastes accepted at the site shall not exceed 30,000 tonnes per year.** **Combined storage capacity of hazardous and non-hazardous waste on site shall not exceed 55 tonnes at any one time.**
Waste code	**Description**
18 01	**wastes from natal care, diagnosis, treatment or prevention of disease in humans**
18 01 01	non-infectious sharps, not contaminated with chemicals or medicines
18 01 01 and 18 01 09	non-infectious sharps from vaccines delivered in mass vaccination centres, in the community and in care homes
18 01 02	non-infectious anatomical waste, not chemically preserved
18 01 02 and 18 01 06*	non-infectious anatomical waste, chemically preserved, hazardous chemicals
18 01 02 and 18 01 07	non-infectious anatomical waste, chemically preserved, non-hazardous chemicals
18 01 03*	infectious waste, not contaminated with chemicals or medicines (may contain sharps) infectious anatomical waste, not chemically preserved infectious gypsum wastes (for example, plaster casts and moulds)
18 01 03* and 18 01 06* or 18 01 07	infectious waste, contaminated with chemicals infectious anatomical waste, chemically preserved
18 01 03* and 18 01 08* or 20 01 31*	infectious waste, contaminated with cytotoxic and cytostatic medicines – (may contain sharps)
18 01 03* and 18 01 09	infectious waste, medicinally contaminated (not cytotoxic or cytostatic) – (may contain sharps)
18 01 04	non-infectious offensive waste – human healthcare non-infectious gypsum wastes (for example, plaster casts and moulds)
18 01 06*	chemicals consisting of or containing hazardous substances
18 01 07	chemicals other than those mentioned in 18 01 06
18 01 08*	cytotoxic and cytostatic medicines
18 01 09	other waste medicines, excluding cytotoxic and cytostatic medicines – human healthcare
18 01 10*	amalgam waste from dental care
18 02	**wastes from research, diagnosis, treatment or prevention of disease involving animals**
18 02 01	non-infectious sharps, not contaminated with chemicals or medicines
18 02 02*	infectious waste, not contaminated with chemicals or medicines (may contain sharps) infectious anatomical waste, not chemically preserved infectious gypsum wastes (for example, plaster casts and moulds)
18 02 02* and 18 02 05* or 18 02 06	infectious waste, contaminated with chemicals infectious anatomical waste, chemically preserved
18 02 02* and 18 02 07* or 20 01 31	infectious waste, contaminated with cytotoxic and cytostatic medicines (may contain sharps)

Table S2.4 Permitted waste types and quantities for repackaging (AR4 and AR11) and storage (AR5 and AR12)	
Maximum quantity	**The total quantity of wastes accepted at the site shall not exceed 30,000 tonnes per year.** **Combined storage capacity of hazardous and non-hazardous waste on site shall not exceed 55 tonnes at any one time.**
Waste code	**Description**
18 02 02* and 18 02 08	infectious waste, medicinally contaminated (not cytotoxic or cytostatic) (may contain sharps)
18 02 03	non-infectious anatomical waste, not chemically preserved non-infectious offensive waste non-infectious gypsum wastes (for example, plaster casts and moulds)
18 02 03 and 18 02 05*	non-infectious anatomical waste, chemically preserved, hazardous chemicals
18 02 03 and 18 02 06	non-infectious anatomical waste, chemically preserved, non-hazardous chemicals
18 02 05*	chemicals consisting of or containing dangerous substances
18 02 06	chemicals other than those mentioned in 18 02 05
18 02 07*	cytotoxic and cytostatic medicines
18 02 08	other waste medicines, excluding cytotoxic and cytostatic
20	**MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS**
20 01	**separately collected fractions (except 15 01)**
20 01 31*	cytotoxic and cytostatic medicines – municipal, separately collected fractions not from healthcare or research-related sources
20 01 32	other waste medicines, excluding cytotoxic and cytostatic medicines – municipal, separately collected fractions not from healthcare or research-related sources
20 01 99	non-infectious offensive waste – municipal, separately collected fractions not from healthcare or research-related sources non-infectious sharps, not contaminated with chemicals or medicines – not from healthcare or research-related sources infectious waste, not contaminated with chemicals or medicines – municipal, separately collected fractions, not from healthcare or research-related sources (may contain sharps)

Table S2.5 Permitted waste types and quantities for shredding or compaction of offensive waste (AR9 and AR10)	
Maximum quantity	**The total quantity of waste accepted at the site shall be less than 30,000 tonnes per annum.** **No more than 24 tonnes per day of non-hazardous offensive waste shall be shredded and compacted.**
Waste code	**Description**
18	**WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (EXCEPT KITCHEN AND RESTAURANT WASTES NOT ARISING FROM IMMEDIATE HEALTH CARE)**
18 01	**wastes from natal care, diagnosis, treatment or prevention of disease in humans**
18 01 04	non-infectious offensive waste – human healthcare
18 02	**wastes from research, diagnosis, treatment or prevention of disease involving animals**
18 02 03	non-infectious offensive waste – animal healthcare
20	**MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS**
20 01	**separately collected fractions (except 15 01)**
20 01 99	non-infectious offensive waste – municipal, separately collected fractions not from healthcare or research-related sources

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
A1 Boiler stack on Schedule 7 Site Plan	LPG Boiler, 2.5 megawatts thermal input	Oxides of nitrogen (NOx)	200 mg/m^3	Hourly average	Annually (Note 1)	MCERTS BS EN 14792
		Sulphur dioxide (SO_2)	35 mg/m^3	Hourly average	Annually (Note 1)	MCERTS BS EN 14791
		Carbon monoxide (CO)	No limit set	Hourly average	Annually (Note 1)	MCERTS BS EN 15058
A2 Autoclave exhaust vent on Schedule 7 Site Plan	Abated exhaust system from autoclave, with HEPA and carbon filters (Note 6)	Bacillus spores	1000 cfu/m^3 (Note 2)	In accordance with Emissions monitoring and limits appropriate measures of Healthcare waste: appropriate measures for permitted facilities, dated 13 July 2020	Annually	In accordance with Emissions monitoring and limits appropriate measures of Healthcare waste: appropriate measures for permitted facilities, dated 13 July 2020
		Total Volatile organic compounds (VOCs)	30 mg per cubic metre (Note 3)	Average value of 3 consecutive measurements of at least 30 minutes each	(Note 4)	BS EN 12619
		Speciated VOCs	No limit set	Average value of 3 consecutive measurements of at least 30 minutes each	(Note 4)	CEN TS 13649
		Particulate matter	5 mg per cubic metre (Note 3)	Average value of 3 consecutive measurements of at least 30 minutes each	Every 6 months (Note 5)	BS EN 13284-1
A3 Shredder local extraction ventilation on Schedule 7 Site Plan	Local Exhaust Ventilation (LEV) system fitted to shredder with carbon and HEPA filters	Bacillus spores	1000 cfu/m^3 (Note 2)	In accordance with Emissions monitoring and limits appropriate measures of Healthcare waste: appropriate measures for permitted	Annually	In accordance with Emissions monitoring and limits appropriate measures of Healthcare waste: appropriate measures for permitted

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
				facilities, dated 13 July 2020		facilities, dated 13 July 2020
		Total volatile organic compounds (VOCs)	30 mg per cubic metre (Note 3)	Average value of 3 consecutive measurements of at least 30 minutes each	Every 6 months (Note 4)	BS EN 12619
		Speciated VOCs	No limit set	Average value of 3 consecutive measurements of at least 30 minutes each	(Note 4)	CEN TS 13649
		Particulate matter	5 mg per cubic metre (Note 3)	Average value of 3 consecutive measurements of at least 30 minutes each	Every 6 months (Note 5)	BS EN 13284-1
A4 Emission from wash plant tipping head on Schedule 7 Site Plan	Extraction system with HEPA filter serving wash plant tipping head	No parameter set	No limit set	-	-	-
A5 Emission from wash plant dryer on Schedule 7 Site Plan	Extraction system serving wash plant dryer	No parameter set	No limit set	-	-	-

Note 1 - The first monitoring measurements shall be carried out within four months of the issue date of the permit or of the date when the MCP is first put into operation, whichever is later.

Note 2 - These units relate to the overall monitoring period so the colony-forming units (cfu) benchmark applies to each individual sample of air or water to be taken, with a calculation made to report the results per cubic metre or litre. These are based on a seeding does of $1x10^6$ spores per gram of waste load, and would need to be adjusted if the seed dose were higher or lower. The units of the limit (per cubic metre) relate to the overall monitoring period so the limit applies to each individual sample of air, with a calculation made to report the result per cubic metre.

Note 3 – This limit, or an alternative limit agreed in writing with Environment Agency following completion of IC5.

Note 4 – Monitoring for Total VOCs is to be undertaken on a 6 monthly frequency during the treatment of non-medicinally contaminated waste.
Monitoring for total and speciated VOCs is to be undertaken on a monthly basis during the treatment of medicinally contaminated waste (18 01 03* with 18 01 09). The requirement to monitor VOCs during the treatment of medicinally contaminated waste shall apply once the treatment of this waste has been approved under pre-operational condition PO3. The ongoing frequency of this monitoring may be reduced subject to completion of improvement condition IC1 and the agreement of the Environment Agency.

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
Note 5 - An alternative monitoring frequency may be agreed in writing with Environment Agency following completion of IC5. Note 6: Following completion of IC6 the abatement shall include any additional abatement determined to be necessary.						

Table S3.2 Point source emissions to sewer, effluent treatment plant or other transfers off-site – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
W1 discharge to foul sewer on Schedule 7 Site Plan	Waste water – boiler condensate, autoclave condensate, effluent from bin washing, sharps bin wash plant, and wash down water	Bacillus Spores (spiked organisms)	300 cfu[1] per litre	-	Annually	In accordance with Emissions monitoring and limits appropriate measures of Healthcare waste: appropriate measures for permitted facilities, dated 13 July 2020
		Any additional monitoring to be agreed in writing following completion of Improvement condition IC2.				
W2 discharge to surface water drainage system on Schedule 7 Site Plan	Uncontaminated surface water from yard and roof only	No parameter set	No limit set	-	-	-
Note 1: These units relate to the overall monitoring period so the colony-forming units (cfu) benchmark applies to each individual sample of air or water to be taken, with a calculation made to report the results per cubic metre or litre. These are based on a seeding does of $1x10^6$ spores per gram of waste load, and would need to be adjusted if the seed dose were higher or lower. These units relate to the overall monitoring period so the cfu limit applies to each individual sample of water taken, with a calculation made to report the result per litre.						

Table S3.3 Fugitive microbial emissions monitoring (spiked organisms)				
Emission point ref. & location	**Parameter**	**Limit (incl. unit)**	**Monitoring frequency**	**Monitoring standard or method**
Air – sample points <10 m from the treatment plant	Bacillus Spores	1,000 cfu per cubic metre (Note 1)	Annually	In accordance with requirements set out in Healthcare waste: appropriate measures for permitted facilities dated 13 July 2020.
Air – sample points >10 m from the treatment plant	Bacillus Spores	300 cfu per cubic metre (Note 1)	Annually	In accordance with requirements set out in Healthcare waste: appropriate measures for permitted facilities dated 13 July 2020.

Table S3.3 Fugitive microbial emissions monitoring (spiked organisms)				
Emission point ref. & location	**Parameter**	**Limit (incl. unit)**	**Monitoring frequency**	**Monitoring standard or method**
Surface – sample point <10 m from the treatment plant	Bacillus Spores	20,000 cfu per square metre per hour (Note 1)	Annually	In accordance with requirements set out in Healthcare waste: appropriate measures for permitted facilities dated 13 July 2020.
Surface – sample point >10 m from the treatment plant	Bacillus Spores	5,000 cfu per square metre per hour (Note 1)	Annually	In accordance with requirements set out in Healthcare waste: appropriate measures for permitted facilities dated 13 July 2020.

Note 1: These units relate to the overall monitoring period so the cfu benchmark applies to:

- each individual sample of air taken, with a calculation made to report the result per cubic metre.
- for each individual settling plate (this is not an average) - a calculation made to adjust for surface area of settle plate and exposure time (for example if settle plates are deployed for only fifteen minutes of every hour then the result must be multiplied by four).

The limit is based on a seeding dose of 1×10^6 spores per gram of waste load. You should adjust it accordingly if you use a higher or lower seeding dose.

The units relate to the overall monitoring period so the cfu limit applies to each individual:

- sample of air – a calculation is made to report the result per cubic metre.
- settle plate (this is not an average) a calculation is made to adjust for surface area of a settle plate and exposure time (for example, if you use settle plates for only 15 minutes of every hour then you must multiply the result by four).

Table S3.4 Process monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Shredding of waste and subsequent steam treatment in autoclaves	Treatment efficacy (routine monitoring)	In accordance with requirements set out in Healthcare waste: appropriate measures for permitted facilities dated 13 July 2020.	In accordance with Waste treatment appropriate measures of Healthcare waste: appropriate measures for permitted facilities, dated 13 July 2020.	The Environment Agency shall be notified immediately of any test failures.
	Repeated plant validation	Plant commissioning validation must be repeated in accordance with Healthcare waste: appropriate measures for permitted facilities dated 13 July 2020: • periodically, at intervals of 4 years or less during the operational life of the plant and if: • any process parameters or conditions change from those assessed and approved during plant commissioning or plant validation • any changes are made to plant design or engineering • changes to the waste types accepted for treatment mean that the challenge load considered during plant commissioning or plant validation is no longer the worst case scenario • the plant fails routine treatment efficacy monitoring.		Results of repeated plant validation shall be submitted to the Environment Agency for approval.

Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data			
Parameter	**Emission or monitoring point/reference**	**Reporting period**	**First period begins**
Emissions to air Parameters as required by condition 3.5.1.	A1, A2, A3, A4, A5	Every 6 months	1 January
Emissions to sewer Parameters as required by condition 3.5.1	S1	Annually	1 January
Fugitive microbial emissions Parameters as required by condition 3.5.1	Air and surface monitoring points as detailed in table S3.3	Annually	1 January
Routine efficacy monitoring Parameters as required by condition 3.5.1	Steam treatment of waste in autoclaves	Quarterly	1 January
Repeated plant validation Parameters as required by condition 3.5.1	Steam treatment of waste in autoclaves	Every 4 years or less, as required by table S3.4	1 January

Table S4.2 Annual production/treatment	
Parameter	**Units**
Hazardous waste thermally treated	tonnes
Treated floc produced	tonnes

Table S4.3 Performance parameters		
Parameter	**Frequency of assessment**	**Units**
Water usage	Annually	tonnes
Energy usage	Annually	MWh
Total raw material used	Annually	tonnes

Table S4.4 Reporting forms		
Media/parameter	**Reporting format**	**Date of form**
Emissions to air	Emissions to Air Reporting Form: version 1 or other form as agreed in writing by the Environment Agency	08/03/2021
Fugitive microbial emissions	Fugitive Microbial Emissions Reporting Form: version 1 or other form as agreed in writing by the Environment Agency	17/06/2021

Table S4.4 Reporting forms		
Media/parameter	**Reporting format**	**Date of form**
Emissions to Sewer	Emissions to Sewer Reporting Form: version 1 or other form as agreed in writing by the Environment Agency	08/03/2021
Water usage	Water Usage Reporting Form: version 1 or other form as agreed in writing by the Environment Agency	08/03/2021
Energy usage	Energy Usage Reporting Form: version 1 or other form as agreed in writing by the Environment Agency	08/03/2021
Other performance indicators	Other Performance Parameters Reporting Form: version 1 or other form as agreed in writing by the Environment Agency	08/03/2021
Treatment efficacy monitoring	Monitoring report submitted in writing to the Environment Agency	-
Repeated plant validation	Validation report submitted in writing to the Environment Agency	-

Schedule 5 – Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	**Notification period**

(c) Notification requirements for the breach of permit conditions not related to limits	
To be notified within 24 hours of detection	
Condition breached	
Date, time and duration of breach	
Details of the permit breach i.e. what happened including impacts observed.	
Measures taken, or intended to be taken, to restore permit compliance.	

(d) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B – to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	

Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

“accident” means an accident that may result in pollution.

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“building” is a covered structure enclosed on all vertical sides that provides sheltered cover and contains emissions of, for example, noise, particulate matter, odour and litter.

“clinical” waste means waste from a healthcare activity (including veterinary healthcare) that:

a) contains viable micro-organisms or their toxins which are known or reliably believed to cause disease in humans or other living organisms
b) contains or is contaminated with a medicine that contains a biologically active pharmaceutical agent
c) is a sharp, or a body fluid or other biological material (including human and animal tissue) containing or contaminated with a hazardous substance

and waste of a similar nature from a non-healthcare activity.

“container” is a receptacle for waste for example bags, bins, boxes, drums, IBCs and blister packs. Wastes may be packaged in more than one receptacle for example a bag in a box.

“cytotoxic and cytostatic medicines” are medicinal products that possess one or more of the hazardous properties acutely toxic, carcinogenic, mutagenic or toxic for reproduction.

“D” means a disposal operation provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on Waste.

“disposal” means any of the operations provided for in Annex I to the Waste Framework Directive.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in these standard rules or from other localised or diffuse sources, which are not controlled by an emission or background concentration limits.

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“fugitive emission” means an emission to air, water or land from the activities which is not controlled by an emission limit.

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“hazardous property” has the meaning in Annex lll of the Waste Framework Directive.

“hazardous substance” means a substance classified as hazardous as a consequence of fulfilling the criteria laid down in parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008.

“hazardous waste” has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005.

“healthcare waste” means waste produced during human or animal healthcare, or related research activities. It covers both clinical and offensive waste. Wastes produced by healthcare in the community, and similar types of waste produced by non-healthcare activities are included, for example:

- cosmetic body piercing and body art

- non-medicinal procedures in the hair and beauty sector
- substance abuse
- crime scene clean-up

“impermeable surface” means a surface or pavement constructed and maintained to a standard sufficient to prevent the transmission of liquids beyond the pavement surface.

“Industrial Emissions Directive” means Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

“LPG” means liquefied petroleum gas.

“List of Wastes” means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste.

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“Medium Combustion Plant” or ”MCP” means a combustion plant with a rated thermal input equal to or greater than 1 MW but less than 50 MW.

“Medium Combustion Plant Directive” or “MCPD” means Directive 2015/2193/EU of the European Parliament and of the Council on the limitation of emissions of certain pollutants into the air from medium combustion plants, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

“medicines” are “medicinal products” as defined in Regulation 130 of Part VIII of the Medicines Act 1968. Waste medicines (or pharmaceutical waste) include:

- expired, unused, spilt and contaminated medical products that are no longer required and need to be disposed of appropriately;
- discarded items contaminated with medicines such as bottles or boxes with residues, gloves, masks, connecting tubing, syringe bodies and drug vials.

“mixing of hazardous waste” means mixing hazardous waste as defined by Regulation 18 of the Hazardous Waste (England and Wales) Regulations 2005.

“offensive waste” is waste that:

- is not clinical waste
- contains body fluids, secretions or excretions
- falls within waste codes 18 01 04, 18 02 03 or 20 01 99.

“pests” means birds, vermin and insects.

“pollution” includes pollution of the environment, harm to human health and serious detriment to the amenities of the locality, resulting from the permitted activities.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“R” means a recovery operation provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on Waste.

“recovery” means any of the operations provided for in Annex II to the Waste Framework Directive.

“repackaging” is:

- taking a waste package for example a bag, drum or box out of one cart or bulk container for example, skip and placing it into another cart or bulk container for example, skip
- taking a waste package from a cart or bulk container for example, skip and placing it onto a pallet or vehicle
- taking a waste package from a pallet and placing it into a cart or bulk container for example, skip
- transferring, removing or separating waste from its primary packaging into another container

“sealed container” for the purposes of this permit, means a container which is fully enclosed, weather proof, does not allow any solid or liquid content to escape and is lockable.

“sealed drainage” in relation to an impermeable surface means a drainage system with impermeable components which does not leak and which will ensure that:

- no liquid will run off the surface otherwise than via the system
- except where they may lawfully be discharged to foul sewer, all liquids entering the system are collected in a sealed sump

“sharps” means items that could cause cuts or puncture wounds. They include needles, hypodermic needles, scalpels and other blades, knives, infusion sets, saws, broken glass, and nails.

“waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes and in relation to hazardous waste, includes the asterisk.

“Waste Framework Directive” or “WFD” means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

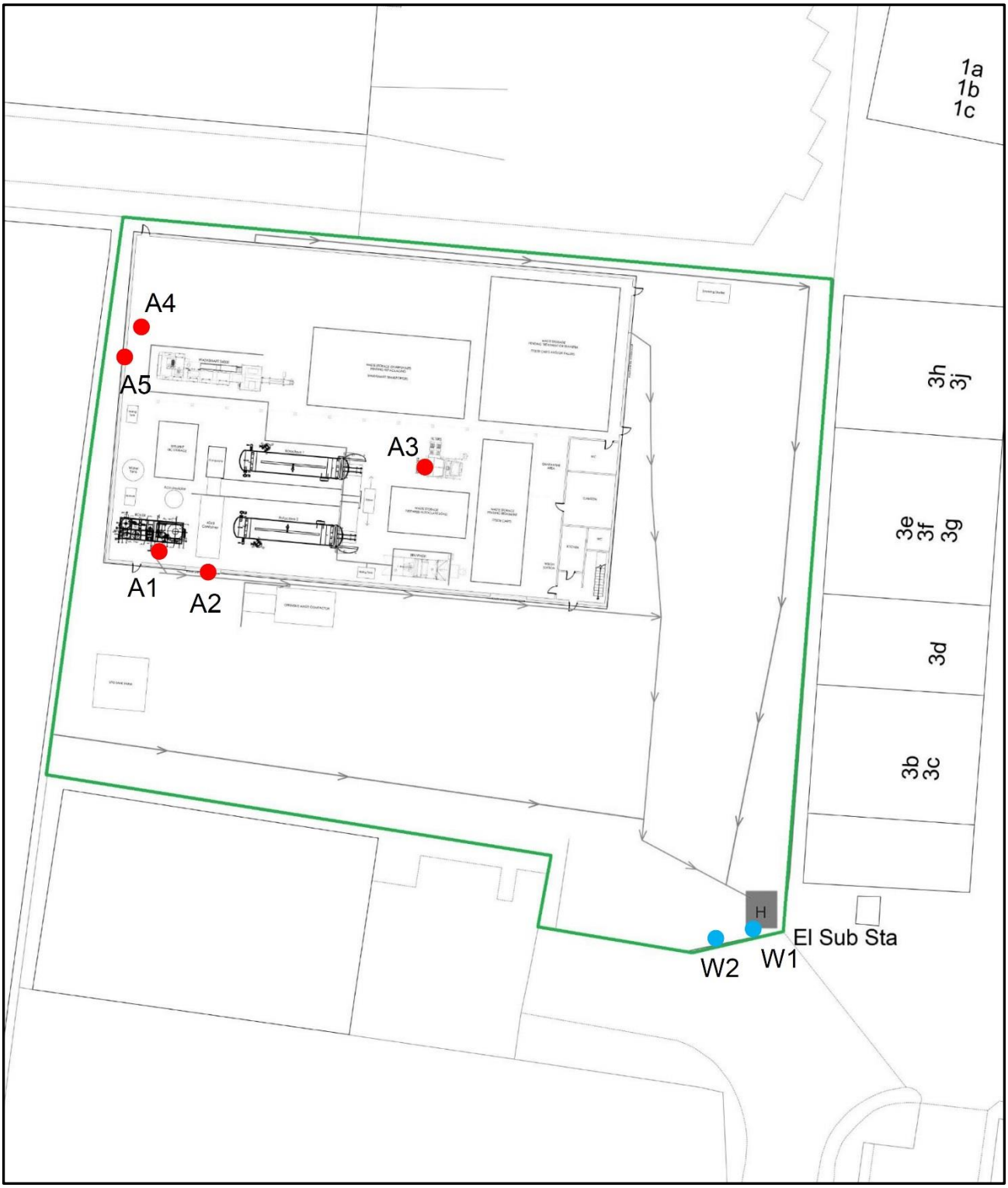
“year” means calendar year ending 31 December.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

Schedule 7 – Site plan



END OF PERMIT

THAMES WATER UTILITIES LTD.

Water Industry Act 1991
Water Act 2003
Environmental Protection Act 1990
Environment Act 1995
Pollution Prevention and Control Act 1999

CONSENT TO THE DISCHARGE OF TRADE EFFLUENT

WHEREAS

1. G.W. Butler Ltd
   Unit 2 Bow Beck
   Bowling Back Lane
   Bradford
   West Yorkshire
   BD4 8SL

is/are the occupier(s)/owner(s) (hereinafter called THE APPLICANT) of the trade premises known as
G.W Butler Ltd and situate at
Fairview Waste Processing Facility
Unit 21 Barlow Way
Fairview Industrial Estate
Rainham
Essex
RM13 8BT

(hereinafter called THE PREMISES) and by notice dated Twenty Third day of July, Two Thousand and Thirteen has/have made application to Thames Water Utilities Ltd. (hereinafter called THE COMPANY) to Consent to the discharge of Trade Effluent by him/her/them from THE PREMISES into the Company's public foul water and/or combined sewers.

2. NOW THEREFORE in exercise of the powers conferred upon it in that behalf as a sewerage undertaker by the Water Industry Act 1991, the Company

HEREBY CONSENTS to the discharge of Trade Effluent from the Premises into the sewer(s) (as hereinafter defined) subject to the following conditions:

Nature and composition

1. The nature and composition of the Trade Effluent (hereinafter called THE TRADE EFFLUENT) to be discharged under this Consent is: Waste liquids arising from autoclave sterilisation of clinical waste and washing of waste containers.

Sewer(s) affected

2. The sewer(s) into which the Trade Effluent may be discharged is/are the sewer(s) detailed below:
150mm foul sewer Barlow Way

And more particularly shown in line(s) on the annexed plan and thereon coloured red.
The point(s) at or through which the Trade Effluent is to be discharged is/are shown on the said Plan and thereon marked blue.

No change shall be made in such point(s) of discharge without prior Consent in writing of the Company.

Maximum quantity to be discharged

3. The maximum quantity of the Trade Effluent which may be discharged on any one day of twenty-four hours determined from midnight to midnight shall not exceed 25.000m³.

Maximum rate of discharge

4. a) The maximum rate at which the Trade Effluent may be discharged shall not exceed 2.000m³ per hour.

b) The maximum rate at which the Trade Effluent may be discharged shall not exceed 1.000 litres per second.

Matter to be eliminated prior to discharge to the sewer(s)

5. (a) There shall be eliminated from the Trade Effluent before it is discharged into the sewer(s) any matter, which, either alone or in combination with any matter with which it is likely to come into contact while passing through any sewers, would injure or obstruct any such sewers or cause injury to and/or damage to the health of any person lawfully present in such sewers, pumping stations or sewage treatment works or would makespecially difficult or expensive the treatment or disposal of their contents and in particular but withoutprejudice to the generality of the foregoing words the following matters:-

(i) Petroleum spirit
(ii) Calcium carbide
(iii) Thiourea and thiourea derivatives
(iv) Non biodegradable detergents

(b) The Trade Effluent shall not contain substances listed in Schedule 1 of the Trade Effluents (Prescribed Processes and Substances) Regulations 1989, as amended, at a concentration greater than background concentration as defined in such regulations.

(c) The Trade Effluent shall not contain any of the substances listed in APPENDIX 1 at a concentration expressed in milligrams per litre greater than that stated.

SEE APPENDIX 1

Temperature

6. No Trade Effluent shall be discharged which has a temperature higher than 43.3 degrees Celsius (110 degrees Fahrenheit).

Acidity or alkalinity

7. No Trade Effluent shall be discharged the pH value of which is less than 6.0 or greater than 11.0.

Condensing water

8. No condensing water shall be discharged.

Changes in occupier or process

9. The Applicant of the Premises shall forthwith give to the Company notice in writing of any changes or proposed changes in the company name, address, occupier, or processes of manufacture or the nature of the raw materials used or of any other circumstances which may alter the nature and composition or the volume of the Trade Effluent or may result in the permanent cessation of the discharge.

Commencement of Discharge

10. The commencement date of this Consent will be the date on which the Consent is signed by the Company's Senior Consultant for Wastewater Quality (or any other officer or employee duly authorised by the Company for these purposes). The Applicant must not discharge the Trade Effluent before the commencement date.

Payment

11. The Applicant of the Premises shall pay to the Company for the Trade Effluent discharged into the sewer

    (a) A sum calculated in accordance with the provisions contained in the Company's Charges Scheme together with

    (b) The amount of any additional expenses which the Company may from time to time incur with respect to the monitoring, analysis, reception, treatment and disposal of the Trade Effluent.

    All sums payable to the Company under this condition shall become due and payable on demand.

Entry and samples

12. The Applicant of the Premises shall permit duly authorised representatives of the Company to inspect, examine and test at all reasonable times any works and apparatus installed in connection with the Trade Effluent and to take samples of the Trade Effluent.

Inspection

13. An inspection chamber or manhole shall be provided and maintained by the Applicant of the Premises in a suitable position defined in connection with each pipe through which the Trade Effluent being discharged and such inspection chamber or manhole shall be so constructed and maintained by the Applicant as to enable duly authorised representatives of the Company to take samples at any time of the matter passing into the sewer(s) from the Premises.

Measurement and determination of discharge

14. (a) A notch gauge and continuous recorder or some other apparatus suitable and adequate for measuring and automatically recording the volume, nature, composition and rate of discharge of the Trade Effluent being discharged into the sewer(s) shall, if required by the Company be provided and maintained by the Applicant of the Premises to the satisfaction of the Company in connection with every pipe through which the Trade Effluent is being discharged.

    (b) It is a requirement of this Consent that if a trade effluent meter(s) is/are installed it/they will be calibrated at least annually or more frequently if specified by the company and certificated by a suitably qualified person and/or company approved by the company.

Records

15. (a) Records in such a form as the Company may require shall be kept of the volume, rate of discharge, nature and composition of the Trade Effluent discharged into the sewer(s) and shall be available at all reasonable times for inspection by duly authorised representatives of the Company and copies of such records shall be sent to the Company on demand.

(b) If the notch gauge and continuous recorder or other apparatus aforesaid ceases to register or measure correctly then, unless otherwise agreed, the quantity of the Trade Effluent discharged into the sewer(s) during the period from the date on which the records of the volume of the Trade Effluent discharged into the sewer(s) were last accepted by the Company as being correct up to the date when the notch gauge and continuous recorder or other apparatus aforesaid again registers correctly shall, for the purpose of any payment to be made to the Company, be based on the average daily volume of the Trade Effluent discharged during the period of one month preceding the date on which the said records were last accepted as aforesaid or during the month immediately after the notch gauge and continuous recorder or other apparatus aforesaid has been corrected, whichever is the higher.

(c) The foregoing provisions of this condition shall be of no effect so long as there is available to the satisfaction of the Company some other method approved by the Company of sampling the Trade Effluent or of determining, measuring and recording the volume and rate of discharge and the nature and composition of the Trade Effluent discharged.

Vacation of Site

16. The Applicant(s) must notify the Company in writing at least 21 days in advance of the following events:
(a) Vacation of the Premises by the Applicant for any reason, whether permanent or temporary;
(b) Change of ownership or occupation of the Premises;
(c) The Applicants entry into liquidation whether voluntarily or compulsorily or bankruptcy, if an individual;
(d) The presentation of a petition for the appointment of an administrator or a receiver or manager in respect of the Applicants undertakings;
(e) Cessation of discharge of Trade Effluent from the Premises.

Signed:

D.F.C. Wiltshire
Senior Consultant - Wastewater Quality
Duly authorised to sign on behalf of the company
Dated 24th day of July 2013

NOTES:

a) All communications should be sent to the following address:
Senior Consultant - Wastewater Quality
Thames Water Utilities Ltd
Crossness Sewage Treatment Works
Belvedere Road
Abbey Wood
London
SE2 9AQ

b) Your attention is drawn to the right of appeal to the Director General of Water Services conferred by Section 122 of the Water Industry Act 1991 if you are aggrieved by any condition attached to this Consent.

c) A fixed charge for all sewerage services plus a domestic sewerage charge is payable in addition to charges for Trade Effluent flows.

d) A copy of Thames Water Utilities Ltd Charges Scheme is obtainable from the Thames Water Customer Centre.

e) If you discharge Trade Effluent in contravention of a condition of this Consent you will be guilty of a criminal offence and may be subject to prosecution.

APPENDIX 1 - SUBSTANCES

The Trade Effluent shall not contain any of the substances listed below at a concentration expressed in milligrams per litre greater than that stated:

Determinand Name	Consented Limit
Chemical Oxygen Demand	7000.0
Suspended Solids	2000.0
Settleable Solids	1000.0
Saponifiable Material	300.0
Ammoniacal Nitrogen	150.0
Aluminium	100.0
Rapidly Settleable Solids	100.0
Available Chlorine	50.0
Iron	50.0
Unsaponifiable Material	50.0
Total Phosphorus	13.0
Copper	3.0
Zinc	3.0
Manganese	1.0
Sulphide	1.0

THERE ARE NO FURTHER LIMITS IN THIS APPENDIX

APPENDIX 2 - DISCHARGE POINTS

THERE ARE NO MORE DISCHARGE POINTS

APPENDIX 4 - ADDITIONAL CLAUSES

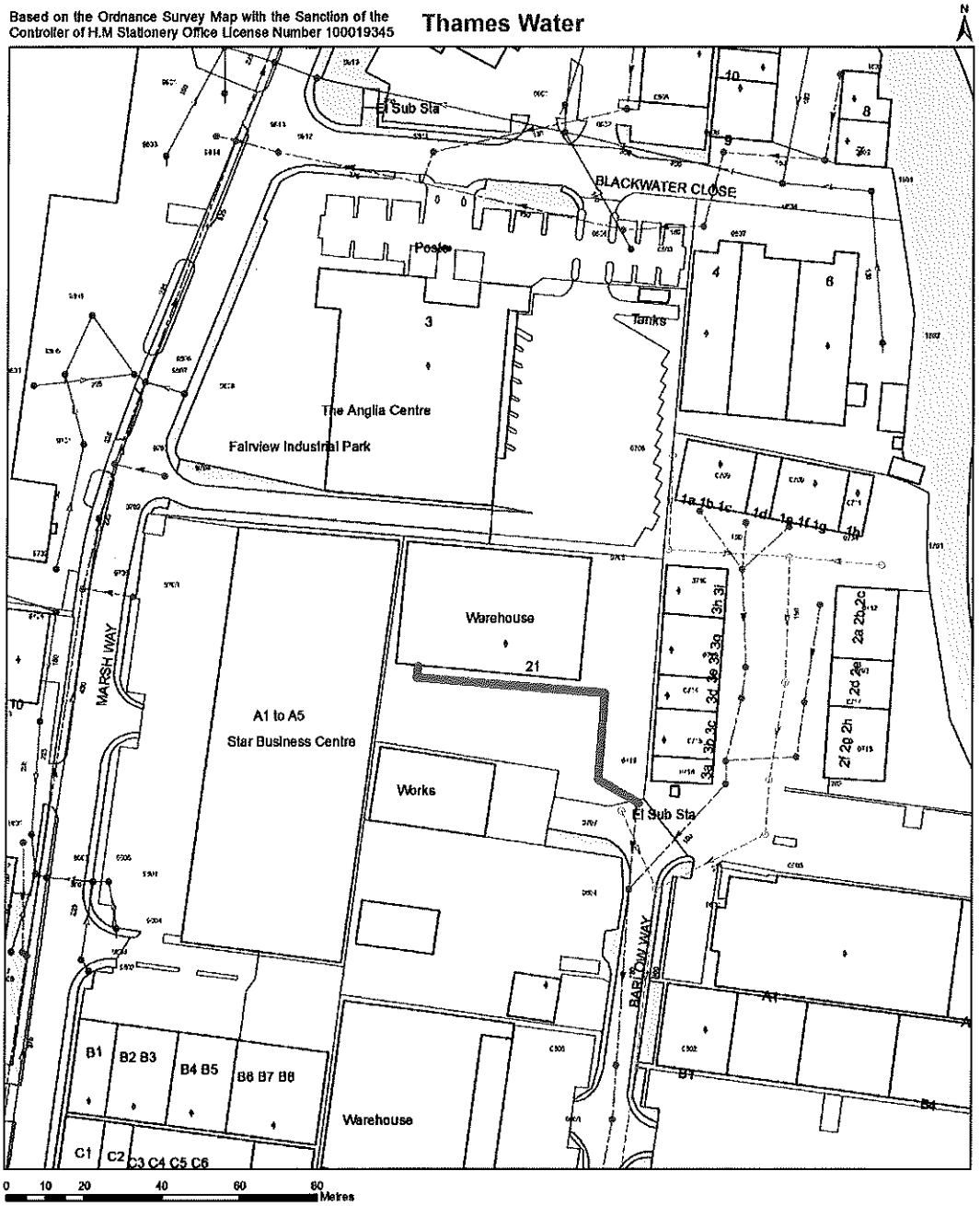
NO ADDITIONAL CLAUSES AVAILABLE

APPENDIX 3 - SEWER PLAN

GIS Sewer Plan

Based on the Ordnance Survey Map with the Sanction of the Controller of H.M Stationery Office License Number 100019345

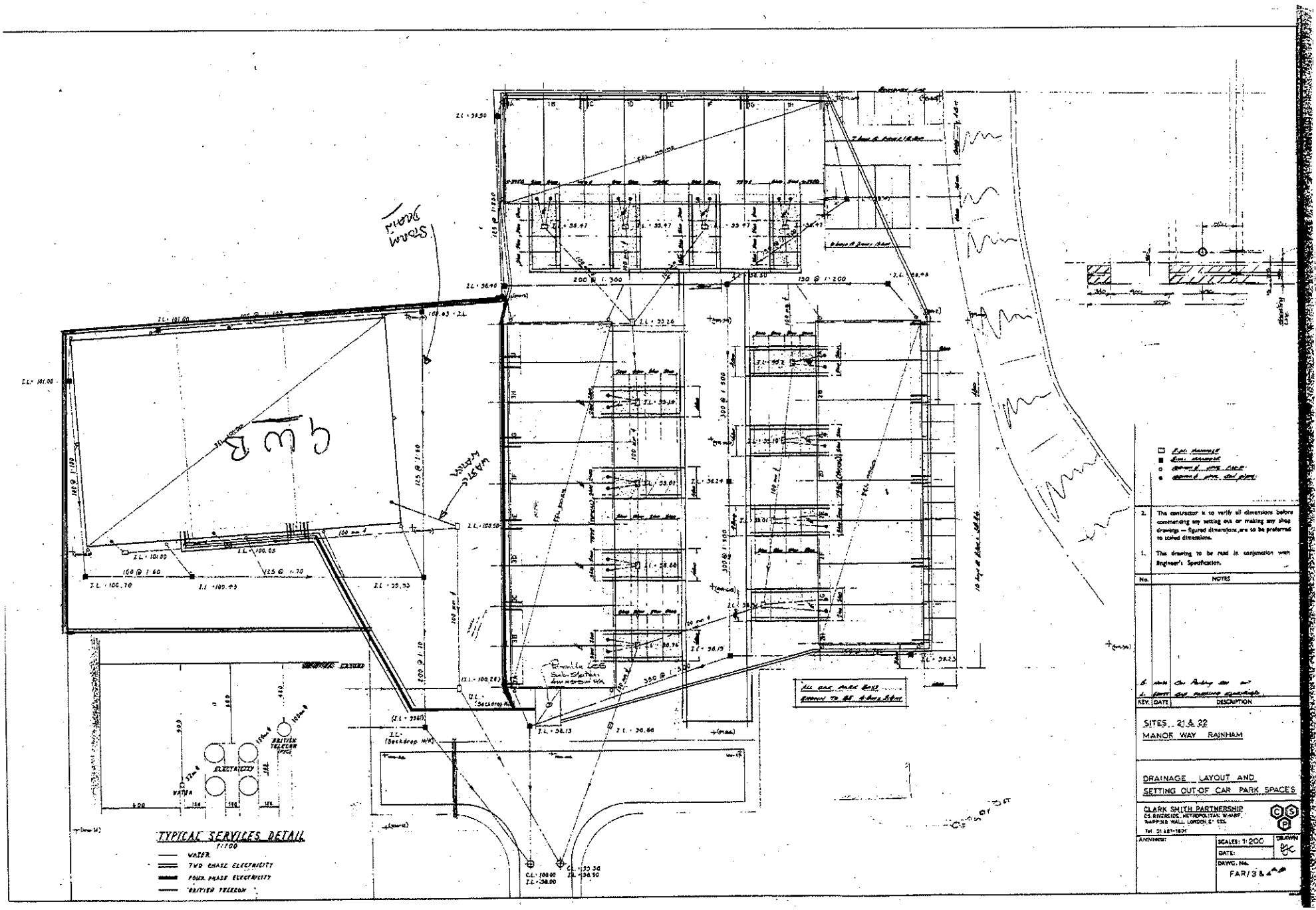
Thames Water



The position of any boundary or apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. No liability of any kind whatsoever is accepted by Thames Water for any error or omission.

Printed At (A4) :1:1250
Printed By :JWICKINS
Print Date :22/07/2013
Map Centered On :551010,181755
Grid Reference :TQ5181

SITE DRAINS

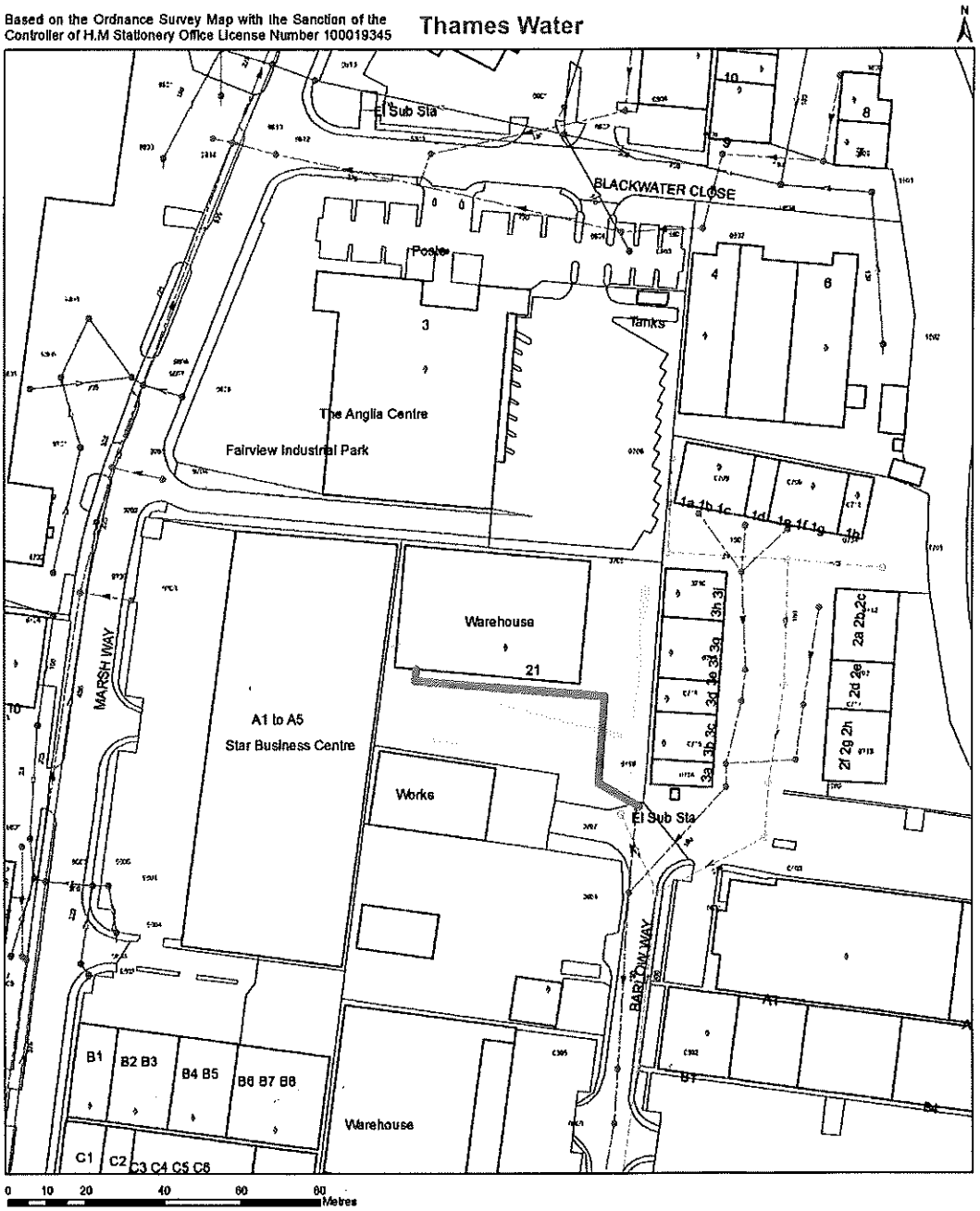

TYPICAL SERVICES DETAIL
1:100
WATER
TWO PHASE ELECTRICITY
FOUR PHASE ELECTRICITY
BRITISH TELECOM
ELECTRICITY
WATER
2. The contractor is to verify all dimensions before commencing any setting out or making any shop drawings — figured dimensions are to be preferred to scaled dimensions.
1. This drawing to be read in conjunction with Engineer's Specification.
No. NOTES
REV. DATE DESCRIPTION
SITES 21 & 22
MANOR WAY RAINHAM
DRAINAGE LAYOUT AND
SETTING OUT OF CAR PARK SPACES
CLARK SMITH PARTNERSHIP
CS RIVERSIDE, METROPOLITAN WHARF, WAPPING WALL, LONDON, E1 9SS.
Tel 01 481-1821
Architects:
SCALES: 1:200
DRAWN
DATE:
DWG. No.
FAR/3&4

APPENDIX 3 - SEWER PLAN

GIS Sewer Plan

Based on the Ordnance Survey Map with the Sanction of the Controller of H.M Stationery Office License Number 100019345

Thames Water



The position of any boundary or apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. No liability of any kind whatsoever is accepted by Thames Water for any error or omission.

Printed At (A4)	:1:1250
Printed By	:JWICKINS
Print Date	:22/07/2013
Map Centered On	:551010,181755
Grid Reference	:TQ5181

Thames Water

T.E.Case No: TRIV0AL6

Thames Water - Sewerage

GW Butlers, Unit 21 Barlow Way
(C) Thames Water Utilities (Digdat.co.uk)

Asset data last updated 30/08/2011

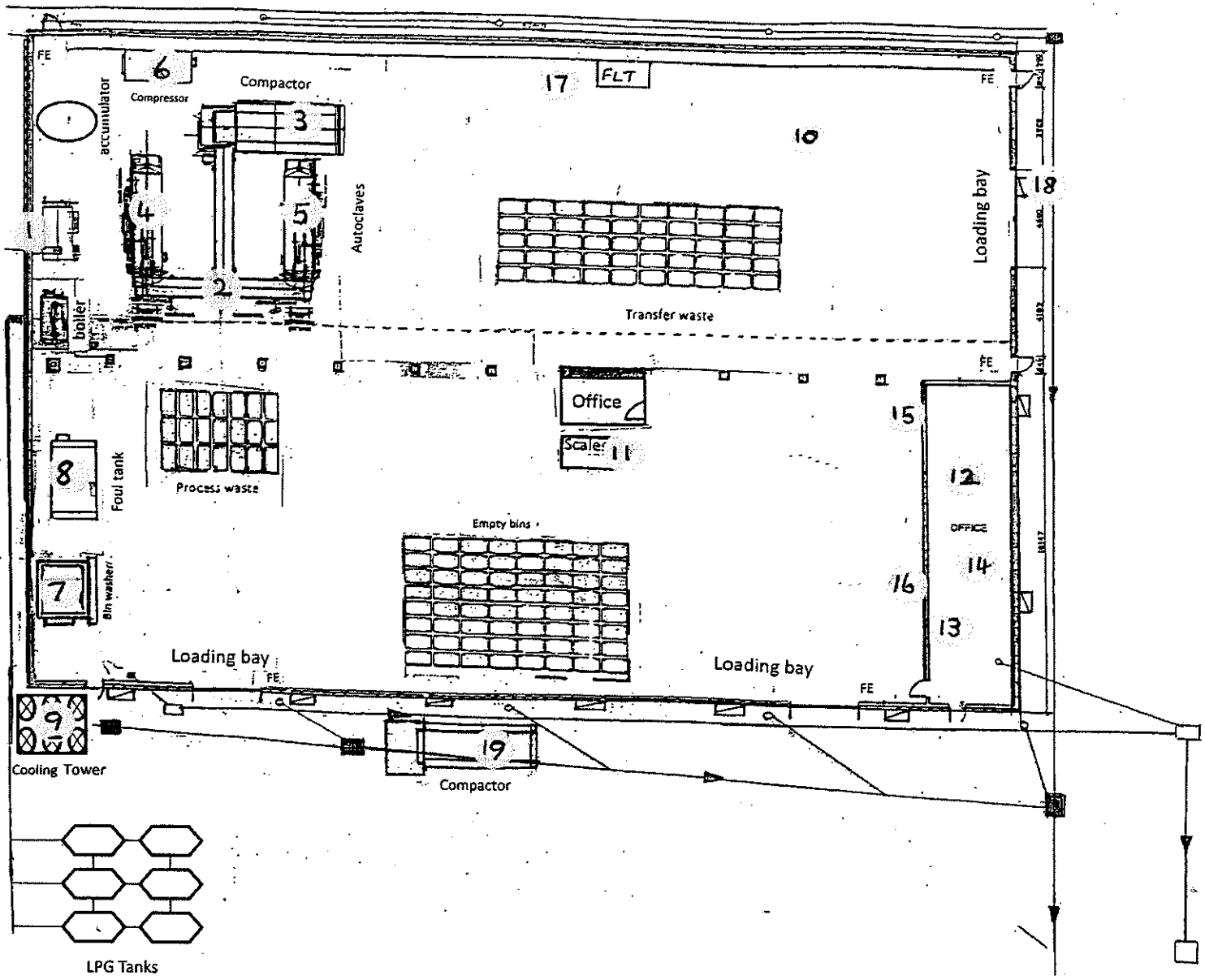
Sewerage Legend

- Foul Sewer
- Surface Sewer
- Combined Sewer
- Abandoned Sewer
- Pressure Main
- Private Asset (Colour dependent on effluent type)
- Proposed Asset (Colour dependent on effluent type)
- Foul Manhole
- Surface Manhole
- Combined Manhole
- Abandoned Manhole
- Other Manhole
- End Item
- Probable ex-S24 Property
- S104 Boundary

Map Centre:
551014, 181746

Date:
26 Sep 2011

Scale:
1 :1243



key	Version	Site	Scale	Drawn
FE - Fire Escape -External light	2	Rainham	Not to scale	GS 18/10/2013

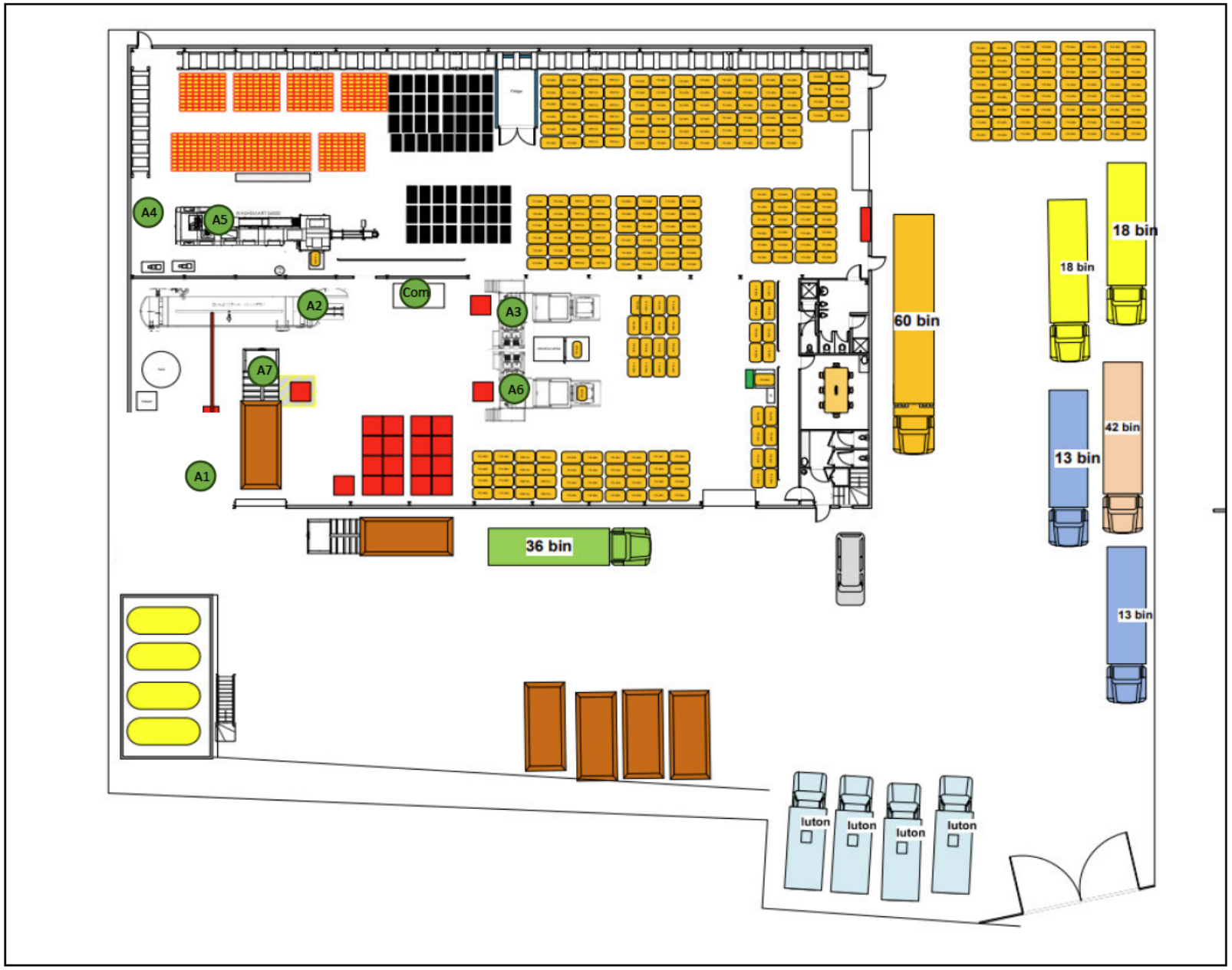
EP Variation Application

Rainham Clinical Waste Treatment Centre (EPR/PP3707BB)

APPENDIX C: Site Plans

SHSMT_2023.02 - September 2023

Waste Storage Plan & Emissions points



Emission points

Existing in permit

A1 – Boiler
A2 – Autoclave
A3 - Shredder #1
A4 – Washline front
A5 – Washline rear

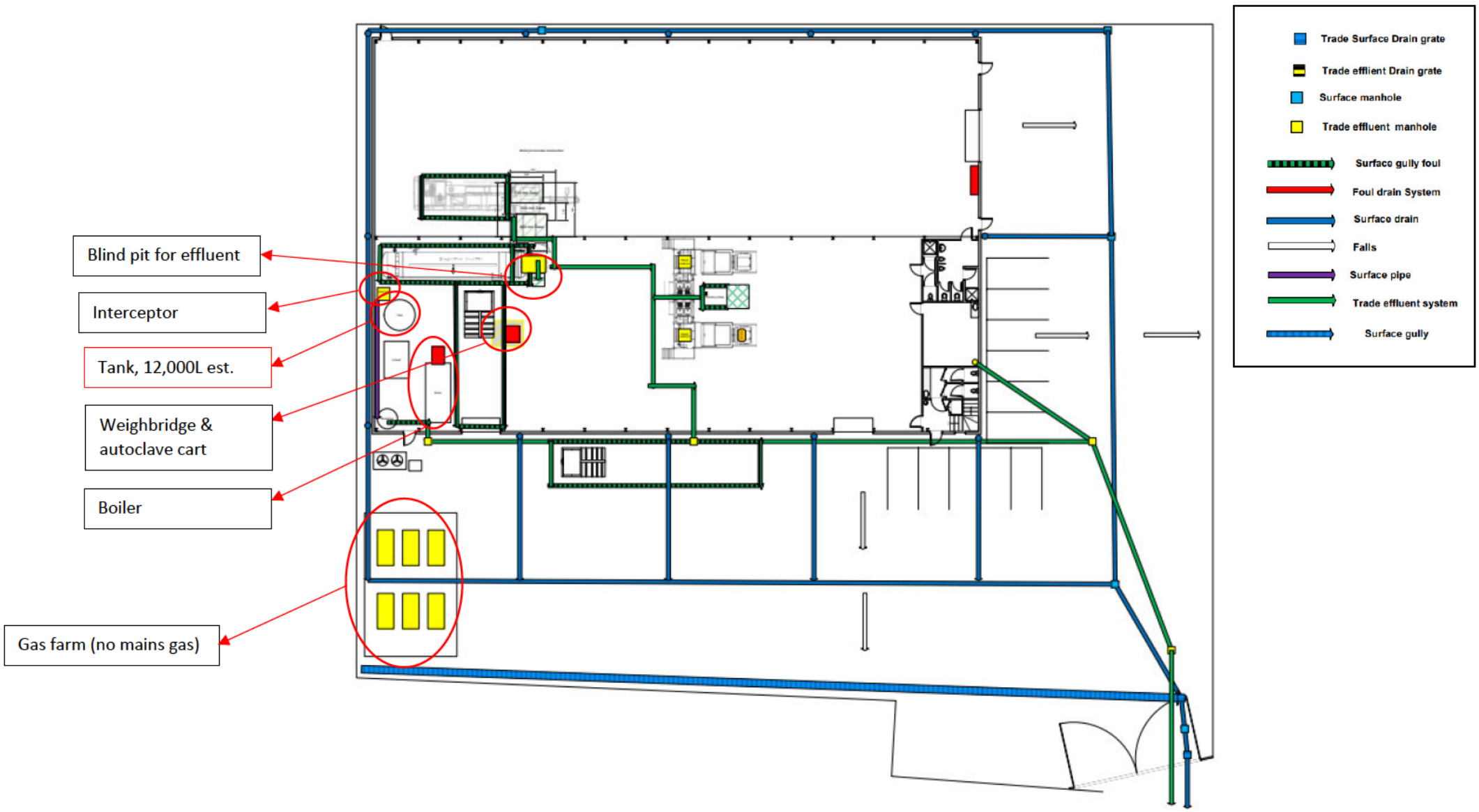
Additional

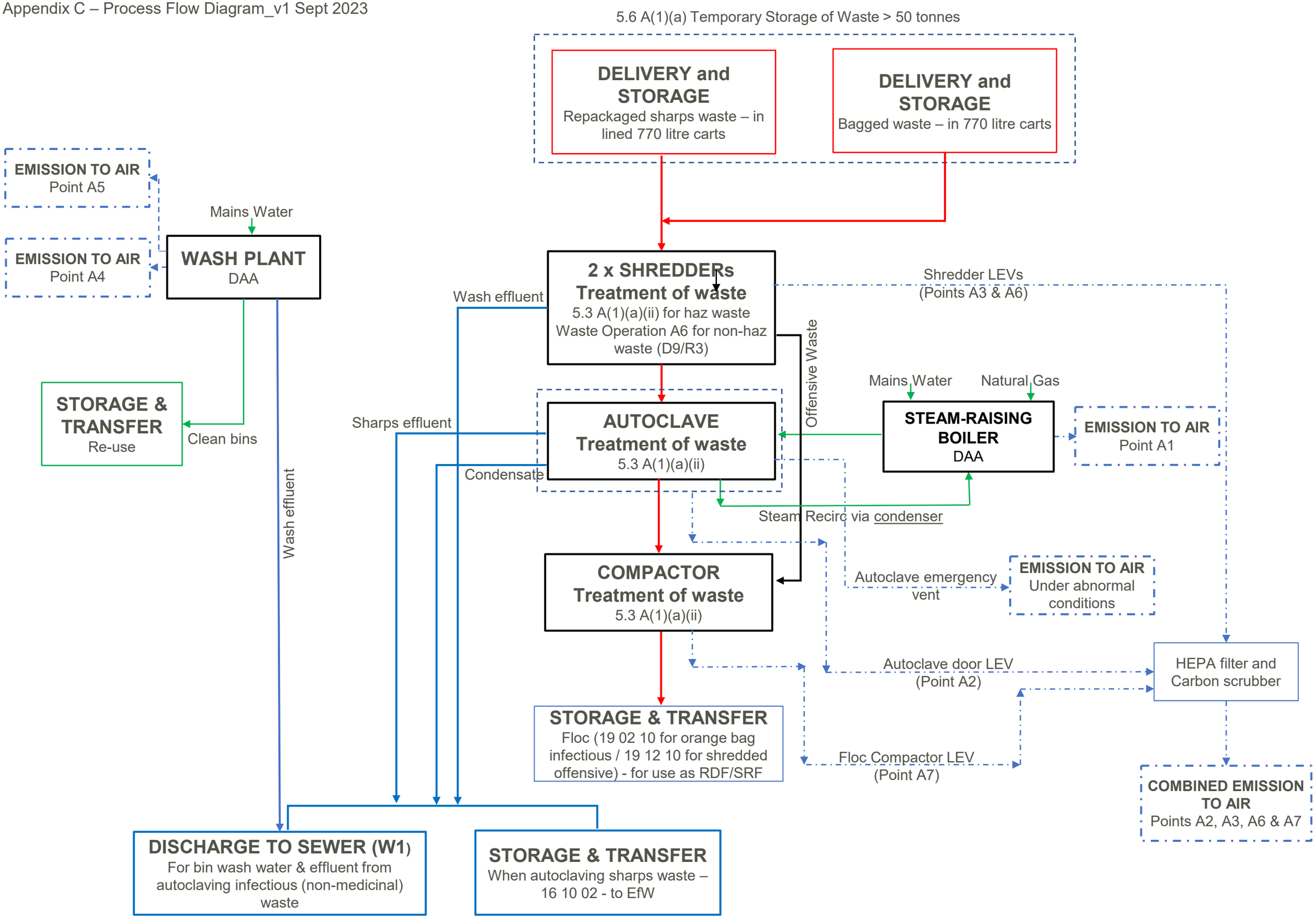
A6 – Shredder #2
A7 - Compactor

Com – Combined A2,3,6,7

New LEV system for VOC is likely to be combined for above emissions points due to the scale of the carbon bed needed for the shredder LEV.

2023 09 01 Sharpsmart Rainham Drainage plan




5.6 A(1)(a) Temporary Storage of Waste > 50 tonnes
DELIVERY and STORAGE
Repackaged sharps waste – in lined 770 litre carts
DELIVERY and STORAGE
Bagged waste – in 770 litre carts
EMISSION TO AIR
Point A5
EMISSION TO AIR
Point A4
Mains Water
WASH PLANT
DAA
STORAGE & TRANSFER
Re-use
Clean bins
Wash effluent
2 x SHREDDERS
Treatment of waste
5.3 A(1)(a)(ii) for haz waste
Waste Operation A6 for non-haz waste (D9/R3)
Shredder LEVs
(Points A3 & A6)
Offensive Waste
Mains Water
Natural Gas
Sharps effluent
AUTOCLAVE
Treatment of waste
5.3 A(1)(a)(ii)
STEAM-RAISING BOILER
DAA
EMISSION TO AIR
Point A1
Condensate
Steam Recirc via condenser
COMPACTOR
Treatment of waste
5.3 A(1)(a)(ii)
Autoclave emergency vent
EMISSION TO AIR
Under abnormal conditions
Autoclave door LEV
(Point A2)
HEPA filter and Carbon scrubber
STORAGE & TRANSFER
Floc (19 02 10 for orange bag infectious / 19 12 10 for shredded offensive) - for use as RDF/SRF
Floc Compactor LEV
(Point A7)
COMBINED EMISSION TO AIR
Points A2, A3, A6 & A7
Wash effluent
DISCHARGE TO SEWER (W1)
For bin wash water & effluent from autoclaving infectious (non-medicinal) waste
STORAGE & TRANSFER
When autoclaving sharps waste – 16 10 02 - to EfW

EP Variation Application

Rainham Clinical Waste Treatment Centre (EPR/PP3707BB)

APPENDIX D: Non-Technical Summary

SHSMT_2023.02/02 - September 2023

Project details	Environmental Permit Variation Application – EPR PP3707BB/A005 Sharpsmart Limited – Rainham Clinical Waste Treatment Centre
Applicant details	Sharpsmart Limited Unit 21 Barlow Way Rainham Essex RM13 8BT
Report details	**EP Variation Application – Appendix D: Non-Technical Summary** **Document reference: SHSMT_2023.02/02_v0**
Report date	12 September 2023
Submitted to	Permitting and Support Centre Environmental Permitting Team Environment Agency Quadrant 2 99 Parkway Avenue Parkway Business Park Sheffield S9 4WF Email: PSC@environment-agency.gov.uk
Author	Rebecca Hodkinson EHS Consultant
Signature	

Reva Environmental Ltd

Tel: [+44] 07949 178558 www.revaenvironmental.co.uk
Company Registered in England No. 11506654

Table of Contents

Contents

1 Non-Technical Summary

1.1 Introduction

Sharpsmart Ltd (the 'applicant') has requested that Reva Environmental Ltd (the 'agent') prepares an Environmental Permit (EP) variation application, for its Rainham Clinical Waste Treatment Centre at Uni 21, Barlow Way, Rainham, Essex, RM13 8BT.

This Non-Technical Summary provides an overview of the application.

The site currently houses two rotoclave units that thermally treat (by steam sterilisation) the incoming waste. It is currently authorised by EP ref. EPR/PP3707BB which was originally granted in November 2009 (under EPR/EP3597LU) and which was most recently varied in December 2022 (V004). The EP allows the repackaging/bulking of emptied sharps bins, pre-shredding, autoclaving, and compaction of waste and the associated temporary storage of waste pending that process. The EP includes three directly associated activities (DAAs) which are the operation of a steam boiler, the cleaning and disinfection of containers and carts, and the storage of raw materials. Additionally, the EP allows the storage and repackaging of non-hazardous and hazardous waste as Waste Operations, along with the shredding and compaction (no treatment) of non-hazardous waste and the light compaction of non-infectious offensive waste.

The EP currently limits the acceptance of waste for treatment (shredding and thermal treatment) to 20 tonnes per day and total throughput for treatment to 30,000 tonnes per year (of which up to 20,000 can be hazardous waste for shredding and thermal treatment); sharps bin waste throughput is limited to 11 tonnes per day; offensive waste treatment is limited to 24 tonnes per day; and storage of hazardous and non-hazardous waste is limited to 55 tonnes at any one time whilst post treatment (floc) is limited to 40 tonnes.

1.2 Application Objective

The objective of this application is to obtain a varied EP which enables the applicant to:

- Add a second shredder to the site. The waste types remain unchanged, but the limit of the treatment activity (AR1) can be increased from 20 tonnes per day to 70 tonnes per. **Variation of the existing shredding installation activity to increase the treatment capacity is considered to represent a substantial variation as the increase alone is above the listed activity threshold of 10 tonnes per day**.
- Replace the existing two rotoclaves with a single, larger, more efficient static autoclave. The waste types remain unchanged, but the limit of the treatment activity (AR2) can be increased from 20 tonnes per day to 70 tonnes per day. **Variation of the existing autoclaving installation activity to increase the treatment capacity is considered to represent a substantial variation as the increase alone is above the listed activity threshold of 10 tonnes per day**.
- Increase the capacity of the repackaging/bulking of emptied sharps bins and the associated bin wash plant (activity AR3) from 11 tonnes per day to 50 tonnes per day, to reflect the potential expansion of operational shifts into evenings and weekends. **Variation of the existing installation activity to increase the treatment capacity is considered to represent a substantial variation as the increase alone is above the listed activity threshold of 10 tonnes per day**.

As a result of the increased treatment capacity of the site with the changes referred to above, there will be an increase in the generation of liquid effluent (condensate) from the autoclave plant, which is stored pending transfer off site, and in the production of treated waste (floc). To address this, it is proposed that the current provision for the storage of hazardous waste is increased from 4 skip containers (plus 1 in use) to 5 skip containers (plus 1 in use) for the storage of waste arising from AR1,

AR9 and AR19. This equates to an increase to 75 tonnes. This impacts a number of the currently permitted activities, as such additional objectives are to:

- Increase the limit applied to the temporary storage of waste (activity AR5). This currently limits the combined storage of hazardous and non-hazardous waste to 55 tonnes. This limit remains appropriate and sufficient for hazardous waste alone, as such it is proposed that the wording in the activity table for this item is amended to reflect that this limit applies just to the hazardous component. **The storage of non-hazardous waste is covered by AR12; therefore, this activity requires just a change to the limits applied to it but in effect there is no change in terms of hazardous waste as the maximum remains 55 tonnes and is therefore considered to represent a minor variation.**
- Increase the capacity limits applied to the waste operation of shredding and compaction of non-hazardous waste (AR9) from 40 tonnes to 75 tonnes. **It is considered that an increase to the storage capacity of this non-hazardous waste represents a minor variation.**
- Increase the capacity limits applied to the waste operation of light compaction of non-infectious offensive waste (AR10) from 40 tonnes to 75 tonnes. **It is considered that an increase to the storage capacity of this non-hazardous waste represents a minor variation.**
- Increase the limits applied to the waste operation of storage of non-hazardous waste (AR12) from 40 tonnes to 75 tonnes. **It is considered that an increase to the storage capacity of this non-hazardous waste represents a minor variation.**

The maximum storage period for any load of waste is 2 weeks; this provides allowance for the operational contingency plan to be implemented.

The application also adds new emission sources as follows:

- A6 – Secondary shredder LEV; and
- A7 – LEV over the indoor floc compactor unit

It is noted that the emissions from A2, A3, A6 and A7 will be combined via a single HEPA filter and carbon filter i.e., there will be just one emission point to air from these. Therefore, the new emission points will be combined with the existing permitted points A2 (autoclave) and A3 (shredder).

1.3 Process Description

The new autoclave unit is a static unit into which waste is loaded, contained in autoclave carts. The technology is more efficient than the existing rotoclaves; the rotoclave can process approximately 0.8 tonnes per cycle compared to the autoclave which can process up to 3 tonnes per cycle. The existing claves receive shredded waste from 770-litre carts that are emptied into it. The autoclave will receive shredded waste in 1800-litre autoclave carts which are loaded into the vessel. A redesign of the clave cart to make it narrower and taller results in the capacity of the autoclave increasing by one cart. The overall result is that where the current site can process up to 20 tonnes per day; the autoclave will be able to process up to 70 tonnes per day.

The process itself, of steam sterilisation, is unchanged to that already permitted. Whereas it is not physically possible to install an LEV system to capture the air around it during loading of waste into the existing rotoclaves, this can and will be done for the new autoclave; there will be a filtered LEV that will capture air from around the autoclave doors during loading. This follows the EA's Healthcare Waste: Appropriate Measures guidance.

The existing EP includes pre-shredding of waste before thermal treatment. This remains the case, but with the addition of a second shredder to reflect the increased capacity of the autoclaves and to manage shredding of other (non-autoclaved) waste streams. These will both benefit from the HEPA

filter and carbon filter on the combined emission stack (A3 is the emission point from the existing shredder, A6 is the new emission point from the proposed second shredder).

The existing wash plant will remain in place but is being upgraded to include a new larger tipping head which is capable of tipping the operator's 64-series container (which have a maximum fill weight of 18kg) hence the request in this application to increase the throughput for this activity.

The EP includes compaction of waste and the associated temporary storage of waste pending that process. It also includes several directly associated activities (DAAs) for the operation of a steam boiler, the washing of bins, and the handling of raw materials. Additionally, the EP allows the storage and repackaging of non-hazardous waste, the light compaction of offensive waste, and the shredding and compaction of non-hazardous waste as Waste Operations.

None of these activities are subject to a physical change as a result of this variation application, however it is noted that a new 12,000 litre tank will be installed to collect the autoclave condensate effluent (for batches that require collection rather than being discharged to sewer under existing consent); this will replace the current system which is to hold the effluent in a number of IBCs.

1.4 Pollution Prevention

Existing measures already in place across the washing, repackaging, storage, shredding, autoclaving and compaction activities (including maintenance and inspection regimes and relevant operational procedures) will be applied to the new/amended activities. Best available techniques (BAT) that apply to all the proposed changes include (but are not limited to):

- Bunding and containment of stored raw materials and of process effluent from the treatment of sharps in the autoclave;
- Dedicated incoming waste storage areas, where all waste is contained within UN approved containers. All untreated waste storage is within the confines of the building; no untreated waste will be stored outside;
- Spillage materials will be available and appropriate to the potential spill. Staff will be trained in the use of these materials and any spent materials will be disposed of appropriately;
- The existing drainage system has been designed to capture process effluent from the site including the autoclave plant when treating the currently permitted waste stream. This can be discharged to sewer under the existing consent other than for treatment cycles processing sharps waste (or the first load of non-sharps waste following a sharps waste batch) which will generate an effluent that will not be discharged to sewer. In the former scenario the effluent will drain to a pit then be pumped to the sewer discharge point. For the latter scenario, it will be pumped to a collection tank and stored pending transfer off site for disposal.

A full BAT assessment was produced for the substantial variation in 2020 (ref. SHSMT_2020.02/05_v2, dated 28 October 2020) and describes the measures that are in place and confirms that they accord with the requirements of the BAT guidance for this type of facility. There are no new waste types, nor any new techniques being employed as a result of this variation; the existing BAT assessment is therefore considered to remain appropriate and relevant.

2 Application Contents

A variation application has been made to the EA to vary the existing EP to include the proposed activities. The application comprises the following documents, in accordance with the EP Regulations and sector guidance.

- EA Application Form – Parts A, C2, C3 and F1. The application form is provided at the front of the EP variation application document.
- Supporting Statement. This has been written to provide an explanation of the application to the EA and to provide signposts to supporting documentation that is required by the application forms.
- A copy of the pre-application conservation screening advice from the EA (Appendix A). No new habitats have been identified; the screening report provided by the EA (dated 19/07/2023) matches that provided on 06/05/2020 for the previous variation application (V002) for the same site.
- A copy of the existing EP (and variation/transfer notices), and discharge consent for discharge of process effluent to sewer (Appendix B). No changes to limits or parameters in the discharge consent are proposed as a result of the variation application.
- A set of site plans detailing the revised internal layout of the facility, the drainage arrangements, and a process flow diagram (Appendix C).
- A copy of an addendum to the existing environmental risk assessment for the proposed changes (Appendix E). This follows the EA's source-pathway-receptor methodology to identify potential risks and assess the potential impacts of those risks following implementation of suitable control/mitigation measures.

  The risk assessment concludes that the residual risk will be no greater than the level identified for existing risks at the site.
- A copy of the Odour Management Plan which has been updated to reflect the proposed changes and is a requirement of any application relating to the storage and/or treatment of clinical waste (Appendix F). This identifies the potential odour sources, sensitive receptors, the pathways between the two, and mitigation measures in place to minimise the risk of odour release.

EP Variation Application

Rainham Clinical Waste Treatment Centre (EPR/PP3707BB)

APPENDIX E: ERA Addendum

SHSMT_2023.02/03 - September 2023

Project details	Environmental Permit Variation Application – EPR PP3707BB/A005 Sharpsmart Limited – Rainham Clinical Waste Treatment Centre
Applicant details	Sharpsmart Limited Unit 21 Barlow Way Rainham Essex RM13 8BT
Report details	**EP Variation Application – Appendix E: ERA Addendum** **Document reference: SHSMT_2023.02/03_v1**
Report date	18 September 2023
Submitted to	Permitting and Support Centre Environmental Permitting Team Environment Agency Quadrant 2 99 Parkway Avenue Parkway Business Park Sheffield S9 4WF Email: PSC@environment-agency.gov.uk
Author	Rebecca Hodkinson EHS Consultant
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Table of Contents

Contents

1 INTRODUCTION

Sharpsmart Ltd (the 'applicant') has requested that Reva Environmental Ltd (the 'agent') prepares an Environmental Permit (EP) variation application, for its Rainham Clinical Waste Treatment Centre at Uni 21, Barlow Way, Rainham, Essex, RM13 8BT.

The facility is currently authorised by EP ref. EPR/PP3707BB which was originally granted in November 2009 (under ref. EPR/EP3597LU) and most recently varied and consolidated by Variation Notice V004 in December 2022.

The EP allows the pre-shredding and steam disinfection of infectious waste, and the compaction and storage of treatment residues. It also allows repackaging of hazardous waste and cleaning of reusable sharps containers; temporary storage of hazardous waste; steam generation; raw material storage; compaction of offensive waste; and storage and repackaging of non-hazardous waste. Treatment is in two pre-shredders and two rotoclaves.

An application is being made (2023) to vary the EP to reflect the replacement of the existing rotoclaves with a single large autoclave and to increase the limits (tonnages) for a number of the existing operations to reflect the increase in capacity resulting from the autoclave installation.

There is no requirement to increase the existing EP boundary to accommodate the changes, nor are there any proposed changes to the wastes that will be accepted at the site.

The existing site layout plan has been amended to present the proposed activities and is provided in **Appendix C** of the variation application.

Question 6 of EA application form Part C2 requires the provision of an environmental risk assessment (ERA). Whilst the changes proposed by this variation application don't introduce any new types of activities, nor change the waste types or amend the EP boundary, the increase in capacity of the existing activities could potentially have an impact. The proposals have therefore been assessed. This document assesses just the changes and comprises an addendum to the existing ERA, a copy of which is included in **Annex ERA1** (ref. SHSMT_2020.02/04_v1, 16 June 2020).

It sets out the risks of potential failure or incident scenarios related to the proposed changes and assesses these in terms of the potential impact on any sensitive receptors. The risk assessment concludes that the residual risk will be no greater than the level identified for existing risks at the site.

1.1 Site Setting

The facility is located in the Fairview Industrial Estate which is approximately 15 ha and located to the southwest of the A13 highway, and immediately north (on the banks) of the River Thames. It comprises a number of industrial, commercial and warehouse units and is bounded by Creek Way to the east (a Local Wildlife Site) and Frog Lane which extends halfway along the western boundary, dividing the industrial estate from the associated parking area. There is some grassland and planting beyond Creek Lane, between this estate and the neighbouring Ferry Lane Industrial Estate. Beyond that estate lies the Rainham Marshes (a Site of Special Scientific Interest (SSSI) and Local Nature Reserve (LNR)).

The wider site setting is described in Table ERA1 in the 2020 risk assessment and remains unchanged at the time of this review.

1.2 Conservation Sites

The pre-application advice from the EA (19/07/2023) included a habitat screening assessment. A copy of the maps and list of sites is included in Appendix A of the variation application. No new habitats need to be considered in this ERA; the screening report provided matches that provided on 06/05/2020 for the previous variation application (V002) for the same site; the 2020 risk assessment includes these.

2 RISK ASSESSMENT

Table 1: Risk Screening

Hazard	Receptor	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
Releases of particulate matter (dusts)	Local human population/presence, the River Thames, ecological receptors	Harm to human health - respiratory irritation and illness	Transportation through air then inhalation or deposition	Very Low	There are no proposed changes to the type of waste as a result of the variation. Receipt, repackaging and storage activities will take place within the confines of the existing building which provides containment. The existing waste acceptance procedures will be applicable. There are 2 new point sources for emissions to air however all are filtered LEV systems (HEPA and carbon filters – noting these LEV exhausts are combined with 2 existing sources and emitted via a single filtered emission point). Filters subject to regular maintenance and service and replaced regularly.	N
		Nuisance - dust on cars, clothing etc.		Very Low		N
Releases of infectious micro-organisms (bioaerosols) from waste containers	Workers and visitors within the building, local human population/presence	Harm to human health - respiratory irritation and illness	Transportation through air then inhalation or deposition	Low	There are no proposed changes to the type of waste as a result of the variation. Receipt, repackaging and storage activities will take place within the confines of the existing building which provides containment. The existing waste acceptance procedures will be applicable.	N

Hazard	Receptor	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
					The new autoclave operates on the same basis as the existing rotoclaves in terms of treatment type and achieves STAATT Level III. There will be a potential improvement as a result of the variation as the design of the autoclave allows a filtered LEV system to be installed to capture air from around the door of the clave (emission point A2 in the permit).	
Fire from waste or fuel storage and/or processing of waste	Local human population/presence, the River Thames, ecological receptors	Respiratory irritation, illness, and nuisance to local population. Injury to staff, fire fighters or arsonists/vandals. Pollution of water or land from run-off of contaminated fire water. Ecological harm – through toxic contamination or smothering	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches	Low	There are no proposed changes to the type of waste as a result of the variation. Receipt, repackaging and storage activities will take place within the confines of the existing building which provides containment. The existing waste acceptance procedures will be applicable. Waste turnaround times remain unchanged. Existing inspection and maintenance procedures apply.	N
Litter	Local human population/presence, the River Thames, ecological receptors	Nuisance, loss of amenity and harm to wildlife (disturbance)	Air transport then deposition	Low	There are no proposed changes to the type of waste as a result of the variation. Receipt, repackaging and storage activities will take place within the confines of the existing building which provides	N

Hazard	Receptor	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
					containment. The existing waste acceptance procedures will be applicable. The new activities do not introduce any new sources of potential litter.	
Waste and mud on local roads	Local human population/presence	Nuisance, loss of amenity, road traffic accidents	Vehicles entering and leaving site	Low	There are no proposed changes to the type of waste as a result of the variation. Receipt, repackaging and storage activities will take place within the confines of the existing building which provides containment. The existing waste acceptance procedures will be applicable. Existing controls apply regarding vehicles moving into/out of and around the site (wheel wash, appropriate road surfacing, regular cleaning, and visual assessment).	N
Odour	Local human population/presence, the River Thames,	Nuisance, loss of amenity	Air transport then inhalation	Low	There are no proposed changes to the type of waste as a result of the variation. Receipt, repackaging and storage activities will take place within the confines of the existing building which provides containment. The existing waste acceptance procedures will be applicable. There are 2 new emission sources however all are filtered LEV systems (including	N

Hazard	Receptor	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
					carbon filters for VOCs). Filters subject to regular maintenance and service and replaced regularly. Waste will be stored in accordance with limits set out in the Healthcare Waste Appropriate Measures Guidance – under normal conditions the transfer of bagged waste will take place on the same day as received.	
Noise and vibration	Local human population/presence, the River Thames, ecological receptors	Nuisance, loss of amenity, loss of sleep; harm to ecological features through disturbance	Noise through the air and vibration through the ground	Low	The EP boundary remains unchanged by the variation, meaning the proposed activities are no closer in distance to sensitive receptors. There are no new habitat sites to assess since the writing of the 2020 risk assessment. The two existing rotoclaves are being replaced with a single autoclave, therefore removing a noise source. The autoclave plant does not exceed 80 dBA at 1 m from the noise source.	N
Scavenging animals and scavenging birds	Local human population/presence, the River Thames, ecological receptors	Harm to human health -from waste carried off site, and faeces. Nuisance, loss of amenity. Harm to	Air transport andover land	Low	There are no proposed changes to the type of waste as a result of the variation. Receipt, repackaging and storage activities will take place within the confines of the existing building which provides	N

Hazard	Receptor	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
		ecological features through predation			containment. The existing waste acceptance procedures will be applicable. The new activities do not introduce any new sources of interest for scavengers.	
Pests (e.g., flies)	Local human population/presence, the River Thames, ecological receptors	Harm to human health, nuisance, loss of amenity. Harm to ecological features through predation	Air transport andover land	Low	There are no proposed changes to the type of waste as a result of the variation. Receipt, repackaging and storage activities will take place within the confines of the existing building which provides containment. The existing waste acceptance procedures will be applicable. The new activities do not introduce any new sources of interest for pests.	N
Spillage of liquids	Local human population/presence	Harm to human health and animal health	Via drainage system	Lo	There are no proposed changes to the type of waste as a result of the variation. Receipt, repackaging and storage activities will take place within the confines of the existing building which provides containment. The existing waste acceptance procedures will be applicable. A new drainage pit in the building will collect effluent and will be engineered for containment and subject to regular inspection. The set of up to 20 IBCs used to	N

Hazard	Receptor	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
					store the contaminated effluent pending transfer off site are replaced by a double-skinned/bunded tank, also subject to regular inspection.	
Flooding of site	Local human population/presence	Waste and/or raw materials washed off site may contaminate downstream receptors	Flood waters flowing over land and soaking into the ground	Low	There are no proposed changes to the type of waste as a result of the variation. There will be an increase in waste stored on the site, but turnaround is within guideline timescales and all waste is appropriately contained (and in the case of bagged waste moveable as it is in wheeled carts) and within the existing building. The variation would only potentially contribute to waste washed off site during flooding will in terms of volume of clean-up, not to any hazard.	N
Arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land	Local human population/presence, ecological receptors	Respiratory irritation, illness, and nuisance to local population. Injury to staff, fire fighters or arsonists/vandals. Pollution of water or land. Harm to ecological features through toxic contamination or smothering	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches	Low	The pre-application advice noted a number of conservation sites; these have already been assessed for the existing ERA and remain unchanged. There are no proposed changes to the type of waste as a result of the variation. Receipt, repackaging and storage activities will take place within the confines of the existing building which provides	N

Hazard	Receptor	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
					containment. The existing waste acceptance procedures will be applicable. The existing established management system will be followed which includes site security measures to prevent unauthorised access.	

3 CONCLUSION

On the basis of the assessment above, which follows the H1 approach for risk assessment, it is considered that the control measures, that are either already in place at the site for the current permitted activities or are proposed to be implemented for the proposed changes, are appropriate.

The ERA is a live document and will be subject to regular review throughout the life of the permitted operations. It will also be amended, if required, following any significant change to operations, an incident resulting in an environmental impact, and/or any substantiated complaints.

EP Variation Application

Rainham Clinical Waste Treatment Centre (EPR/PP3707BB)

ANNEX ERA1: Current ERA

SHSMT_2023.02 - September 2023

Project details	Environmental Permit Variation Application – EPR PP3707BB Sharpsmart Limited – Rainham Clinical Treatment Centre
Applicant details	Sharpsmart Limited 9 Longport Enterprise Centre Scott Lidgett Road Stoke on Trent ST6 4NQ
Report details	**EP Variation Application – Appendix F: Environmental Risk Assessment** **Document reference: SHSMT_2020.02/04 v2**
Report date	28 October 2020
Submitted to	Permitting and Support Centre Environmental Permitting Team Environment Agency Quadrant 2 99 Parkway Avenue Parkway Business Park Sheffield S9 4WF Email: PSC@environment-agency.gov.uk
Author	Rebecca Hodkinson EHS Consultant
Signature	

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1 Introduction

Sharpsmart Ltd (the 'applicant') has requested that Reva Environmental Ltd (the 'agent') prepares an Environmental Permit (EP) variation application, for its Rainham Clinical Treatment Centre at Unit 21 Barlow Way, Rainham, Essex, RM13 8BT.

The site currently houses two autoclave units that thermally treat (by steam sterilisation) the incoming soft clinical waste. The applicant has taken the site on recently and the EP has been transferred to them in March 2020. The EP allows the pre-shredding then autoclaving of waste and the associated temporary storage of waste pending that process. The EP includes two directly associated activities (DAAs) which are the operation of a steam boiler and the washing of bins. The latter relates to the large skip bins that are used to bring in the bulk clinical waste. Finally, the EP allows the storage and repackaging of non-hazardous and hazardous waste as a Waste Operation.

The applicant's key business is to supply re-usable sharps containers to the healthcare sector and to provide a collection service to its customers whereby the used containers are taken to an applicant transfer facility, emptied and cleaned and sent back to the customer. The contents are transferred to an appropriately permitted facility for treatment or processed on site where autoclaving is permitted.

The facility is currently authorised by EP ref. EPR/PP3707BB which was most recently varied (V004) in June 2015 and subsequently transferred from G.W.Butler to Sharpsmart in March 2020.

An application was made in May 2020 (ref. SHSMT 2020.02_v1) to include several new activities; following discussions with the EA during duly making, the application has been revised to reflect the need for additional information. This ERA wholly supersedes the May 2020 ERA (ref. SHSMT 2020.02/04_v1).

The objective of this application is to obtain a varied EP which enables the applicant to:

- Install and operate a wash plant at the facility as a standalone, but supporting, activity to the existing operations. This will enable the operator to service its contract customers by way of a sharps bin exchange service, emptying and washing the bins before returning them to the customer.
- Treat decanted sharps waste through the existing autoclave plants. This waste stream would either be subject to pre-treatment shredding or loaded directly into the autoclave, and then be subject to subsequent compaction. The proposed acceptance of sharps waste for treatment in the autoclave will not affect the existing Listed Activity (A1) and the addition of the sharps waste code 18 01 03* (with or without 18 01 09) will be achieved through the amendment of Table S2.2 of the permit.

  Treat single use metal instruments and laboratory wastes through the existing autoclave plants, facilitating the recovery of the metal. This waste stream would not be subject to pre-treatment shredding or compaction. This will allow the direct recovery of these wastes that would otherwise not be recovered.

  Operate a larger LPG fuelled steam-raising boiler. The existing EP specifies the boiler as being 0.7 MW thermal input. The applicant has recently sought installed a new boiler to provide steam for the autoclaves. Whilst the input capacity of the boiler (2.5 MW) is below the threshold for a listed activity the applicant does recognise that as the input capacity will exceed 1 MWth the Medium Combustion Plant Directive (MCPD) is applicable and that emission limits for NOx will be imposed on this exhaust via permit conditions.
- Shred offensive waste through the existing shredder. This waste stream would not be subject to autoclaving but would be subject to compaction (this is already permitted). The shredded offensive waste can be compacted with the autoclaved waste (non-hazardous) so it can be

transferred off site as RDF. Prior to the shredding of any non-hazardous waste, the shredder would be thoroughly cleaned in order to prevent any cross contamination of this waste from preceding hazardous waste load.

- Store (externally) compacted floc (treated waste) pending transfer off site for recovery. There is an outlet for the floc resulting from the treatment process. This would be stored in enclosed / sealed skip containers located in the external yard area, in a dedicated area. The EP variation seeks to allow the storage of up to 100 tonnes of this floc pending transfer off site for use as an RDF.

The application supports the existing market for healthcare waste in the following ways:

- It supports the current market for reusable sharps containers (which can be used up to 500 times) and also promotes the future market for them. This is a more sustainable option and in turn removes a large quantity of plastic (burn bins) from autoclaving and incineration plants, a waste that can cause difficulties for such plants in relation to damage/maintenance and emissions; and
- It will reduce the burden on an ageing infrastructure across the UK for clinical waste incineration (there are 20 plants of which only 5 can accept sharps repackaged in volume); and
- It frees up capacity in the small network of clinical waste incinerators in the UK by diverting sharps waste to the autoclaves.

The applicant can confirm that the existing storage limit of 55 tonnes remains applicable; this is constrained by the capacity of the building. The application does however seek to increase the waste acceptance limits for storage pending treatment so that the varied EP allows the following:

- Acceptance of waste for treatment – 30,000 tonnes per annum (of which treatment of hazardous waste is limited to less than 20,000 tonnes); and
- Acceptance of waste for storage pending transfer off site – 30,000 tonnes per annum

The maximum storage period for any load of waste is 2 weeks; this provides allowance for the operational contingency plan to be implemented.

Question 6 of EA application form Part C2 requires the provision of an environmental risk assessment. A qualitative risk assessment has been generated for the facility as a whole and the risk assessment methodology follows a source-pathway-receptor model.

The risk assessment is presented in Table ERA1.

1.1 Site Setting

The facility is located in the Fairview Industrial Estate which is approximately 15 ha and located to the southwest of the A13 highway, and immediately north (on the banks) of the River Thames. It comprises a number of industrial, commercial and warehouse units. It is bounded by Creek Way to the east (a Local Wildlife Site) and Frog Lane which extends half way along the western boundary, dividing the industrial estate from the associated parking area. There is some grassland and planting beyond Creek Lane, between this estate and the neighbouring Ferry Lane Industrial Estate. Beyond that estate lies the Rainham Marshes (a Site of Special Scientific Interest (SSSI) and Local Nature Reserve (LNR)).

The wider site setting is summarised in Table OMP1 below. Drawing SHSMT-RH03 Site Setting, submitted with the May 2020 variation application, presents the site and its surroundings.

Table ERA1: Site Setting

Direction	Local Setting
Northern Boundary	The site is immediately bounded to the north by neighbouring buildings in the Fairview Industrial Estate, following the line of the A13. Beyond the A13 is also industrial use. The closest residential area is approximately 700 m to the north, beyond the railway line which passes from east to west at approximately 575 m from the site.
Eastern Boundary	The site is immediately bounded to the east by neighbouring buildings in the Fairview Industrial Estate, beyond which lies the Ferry Lane Industrial Estate – the two separated by a strip of land, a creek, and Creek Way (a Local Wildlife Site lying at approximately 100 m). Beyond this, at approximately 400 m lies Rainham Marshes SSSI and LNR. To the northeast, at approximately 150 m the A13 runs in a west to easterly direction. There are no residential areas within 1 km of the eastern boundary.
Southern Boundary	The site is immediately bounded to the south by neighbouring buildings in the Fairview Industrial Estate, beyond which lies the River Thames at approximately 550 m. The other side of the river lies Fishers Way Industrial Estate. There are no residential areas within 1 km of the southern boundary.
Western Boundary	The site is immediately bounded to the east by neighbouring buildings in the Fairview Industrial Estate, beyond which Frog Lane borders the top half portion of the estate. Beyond Frog Lane is a large open car parking area, and beyond that again is a patch of grassland then the Ford Motor Car facility. There are no residential areas within 1 km of the western boundary.

1.2 Sensitive Receptors

Key sensitive receptors are considered to be those within 1 km of the site; the potential impact to these from certain sources will depend on the weather conditions. The perceived impact at receptors located down-wind are likely to be more than at those located cross or up-wind for certain sources like dust, litter, odour, noise. Some receptors are more sensitive than others, for example a residential area is likely to be more sensitive than an industrial estate.

Table ERA2: Sensitive Receptors within 1 km

Receptor	Distance at closest point	Direction	Receptor Type	Relative Risk of Odour Impact
River Thames	550 m	South	Public area (restricted use) – transient use by members of public. Also used for commercial shipping.	Low
Creek Way (part of the Thames and Tidal Tributaries designation)	100 m	East	LWS – salt marshes designated notably for the presence of birds but also fish, invertebrates and marine mammals	Low
Rainham Marshes	400 m	East	SSSI and LNR – salt marshes providing	Low

			habitat to breeding and non-breeding birds, invertebrates and plants	
Residential Properties	700 m	North	Residential properties – potential all-day presence	Moderate
Workers in other premises in the Industrial Estate	Immediately adjacent	All directions	Commercial/industrial workplace	Low

Figure ERA1 presents the wind rose for the area. This has been sourced from the met office (www.metoffice.gov.uk/climate/uk/regional-climates/mi) and is from a station located at Heathrow airport.

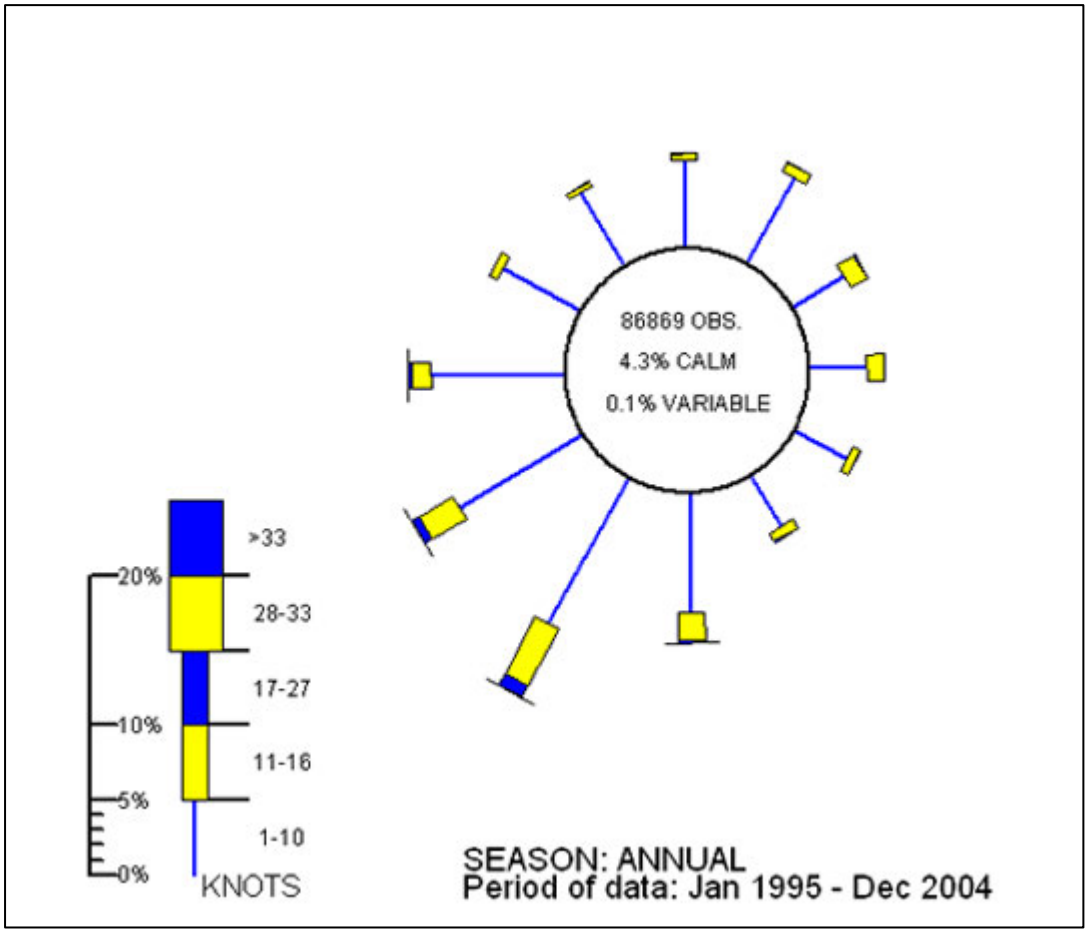

Figure ERA1: Wind Rose

This data is for Southern England which is one of the more sheltered parts of the UK. The strongest winds are associated with the passage of deep areas of low pressure close to or across the UK; the frequency and strength of these is greater between December and February.

Southern England is the part of the UK closest to continental Europe and as such can be subject to continental weather influences that bring cold spells in winter and hot, humid weather in summer. It is also furthest from the paths of most Atlantic depressions, with their associated cloud, wind and rain, so the climate is relatively quiescent.

The wind rose above is considered by the met office to be typical of open, level locations across the region, with a prevailing south-westerly wind direction throughout the year.

Table ERA3: Risk Assessment

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure	Consequence	Magnitude of Risk	Justification of Magnitude	Control Measures	Residual Risk
Releases of particulate matter (dusts)	Local human population/presence, the River Thames. The closest residential receptors are some 700 m to the north of the site; the closest commercial receptors are the other units on the estate; ecological sites – the closest is Creek Way Local Wildlife Site at 100 m to the east of the site	Nuisance - dust on cars, clothing etc.	Transportation through air then inhalation or deposition	**Very Low**	**High**	**Low**	Permitted wastes are not dusty, and all waste arrives in UN containers (sealed). Air extraction via LEV is in place around the shredder and is subject to filtering. No raw materials used are dusty. Boiler is subject to scheduled maintenance and service	Wastes are delivered in sealed containers. Containers are subject to visual inspection. Air extraction operates at all times and shredder LEV filtered for particulates. Filters subject to regular maintenance and service and replaced regularly. Doors to the building remain closed outside of loading/offloading times.	**Very Low**
		Harm to human health - respiratory irritation and illness; harm to ecological features through toxic contamination or smothering		**Low**	**Low**	**Low**			**Very Low**
Releases of infectious micro-organisms (bioaerosols) from waste containers	Workers and visitors within the building, local human population/presence	Harm to human health - respiratory irritation and illness	Transportation through air then inhalation	**Low**	**High**	**Medium**	Whilst waste is infectious it is all contained within the UN approved containers in which it is collected	Waste is only accepted in bags or containers. Reusable containers are disinfected before leaving site. Housekeeping procedures include regular disinfection. Treatment is within the building and the shredder is under LEV which is filtered prior to release via exhaust stack.	**Low**

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure	Consequence	Magnitude of Risk	Justification of Magnitude	Control Measures	Residual Risk
								Waste treatment achieves STAATT Level III.	
Fire from waste or fuel storage and/or processing of waste	Local human population/presence, the River Thames, the closest residential receptors are some 700 m to the north of the site; the closest commercial receptor are the other units on the estate; ecological sites – the closest is Creek Way Local Wildlife Site at 100 m to the east of the site	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters or arsonists / vandals. Pollution of water or land from run-off of contaminated fire water. Harm to ecological features through toxic contamination or smothering	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches	Low	High	Medium	The impact of a fire on the immediate local area can be significant, and the pollution requiring short to medium term remediation. Boiler is LPG fired so there is an ignition source however the LPG tanks are located remotely from the storage of waste, and (along with the boiler) are subject to scheduled maintenance and service (they are also located within an impermeable bund	Wastes are delivered in sealed containers. Containers are subject to visual inspection. The waste is not hugely combustible. Waste turnaround is high (<2 weeks), storage is all within the building. Regular inspections and maintenance of key process plant and equipment (following planned preventative maintenance programme). Thermal cut outs on applicable equipment (e.g. electrical drives and inverters). All reasonable precautions will be taken to prevent the outbreak of fire. In the first instance site staff will extinguish the fire where possible, if required the fire brigade	Low

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure	Consequence	Magnitude of Risk	Justification of Magnitude	Control Measures	Residual Risk
								will be contacted. Pollution control measures including impermeable hardstanding and surface water management infrastructure provides protection in terms of providing storage capacity for fire water. Water will be tested prior to discharge following fire to identify if it can be discharged.	
Litter	Local human population/presence, the River Thames, the closest residential receptors are some 700 m to the north of the site; the closest commercial receptor are the other units on the estate; ecological sites – the closest is Creek Way Local Wildlife Site at	Nuisance, loss of amenity and harm to wildlife (disturbance)	Air transport then deposition	Low	Medium	Medium	It is acknowledged that local residents and habitat receptors are often sensitive to litter emissions however permitted wastes are not litter-generating. Waste that could generate litter will be limited to office and welfare facilities so small scale and	Wastes are delivered in sealed containers. Containers are subject to visual inspection. Doors to the building remain closed outside of loading/offloading times.	Low

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure	Consequence	Magnitude of Risk	Justification of Magnitude	Control Measures	Residual Risk
	100 m to the east of the site						managed in standard bins.		
Waste and mud on local roads	Local human population/presence, the closest residential receptors are some 700 m to the north of the site; the closest commercial receptor are the other units on the estate. Site access is off Marsh Way which joins the A13 at approximately 400 m from the estate entrance	Nuisance, loss of amenity, road traffic accidents	Vehicles entering and leaving the site	Low	Medium	Medium	Road safety, local residents often sensitive to mud on roads.	During wet weather, daily inspection will identify if there are any areas of build-up of mud on internal and local roads and any issues will be cleared as soon as practicable; the facility and site roads are constructed of concrete; all vehicles entering and leaving the site are fully enclosed; any complaints will be recorded and an investigation will be undertaken and findings acted upon.	Low
Odour	Local human population/presence, the River Thames, the closest residential receptors are some 700 m to the north of the site; the closest	Nuisance, loss of amenity	Air transport then inhalation	Medium	Medium	Medium	Local residents and public area users are often sensitive to odour, permitted waste types are potentially odorous	Wastes are delivered in sealed containers. Containers are subject to visual inspection. All vehicles entering and leaving the site are fully enclosed. Doors to the building remain closed	Low

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure	Consequence	Magnitude of Risk	Justification of Magnitude	Control Measures	Residual Risk
	commercial receptor are the other units on the estate						but the raw materials are not	outside of loading/offloading times. Air extraction operates at all times and extract filtered for VOCs.	
Noise and vibration	Local human population/presence, the River Thames, the closest residential receptors are some 700 m to the north of the site; the closest commercial receptor are the other units on the estate. Ecological sites – the closest is Creek Way Local Wildlife Site at 100 m to the east of the site	Nuisance, loss of amenity; harm to ecological features through disturbance	Noise through the air and vibration through the ground	Medium	Medium	Medium	Local residents often sensitive to noise and vibration but closest residents are 700 m from the site and the site is within an existing 24/7 operational industrial area.	The noise design specification for the plant is such that employees are protected; plant does not exceed 80 dBA at 1 m from the noise source. Operations are within a fully enclosed building. Any complaints will be recorded, and an investigation will be undertaken and finding acted upon. Audible high-level alarms on process plant are within the confines of the building.	Low
Scavenging animals (e.g. rats) and	Local human population/presence, the River Thames, the closest residential receptors are some 700 m to	Harm to human health - from waste carried off site and faeces. Nuisance and	Air and over land	Low	Medium	Medium	Permitted wastes and raw materials are unlikely to attract scavenging animals and birds	Wastes are delivered in sealed containers. Containers are subject to visual inspection. All vehicles entering and leaving the site are fully	Low

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure	Consequence	Magnitude of Risk	Justification of Magnitude	Control Measures	Residual Risk
scavenging birds	the north of the site; the closest. commercial receptor are the other units on the estate; ecological sites – the closest is Creek Way Local Wildlife Site at 100 m to the east of the site	loss of amenity. Harm to ecological features through predation						enclosed. Doors to the building remain closed outside of loading/offloading times. Pest control measures are in place.	
Pests (e.g. flies)	Local human population/presence, the River Thames, the closest residential receptors are some 700 m to the north of the site; the closest commercial receptor are the other units on the estate; ecological sites – the closest is Creek Way Local Wildlife Site at 100 m to the east of the site	Harm to human health, nuisance and loss of amenity; Harm to ecological features through predation	Air and over land	Low	Medium	Medium	Permitted wastes and raw materials are unlikely to attract pests	Wastes are delivered in sealed containers. Containers are subject to visual inspection. All vehicles entering and leaving the site are fully enclosed. Doors to the building remain closed outside of loading/offloading times. Pest control measures are in place.	Low

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure	Consequence	Magnitude of Risk	Justification of Magnitude	Control Measures	Residual Risk
Spillage of liquids	Local human population/presence, the closest residential receptors are some 700 m to the north of the site; the closest commercial receptor are the other units on the estate	Harm to human health and animal health	Via drains	Low	Medium	Medium	Permitted wastes do not include liquids however liquid effluent is collected and stored in IBCs prior to transfer off site for recovery	Storage of liquid effluent is restricted to 20 IBCs, visual inspection of integrity, in a dedicated area of impermeable hardstanding, moved only by trained forklift operators; any spillage would be contained within the building.	Low
Flooding of site	Local human population/presence, the closest residential receptors are some 700 m to the north of the site; the closest commercial receptor are the other units on the estate	Waste and/or raw materials washed off site may contaminate downstream receptors	Flood waters flowing over land and soaking into the ground	Medium	Medium	Medium	Permitted waste types are hazardous and the River Thames is 550 m to the south of the site, immediately at the boundary of the wider estate and at a lower topographical elevation (approximately 10 m) however the site is within a flood plain	The site is in an area benefiting from flood defences; waste is fully contained at all stages and stored in mobile containers when not being treated so can be easily removed in a flood event.	Low

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure	Consequence	Magnitude of Risk	Justification of Magnitude	Control Measures	Residual Risk
Arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land.	Local human population/presence, the closest residential receptors are some 700 m to the north of the site; the closest commercial receptor are the other units on the estate; ecological sites – the closest is Creek Way Local Wildlife Site at 100 m to the east of the site	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters or arsonists/vandals. Pollution of water or land. Harm to ecological features through toxic contamination or smothering	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches.	Medium	High	High	The impact of a fire on the immediate local area can be significant, and the pollution requiring short to medium term remediation	Site is secure by palisade fencing and lockable gates; there is a fire alarm and CCTV. During operational hours access is only granted to authorised vehicles and visitors; pollution control measures including impermeable hardstanding and surface water management infrastructure provide protection in terms of providing storage capacity for fire water. Water will be tested prior to discharge following fire to identify if it can be discharged.	Low

2 Conclusion

Further details on the control measures are provided in the BAT Assessment completed for the variation application (Appendix G of the variation application, ref. SHSMT_2020.02/05_v2 dated October 2020). These include details on:

- Waste pre-acceptance
- Waste acceptance
- Waste storage, handling and dispatch
- Use of raw materials (chemicals, water)
- Treatment validation
- Emissions monitoring

On the basis of this and the assessment above, which follows the H1 approach for risk assessment, it is considered that the control measures that are either already in place at the site for the current permitted activities or are proposed to be implemented for the new activities are appropriate.

The ERA is a live document and will be subject to regular review throughout the life of the permitted operations. It will also be amended, if required, following any significant change to operations, an incident resulting in an environmental impact, and/or any substantiated complaints.

EP Variation Application

Rainham Clinical Waste Treatment Centre (EPR/PP3707BB)

APPENDIX F: Updated OMP

SHSMT_2023.02/4 - September 2023

Project details	Environmental Permit Variation Application – EPR PP3707BB Sharpsmart Limited – Rainham Clinical Waste Treatment Centre
Applicant details	Sharpsmart Limited Unit 21 Barlow Way Rainham Essex RM13 8BT
Report details	**EP Variation Application – Appendix F: Odour Management Plan_v5** **Document reference: SHSMT_2023.02/04 v5**
Report date	18 September 2023
Submitted to	Permitting and Support Centre Environmental Permitting Team Environment Agency Quadrant 2 99 Parkway Avenue Parkway Business Park Sheffield S9 4WF Email: PSC@environment-agency.gov.uk
Author	Rebecca Hodkinson EHS Consultant
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Table of Contents

Contents

1 Introduction

1.1 General

Sharpsmart Ltd (the 'applicant') has requested that Reva Environmental Ltd (the 'agent') prepares an Environmental Permit (EP) variation application, for its Rainham Clinical Treatment Centre at Unit 21 Barlow Way, Rainham, Essex, RM13 8BT.

The facility is currently authorised by EP ref. EPR/PP3707BB which was originally granted in November 2009 (under ref. EPR/EP3597LU) and most recently varied and consolidated by Variation Notice V004 in December 2022.

The EP allows the pre-shredding and steam disinfection of infectious waste, and the compaction and storage of treatment residues. It also allows repackaging of hazardous waste and cleaning of reusable sharps containers; temporary storage of hazardous waste; steam generation; raw material storage; compaction of offensive waste; and storage and repackaging of non-hazardous waste. Treatment is in two pre-shredders and two rotoclaves.

An application is being made (2023) to vary the EP to reflect the replacement of the existing rotoclaves with a single large autoclave and to increase the limits (tonnages) for a number of the existing operations to reflect the increase in capacity resulting from the autoclave installation.

The existing OMP has been revisited and updated to reflect the proposed changes. This version wholly supersedes the 11 February 2021 OMP (ref. SHSMT 2020.02/07_v4).

This Odour Management Plan (OMP) forms part of the Environmental Management System and, in the same way as other procedures are, it is reviewed on a regular basis in accordance with the EP and also updated as required following any substantiated complaints, changes to process, or to reflect changes in legislation or best practice. It seeks to outline the procedures that are in place to ensure that odour is managed at the site and that odour nuisance does not arise as a result of the operations.

This OMP has been written in accordance with EA Guidance on Odour Management which states that emissions from the activities shall be free from odour at levels likely to cause pollution outside the site.

1.2 Site Setting

The facility is located in the Fairview Industrial Estate which is approximately 15 ha and located to the southwest of the A13 highway, and immediately north (on the banks) of the River Thames. It comprises a number of industrial, commercial and warehouse units. It is bounded by Creek Lane to the east and Frog Lane which extends halfway along the western boundary, dividing the industrial estate from the associated parking area.

There is some grassland and planting beyond Creek Lane, between this estate and the neighbouring Ferry Lane Industrial Estate.

The wider site setting is summarised in Table OMP1 below. Drawing SHSMT-RH03 Site Setting, submitted with the May 2020 variation application, presents the site and its surroundings.

Table OMP1: Site Setting

Direction	Local Setting
Northern Boundary	The site is immediately bounded to the north by neighbouring buildings in the Fairview Industrial Estate, following the line of the A13. Beyond the A13 is also industrial use. The closest residential area is approximately 700 m to the north, beyond the railway line which passes from east to west at approximately 575 m from the site.

Eastern Boundary	The site is immediately bounded to the east by neighbouring buildings in the Fairview Industrial Estate, beyond which lies the Ferry Lane Industrial Estate – the two separated by a strip of land, a creek, and Creek Way (a Local Wildlife Site lying at approximately 100 m). Beyond this, at approximately 400 m lies Rainham Marshes SSSI and LNR. To the northeast, at approximately 150 m the A13 runs in a west to easterly direction. There are no residential areas within 1 km of the eastern boundary.
Southern Boundary	The site is immediately bounded to the south by neighbouring buildings in the Fairview Industrial Estate, beyond which lies the River Thames at approximately 550 m. The other side of the river lies Fishers Way Industrial Estate. There are no residential areas within 1 km of the southern boundary.
Western Boundary	The site is immediately bounded to the east by neighbouring buildings in the Fairview Industrial Estate, beyond which Frog Lane borders the top half portion of the estate. Beyond Frog Lane is a large open car parking area, and beyond that again is a patch of grassland then the Ford Motor Car facility. There are no residential areas within 1 km of the western boundary.

1.3 Sensitive Receptors

Key sensitive receptors are considered to be those within 1 km of the site; the potential dispersion of odours to these depends on the weather conditions. The odour concentrations at receptors located down-wind are likely to be more than at those located cross or up-wind. Some receptors are more sensitive than others, for example a residential area is likely to be more sensitive than an industrial estate. Though not usually considered as sensitive receptors, the adjacent industrial premises have been included in the OMP.

Table OMP2: Sensitive Receptors within 1 km

Receptor	Distance at closest point	Direction	Receptor Type	Relative Risk of Odour Impact
River Thames	550 m	South	Public area (restricted use) – transient use by members of public. Also used for commercial shipping.	Low
Rainham Marshes	400 m	East	SSSI and LNR – salt marshes providing habitat to breeding and non-breeding birds, invertebrates, and plants	Low
Creek Way (part of the Thames and Tidal Tributaries designation)	100 m	East	LWS – salt marshes designated notably for the presence of birds but also fish, invertebrates, and marine mammals	Low
Residential Properties	700 m	North	Residential properties – potential all-day presence	Moderate

Workers in other premises in the Industrial Estate	Immediately adjacent	All directions	Commercial/industrial workplace	Low

1.4 Wind Rose

Figure OMP1 presents the wind rose for the area. This has been sourced from the met office (www.metoffice.gov.uk/climate/uk/regional-climates/mi) and is from a station located at Heathrow airport.

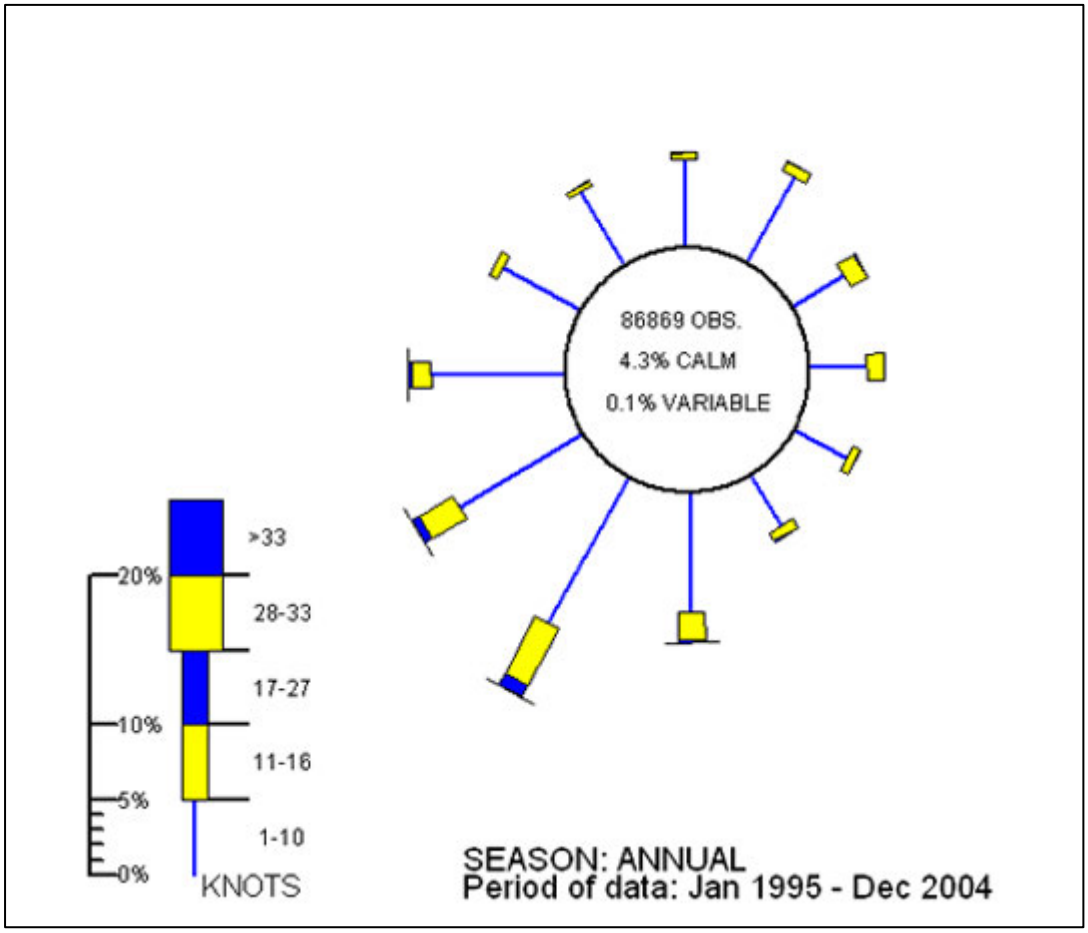

Figure OMP1: Wind Rose

This data is for Southern England which is one of the more sheltered parts of the UK. The strongest winds are associated with the passage of deep areas of low pressure close to or across the UK; the frequency and strength of these is greater between December and February.

Southern England is the part of the UK closest to continental Europe and as such can be subject to continental weather influences that bring cold spells in winter and hot, humid weather in summer. It is also furthest from the paths of most Atlantic depressions, with their associated cloud, wind, and rain, so the climate is relatively quiescent.

The wind rose above is considered by the met office to be typical of open, level locations across the region, with a prevailing south-westerly wind direction throughout the year.

1.5 Complaint History

The site was out of operation for 20 months while the applicant carried out building repairs and installed new equipment but has now been operational since 1 August 2020.

No odour complaints have been received since operations were re-instated in 2020.

Details of the process in the event of receipt of an odour complaint are provided in section 5.4 of this OMP.

2 Odour Sources and Pathways

2.1 Raw Materials

Raw material use at the site is currently limited to 'pine disinfectant' and 'Apple Fresh' from CIS, which is used in the 770-litre bin washer, and to clean the shredder plants. The Washsmart S6000 wash plant uses 'Solid Hero' and 'Pep Active' from Ecolab.

Raw materials are delivered to the site when stock checks identify the need for more and are in small proprietary containers. They are stored within the building in a dedicated area. When needed, the containers are carried to the plant area where it is required.

Due to the nature of the raw materials and the storage and handling arrangements, the risk of odour release is considered to be very low.

2.2 Waste Receipt, Handling, and Storage

Clinical waste arrives at the facility in two forms:

Bagged waste – This waste is always contained within a yellow lidded 770 litre waste bin. It is delivered to the site in an appropriate waste delivery vehicle and unloaded using the tail lift on the vehicle. The vehicle reverses right up to the doors into the reception area of the building. Bins are wheeled into the dedicated bin store area for waste pending treatment. The access doors are open only during the delivery process.

Offensive waste is currently permitted for acceptance at the site where it can be shredded then compacted or loaded directly into a compactor skip located in the yard area.

Sharps waste – This arrives contained in the applicant's own re-useable sharps containers. These are thick plastic, lidded and securely closed. They are also delivered to the site in an appropriate waste delivery vehicle and unloaded using the tail lift on the vehicles. The vehicle reverses right up to the doors into the reception area of the building. The bins are placed into enclosed trolley units designed specifically for the safe movement and handling of this type of waste and the trolleys are placed in a dedicated area pending emptying.

The maximum storage period for any load of waste is 2 weeks.

The nature of the waste (predominantly plastics and metals) and the storage and handling arrangements mean that the risk of odour release is low.

2.3 Bin Washing

The automated system moves the bins to the emptying point, where the contents are safely emptied into a dedicated facility 770 litre skip bin (a UN-approved wheeled cart) which has been lined with an 80-micron bag. Once the carts containing the contents from the emptied bins are full the heavy-duty liner is sealed, and the cart lid locked. The nature of the waste (predominantly plastics and metals) and the storage and handling arrangements mean that the risk of odour release is low.

The emptied sharps container is then processed in the Washsmart facility that serves to wash, disinfect, and dry the containers. Each is also sprayed with a silicon spray to line it and prevent contents from sticking to the container.

The emission points from the wash plant are as follows:

- A4 – Wash plant tipping area local exhaust ventilation (LEV), filtered for particulates via HEPA filter (no monitoring); and
- A5 – Wash plant dryer local exhaust system.

2.4 Waste Shredding

The treatment process begins with the shredding of a batch of clinical waste to break it up to a form that enables efficient heat treatment (autoclaving) to be applied. This is in one of the two shredder units. Waste is loaded into a bin tipper mechanism that loads the batch into the shredder unit. Each shredder has an air extract system (hood) which vents air from the shredder to the atmosphere via emission points A3 and A6 which both have a HEPA air filter and a carbon filter system, providing odour control. Once shredded, the waste falls into a lined cart and the liner bag tied closed before being fed into the autoclave via a bin tipper.

The waste is potentially odorous however, given that it is processed on a batch system and there is LEV with a filter system serving the shredders, this part of the treatment plant is considered to present a low-medium risk of odour release.

Whilst the shredders are dedicated, one to bagged waste, one to sharps, having two provides contingency should one be unavailable. For this reason, any waste can be shredded in either shredder. The shredder is thoroughly cleaned and disinfected prior to the shredding of any non-hazardous waste in order to prevent any cross contamination from preceding hazardous waste loads. Once shredded, waste is loaded into the compactor skip unit within the building.

2.5 Waste Treatment (Autoclave)

The autoclave is a horizontally orientated cylindrical vessel that is subject to high vacuum and high pressure. Shredded waste is placed into 1800-litre autoclave carts, which are in turn loaded into the autoclave vessel. 8 carts are loaded in total, then the door is closed in preparation for the decontamination cycle commencing. Each cycle is approximately 3 tonnes.

During the waste treatment cycle, venting is performed through a condenser unit to produce a small volume of liquid effluent. The post-vacuum cycle removes residual steam from the autoclave and flashes residual liquids, drying the waste. This also controls odour.

The waste is potentially odorous however given that it is processed on a batch system within an enclosed pressurised unit, and the venting of the treatment vessel during operation is via a condenser unit, this part of the treatment plant is considered to present a low-medium risk of odour release.

Fugitive emissions from the loading of the autoclave are captured by an LEV system at the autoclave door (point A2). This is combined with the LEV exhausts from A3, A6 and A7 and filtered via HEPA filter for particulates and a carbon filter for VOCs.

2.6 Waste Compaction

The sterilised waste floc exits the autoclave and wastes will be unloaded from the autoclave and tipped from the 1800-litre carts into the compactor hopper by way of a bin tipper unit. The compactor is a 40 yd skip container which reduces the volume of the floc by up to 60%. The floc is stored temporarily at the facility pending transfer to a national outlet where the waste is further processed and blended to produce a fossil fuel replacement pellet fuel for use in power plants, energy from waste and cement kilns.

The waste has been fully treated at this stage so is not odorous. This part of the treatment process is therefore considered to have a very low risk of odour release.

Despite this, the site has implemented an LEV system at the compactor (point A7) which is directed to a via HEPA filter for particulates and a carbon filter for VOCs (combined with A2, A3 and A6).

2.7 Residue Management

In addition to the floc, the process generates a condensate from the autoclave, and a potentially contaminated effluent which is generated when the shredder is cleaned. The two liquid effluent streams are managed in one of two ways, depending on the composition, as follows:

- If the effluent generated relates to the autoclaving of waste that could be considered potentially pharmaceutically contaminated, then it is not discharged to sewer. Instead, it is collected in a sealed tank and pumped into a large bunded tank pending transfer to a permitted energy from waste facility for disposal (and heat recovery). The same applies if the effluent contains wash water from cleaning the shredder.
- If the effluent generated relates to the autoclaving of a batch of solely orange classified waste, then it is considered that there is no pharmaceutical contamination, and the effluent is no different to that produced by the transfer facility and can be discharged to sewer under the existing consent.

The liquid effluent, that is not discharged to sewer at the site, is stored in a tank within the process building, until there is sufficient to make up a full load for transfer off-site for recovery. The tank is within the building, so it is considered that this poses a low risk of odour release.

2.8 Odour Source Assessment

The potentially significant odour sources (materials and processes) are set out in Table OMP3. Details of the location of storage, type of containment, and maximum quantities of each source material are also provided in Table OMP3. In relation to storage, each source has been allocated a unique reference (Odour Source (OS) 1 – 10) and these identifiers are included on a copy of the Site Layout Plan, provided in Annex OMP2.

Table OMP3: Odour Sources

Source	Odorous material	Containment / Release Point	Maximum Quantity & Duration	Storage Arrangements	Pattern of Release	Abatement Techniques
Raw materials	Disinfecting chemicals	Fugitive emission from storage and use of the chemical (e.g., manual cleaning or dosing in wash plant). Localised odour in process area, dilution in ambient air before release via doors	20 bottles of Pep Active, 4 tubes of Solid Hero. Continuous storage to ensure availability	Stored in proprietary containers (in which they are supplied), and stored within the building in a dedicated area (OS1)	Intermittent – only during cleaning activities	Doors to the building in which the materials are stored are kept shut as standard
Waste delivery and storage	Clinical waste	Fugitive emission of clinical waste/ammonia odour from the access doors used for delivery and from the waste storage areas, in the process areas within the building, dilution in ambient air before release via doors	130 tonnes, Waste is processed within 2 weeks	All waste arrives in UN approved (sealed) containment, it is also stored in UN approved containers pending processing or transfer (OS2)	Continuous during operation	Doors to the building in which the materials are stored are kept shut as standard, other than during delivery when access is required
Wash plant operations	Exhaust air from washing of bins	Emissions from the wash plant during washing of emptied bins, LEV at tipping area filtered via HEPA (A4)	150 - 160 containers (approx. 2.8 tonnes) processed per hour	Wash plant is a fixed within the building, location OS3	Continuous during operation	Active extraction with HEPA filter, doors to the building in which the materials are stored are kept shut as standard, other than during delivery when access is required
Wash plant effluent	Odour from effluent – clinical waste/detergents	Emissions from the wash plant effluent during discharge from wash cycle	25 m^3 per 24 hours at a rate of <2 m^3/hour	Discharged via enclosed pipeline to	Intermittent during operation of the plant	Unit fully enclosed, discharge is via

Source	Odorous material	Containment / Release Point	Maximum Quantity & Duration	Storage Arrangements	Pattern of Release	Abatement Techniques
				foul sewer network under consent		enclosed pipeline to foul sewer network
Shredder operation	Exhaust air from shredding of clinical waste (including offensive)	Emission from the shredder during loading, closed process vessel during shredding of incoming waste, filtered extract via A3 and A6	Up to 3 tonne per batch, process runs for 48 minutes per autoclave batch	Shredder plants are fixed within the building, location OS4	Intermittent as shredder is part of a batch process, but continuous during operation of the shredders	Active extraction with HEPA and carbon filter
Shredder – general	Clinical waste or raw material/effluent spillage	Emission from abnormal scenario – spillage of waste during loading, or spillage of effluent during cleaning/disinfecting leading to localised odour in process area, dilution in ambient air before release via doors	Up to 3 tonne of waste per batch; 40-50 litres water/cleaning product used per wash	Shredder plants are fixed within the building, location OS4	Intermittent as shredder is part of a batch process, but continuous during operation of the shredders	Active extraction with HEPA and carbon filter; plant within the building, on impermeable flooring, building doors are kept shut as standard
Autoclave operation	Exhaust air, hot process air from treatment of clinical waste/sharps and single-use instruments	Closed process vessel with no exhaust, fugitive emission from the door to the autoclave during loading of carts of shredded waste Filtered LEV at autoclave door, via A7; filtered exhaust vent at A2	3 tonnes of waste per batch, batch cycle runs for 60 – 90 minutes (including loading/unloading)	Autoclave is fixed within the building, location OS5	Intermittent as autoclave is part of a batch process, but continuous during operation of the autoclave	Active extraction with HEPA and carbon filter
Autoclave - general	Clinical waste or effluent spillage	Fugitive emission from spillages on the floor, localised odour in process area, dilution in ambient air before release via doors	3 tonnes of waste per batch, 150 - 300 litres effluent per batch cycle	Autoclave is fixed within the building, location OS5	Occasional (abnormal scenario), cleaning activities occur regularly	Housekeeping procedures implemented; plant is within building – doors shut as standard

Source	Odorous material	Containment / Release Point	Maximum Quantity & Duration	Storage Arrangements	Pattern of Release	Abatement Techniques
Movement of treated waste	Treated clinical waste (soft and sharps)	Movement to compactors via electric forklift truck, fugitive emission from the autoclave door to the compactor	3 tonnes of waste per batch	Compactor is located within the building, OS6	Intermittent as autoclave is part of a batch process	Electric FLT (no exhaust), plant within the building and building doors are kept shut as standard
Movement and storage of treated single use instruments	Treated medical waste instruments	Movement to storage containers via electric FLT, fugitive emission from the autoclave door to the containers	3 tonnes of waste per batch, filled containers removed within 24 hours	Treated waste stored within palletised rigid boxes or skips which are ordered in preparation for the batch, OS7	Intermittent as autoclave is part of a batch process; estimated 3 – 4 batches per month	Electric FLT (no exhaust), plant and treated waste storage are within the building and building doors are kept shut as standard
Compactor operation	Treated clinical waste (soft and sharps) and shredded offensive waste	Closed vessel, fugitive emission from the door of the compactor during loading of treated waste via the bin tipper	Up to 11 tonnes within the compactor unit, moved to skip container which is stored outside once full for <2 days	Compactor is located within the building - OS6	Intermittent as compactor is part of a batch process	Fully enclosed compactor unit, within the building, doors shut as standard, filtered LEVs A8 & A9
Shredded & compacted offensive waste storage	Shredded and compacted offensive waste – clinical waste odour	Enclosed, sealed skip container, no fugitive emission of clinical waste odour during normal operations as unit is not loaded or emptied outside	75 tonnes in 6 compactors skips (capacity shared with floc, 5 in yard, 1 in use at any one time), stored for < 2 days	Compacted in skip container compactor unit within the building (OS6) then stored outside once full (no loading/filling once outside) – OS8	Storage is continuous during facility operations	Fully enclosed, sealed skip – filling only occurs within the building, filtered LEVs A8 & A9

Source	Odorous material	Containment / Release Point	Maximum Quantity & Duration	Storage Arrangements	Pattern of Release	Abatement Techniques
Un-shredded Offensive Waste Storage	Compacted offensive waste – clinical waste odour	Closed vessel, fugitive emission from the door of the compactor during loading of treated waste	1 x Compactor Skip, stored for < 7 days	Compactor stored in yard (as per current EP), OS9	Storage is continuous during facility operations; release is intermittent and only whilst loading	Fully enclosed yard compactor skip, kept shut apart from when filling
Floc storage	Treated clinical waste	Enclosed, sealed skip container, fugitive emission of clinical waste odour from the compactor door during loading	75 tonnes in 6 compactors skips (capacity shared with floc, 5 in yard, 1 in use at any one time), stored for < 2 days	Compacted in unit within the building (OS6) then stored outside once full (no loading/filling once outside) – OS8	Storage is continuous during facility operations	Fully enclosed, sealed skip – filling only occurs within the building
Liquid effluent storage	Effluent from treating of clinical waste	Fugitive emission from storage of liquid effluent in storage tank	For <2 weeks	Tank is within the building – OS10	Storage is continuous during facility operations	Containment within the building – doors shut as standard

2.9 Odour Release Points and Pathways

Release of odours from the site would be via a release to air from any of the sources detailed above, and transfer through the air via dispersion. Odour releases can be either from a point source (a physical intentional, forced emission point) or fugitive (an unintentional or passive release). These are as follows:

- Point Source A1 – LPG boiler
- Point Source A2 – Autoclave local exhaust vent (LEV), monitored for VOCs and microbial emissions;
- Point Source A3 – Shredder 1 LEV (combined with A2, A6 and A7)
- Point Source A4 – Wash plant LEV, not monitored
- Point Source A5 – Wash Plan dryer extract, not monitored
- Point Source A6 – Shredder 2 LEV (combined with A2, A3 and A7)
- Point Source A7 – LEV over indoor skip compactor unit (combined with A2, A3 and A6)
- Fugitive Source 1 – Incoming waste storage area
- Fugitive Source 2 – Delivery doors on the south-eastern side of the building

3 Odour Risk Assessment

The applicant has carried out a qualitative risk assessment for the site. This identifies the sources, their pathways to causing nuisance to the defined receptors, the likelihood of odour release, the control measures in place, and actions required based on the findings. This is presented in Table OMP4.

Table OMP4: Risk Assessment

Odour Source	Material	Pathway	Main Receptor	Likelihood	Controls	Residual Likelihood	Action Required?
Raw materials	Disinfecting chemicals	Fugitive via open doors, windows – air transportation then inhalation	Any of the identified receptors in Table OMP2, depending on prevailing wind direction	Low	Small quantities held, proprietary container, stored within building	Very Low	No
Waste delivery and storage	Clinical waste			Medium	Intermittent – only during delivery, all waste in closed containers, doors closed at all times outside of delivery, no waste stored outside, waste processed quickly	Low	No
Wash plant emissions	Exhaust from cleaning of emptied bins	A4 wash plant bin tipping area exhaust – air transportation then inhalation		Medium	Active air extraction around bin emptying area, wash plant enclosed system, HEPA filter maintained and serviced in accordance with PPM, waste processed quickly	Low	No
Shredder emissions	Exhaust air from shredding of clinical waste	A3 and A6 shredder LEV stack – air transportation then inhalation		Medium	Active air extraction whilst in operation, HEPA and carbon filter - maintained and serviced in accordance with PPM	Low	No
Autoclave emissions	Exhaust air, hot process air from treatment of clinical waste	A2 autoclave – air transportation then inhalation		Medium	Active air extraction whilst loading the waste into the unit, HEPA and carbon filter - maintained and serviced in accordance with PPM	Low	No
Compactor emissions	Fugitive emission from compacted waste	Fugitive via open doors, windows – air		Low	Waste has been heat treated, compactor is fully enclosed, located within a building, doors and windows kept closed	Very Low	No

Floc storage	Fugitive emission from compacted, stored waste	transportation then inhalation		Medium	Waste has been heat treated, skip containers are fully enclosed	Low	No
Liquid effluent storage	Effluent from treating of clinical waste			Medium	Effluent unlikely to be odorous, stored in dedicated bunded tank, within a building, doors and windows closed other than during delivery/transfer of waste	Low	No
Treatment areas – general	Clinical waste or raw material spillage			Low	Regular inspection and cleaning, housekeeping controls, all incoming waste is contained	Very Low	No

4 Management Responsibilities

The site is operated in accordance with the defined business management system (current version 1.6, dated 30 January 2019). This is led by the management team which ensures that the system is implemented, understood, and complied with at all levels of the organisation. The National Operations Manager, Plant Manager and Plant Supervisor all have responsibility for odour management at the site, as follows:

- National Operations Manager – responsible for overall control of operations for the company and providing the resources required to support the work of the responsible persons in reducing the risk of odour impact from the site;
- Plant Manager – responsible for (or delegates authorised alternative to be responsible for) maintaining compliance with legal and regulatory requirements, liaising with neighbours (local receptors), implementing the OMP, providing odour training to site personnel, and implementing the odour monitoring regime;
- Plant Supervisor – responsible for day-to-day management and operation of the site, including provision of operating procedures and training as required.

All employees have a stake in odour control at the site and training is therefore provided to all staff.

5 Odour Control and Response

Further detail is provided in this section of the control measures listed in Table OMP4 above.

5.1 Limiting the Odour Source

The operator undertakes the treatment of clinical waste and as such the site has the potential to generate odour from both the storage of clinical waste pending treatment, and the treatment process itself. Measures are taken to limit the potential for odour, as follows:

- All waste is delivered in sealed containers – the bagged waste is always contained within a yellow lidded 770 litre waste bin whilst sharps waste is received in re-useable sharps containers which are thick plastic, lidded and securely closed.
- Storage of untreated waste is within the building – no untreated waste is stored outside;
- Doors to the building are kept closed other than when there is a delivery or collection taking place;
- Procedures ensure that waste is processed quickly. This is usually a matter of up to a few days, however the contingency plan limits it to 2 weeks after which the waste is transferred off site;
- The three parts of the treatment process are enclosed when in operation and all parts benefit from air extraction which is filtered via HEPA and carbon systems;
- Daily inspections are undertaken and include housekeeping and cleanliness checks. These are a visual inspection and focus on key areas of plant/equipment that could generate odour; and
- General cleaning of process plant is carried out on a regular basis, including disinfection of the shredder plant. As a minimum, process equipment is cleaned at the end of each shift prior to handover, or at the point of cessation of use if is it not running 24/7.

5.2 Maintenance and Monitoring

The operator follows a planned preventative maintenance programme to ensure that the plant works efficiently, and the likelihood of failure is minimised. This has a direct reduction in the likelihood of odour release resulting from abnormal operations.

The following are included in the PPM:

- Maintenance of HEPA and carbon filters in the LEV systems, in accordance with the manufacturer's guidelines to ensure normal removal efficiency is retained. Pressure differentials are measured across the filters to identify when exchange is required; and
- Maintenance of the component parts – shredders (and bin tippers), autoclave (and autoclave carts), compactors, bin wash plant - in accordance with manufacturer specification.

The operator has obtained technical advice from plant manufacturers regarding the ongoing maintenance and repair of all key plant at the site and, on this basis, retains a stock of key spare parts at the facility. An inventory of these spare parts is maintained, and stock replaced upon use to ensure that a sufficient level of parts is always available at the facility. Scheduled maintenance and service is carried out by the manufacturer (or manufacturer's contracted provider); the tools and expertise required for this is therefore assured.

The operator carries out daily olfactory monitoring in accordance with the EA's guidance in H4, using a checklist based on the one provided in H4, a copy of which is attached as Annex OMP1. It is also carried out following any odour complaints from receptors or identification of odour issues within the building by the operational team. The frequency may need to be increased in the event of extreme weather conditions such as long periods of hot weather.

The monitoring is undertaken at several fixed points around the site boundary, as well as a point down-wind at the time of the monitoring (a moveable point so not defined). These are shown on Figure OMP2.

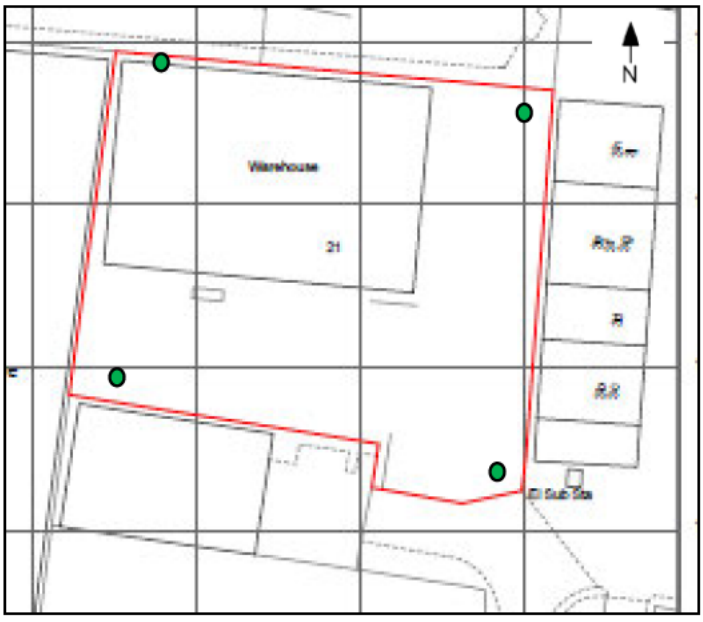

Figure OMP2: Olfactory Monitoring Locations

5.3 Odour Incident Response

In the event that there is an issue with odour, within the building, resulting from the treatment plant or associated activities, the incident is investigated to identify the cause:

- **If the odour source is found to be the treatment process**. The treatment process is stopped (one or more of the 3 distinct components – shredding, autoclaving, compaction) to allow assessment of the equipment. Once shutdown, the plant is cleaned thoroughly to remove any residual odour source. If the source is deemed to be abnormal operation of the LEV filter systems, these are checked, and filters replaced if required. Olfactory monitoring is carried out (internal and external to the building) and if odour is no longer being generated, treatment can recommence.
- **If the odour source is found to be a fugitive source (e.g., waste storage, spillage).** The source of the odour is identified and removed; the area is cleaned thoroughly to remove any residual odour source.
- **If the odour source is found to be in an external area.** The source of the odour is identified and removed/repaired – this may require the services of a third-party contractor. The area is cleaned thoroughly if required.

5.4 Odour Complaint Response

If an odour complaint is received, this may be directly to the site from a member of public, or via the EA. The complaint is investigated immediately if it is received during normal operating hours, or first thing on the next working day if received outside of normal operating hours.

Following receipt of a complaint, the operator will determine:

- Is the process under control? (i.e., has the site received exceptionally odorous wastes or have wastes been left standing for too long before processing?)
- Have odour containment measures failed? (i.e., has a door been left open, have odorous materials been stored outside a containment area, have adverse conditions, such as weather, overwhelmed containment structures?)
- Have treatment measures failed? (i.e., has a carbon scrubber become saturated, does the LEV system need servicing?)
- If the odour is associated with the treatment of hazardous materials, is there any possibility of health risk to the local community?

As noted in Section 5.2 above, the operator will carry out additional olfactory monitoring in accordance with the EA's guidance in H4, following any odour complaints from receptors. Records will be kept of any investigations that are carried out following an odour complaint. This will include details of any measures taken to rectify the issue where the complaint is substantiated.

Sharpsmart recognises the need to identify and understand the needs of interested parties; this includes neighbours (e.g., householders) and neighbouring businesses. Engagement with these parties is encouraged and will be undertaken as required.

5.5 Odour Records

Olfactory monitoring is carried out daily as part of the site manager/supervisor daily checks. These are recorded on an App/electronic system. Wider audits are then carried out by the compliance department as a secondary check; this is typically monthly.

Records of olfactory monitoring are maintained at the site and can be made available to the EA if requested.

This OMP is a live document and will be reviewed on a regular basis. Circumstances that would initiate an extraordinary review of the OMP includes a significant change to the treatment process or ancillary processes, introduction of any new control measures, introduction of a new odour source, a change to the site layout, or changes to the sensitive receptors.

Annex OMP1

Olfactory Monitoring Checklist

Annex OMP1

Odour report form				Date	
Time of test					
Location of test e.g. street name etc					
Weather conditions (dry, rain, fog, snow etc):					
Temperature (very warm, warm, mild, cold, or degrees if known)					
Wind strength (none, light, steady, strong, gusting) Use Beaufort scale if known					
Wind direction (e.g. from NE)					
Intensity (see below)					
Duration (of test)					
Constant or intermittent in this period or persistence					
What does it smell like?					
Receptor sensitivity (see below)					
Is the source evident?					
Any other comments or observations					

Sketch a plan of where the tests were taken, the potential source(s).

Intensity		**Receptor sensitivity**
0 No odour	4 Strong odour	Low (e.g footpath, road)
1 Very faint odour	5 Very strong odour	Medium (e.g. industrial or commercial workplaces)
2 Faint odour	6 Extremely strong odour	High (e.g. housing, pub/hotel etc)
3 Distinct odour	Ref: German Standard VDI 3882, Part 14	

Annex OMP2

Odour Source Location Plan

September 2023


OS2
OS3
OS5
OS4
OS10
OS1
OS6
OS7
OS2
OS9
36 bin
60 bin
18 bin
18 bin
13 bin
42 bin
13 bin
OS8
luton
luton
luton
luton