

Permit Application

Avonmouth Waste Management Centre EPR/MP3804MU

Veolia ES (UK) Limited

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Included:

- Appendix A – Site Plans and Drawings
- Appendix B – EMS summary and Procedures (SOP Matrix)
- Appendix C – Environmental Risk Assessment and H1
- Appendix D – BAT Assessment
- Appendix E – Flood Risk Assessment
- Appendix F – Site Investigations and SCR
- Appendix G – COTC Certificates
- Appendix H – Stewartby Permit

1. Non-technical summary

This non-technical summary supports the application for a new waste transfer station that is to be located at Avonmouth, Bristol. It highlights the rationale for the development and the types of waste management operations that will be carried out.

Background and Business Goals

A waste transfer station is required to expand Veolia's Chempac¹ business and its hazardous waste transfer activities in the South West region and Wales. This will include a small scale healthcare waste storage and repackaging operation, to align it with Veolia's other hazardous waste transfer facilities. The site will consist of the following:

- Building for the temporary storage and repackaging of various types of hazardous and non hazardous wastes, including fire management infrastructure. Refer to Drawing ref: VES_TD_AVONWTS_100_003 in Appendix A for indicative building design.
- Covered waste reception area. Refer to Drawing ref: VES_TD_AVONWTS_100_004 in Appendix A for indicative building design.
- Site office and laboratory. Refer to Drawing ref: VES_TD_AVONWTS_100_005 in Appendix A for indicative building design.
- Sealed drainage throughout. Refer to Drawing ref: VES_TD_AVONWTS_100_006 in Appendix A for indicative drainage design.

The new transfer station will be constructed and operated by Veolia ES (UK) Limited.

Site and Building Requirements

The new site will occupy approximately 2,000m² of unused space within Veolia's existing waste management facility, operated under permit references: EPR/DB3805US (Wood Processing) and EPR/DB3806FZ (RDF). Refer to Drawing ref: VES_TD_AVONWTS_100_001 and VES_TD_AVONWTS_100_002 in Appendix A. The permit boundary is shown in red on the latter drawing. This area has been allocated for the development of the new transfer station. The site is expected to process up to 7,000 tonnes/yr of various waste (hazardous and non-hazardous).

The site development will be subject to planning and environmental permitting application approval by the relevant authorities. The transfer station infrastructure will be built and operated in accordance with Environment Agency (EA) and Health and Safety Executive (HSE) guidance on hazardous and non hazardous waste storage, treatment and handling facilities.

¹Chempac is a specialist service offered by Veolia for the management of packaged waste. The service is carried out by mobile

chemists who will identify, list, pack, collect and ultimately dispose or recover hazardous and non-hazardous waste.

This will include the installation of segregated bays for storage of different wastes categories with dedicated drainage systems, interceptor drains to collect surface water, a laboratory for waste analysis and covered waste storage bays and reception area.

The site will operate as a transfer station for the temporary storage of packaged waste prior to transfer off site for recovery or disposal at suitably permitted facilities. There will also be some repackaging of waste to make it easier for onward transfer.

The operations will adopt Best Available Techniques and procedures that have been agreed by the Regulators for a number of Veolia's existing hazardous waste transfer and repackaging sites. These are tried and tested practices that have been refined over many years. Veolia has a wealth of experience in this area of waste management.

An indicative layout of the new plant is set out in Drawing ref: VES_TD_AVONWTS_100_000 in Appendix A. This is represented in 3D on Drawing ref: VES_TD_AVONWTS_100_011, also in Appendix A.

The site is located at:

Avonmouth Waste Management Centre

Estuary Park,
Chittening Road,
Avonmouth,
Bristol
BS11 0YB

The site is centred on National Grid Reference (NGR): ST 53076 81166

2. Application type

2.1. Background

This application relates to the development of a new waste transfer station with the installation of new infrastructure set out in the Non-Technical Summary.

The new operation will expand Veolia's portfolio of transfer stations that can accept hazardous wastes and also widen the geographical spread of Veolia's Chempac service.

Basic pre-application advice was received via email, dated 9th September 2021, from the Environment Agency. The permit reference EPR/MP3804MU/A001 was given at this time.

2.2. Summary of permit application type

This application is to apply for a new permit with the following listed activities

- Section 5.6 A(1)(a) - Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes pending recovery or disposal. WFD Annex I and II references: D15 and R13
- Section 5.3 A(1)(a)(iv) - Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving repackaging. WFD Annex I and II references: D14 and R3

The following Directly Associated Activities will be included:

- Raw materials storage
- Surface water management and collection

The following Waste Activities will be included:

- Storage of non-hazardous waste
- Repackaging of non-hazardous waste

3. Operating techniques

3.1. Proposed activities

The following is replicated at other Veolia hazardous waste transfer stations.

Staff numbers - 6 No, including Site Manager, Chemists, Administration and Operatives.

Plant and equipment - 2 diesel ForkLift Trucks

Waste pre-acceptance

Waste material enquiries are managed through the company's central sales team.

A Technical Enquiry Form (TEF) is raised and, where necessary, samples are requested. Detailed lists of chemicals from customers are checked against various chemical hazard texts, so that the necessary arrangements can be made to produce inventories of these substances and to manage them safely. A variety of chemical databases are utilised to obtain the maximum chemical information about waste materials, as few waste producers can supply material safety data sheets for their waste streams.

Samples of materials are sent to the site laboratory for evaluation, and the material specification and analysis results are then scrutinised to ensure that the material is acceptable for receipt at the site. The personnel involved are qualified chemists with experience and sound knowledge of waste and environmental legislation.

Once the waste is deemed acceptable, a quotation is sent to the customer, which will stipulate any of the constraints identified in the evaluation process. If the customer accepts the quotation they will book the load into the site via the appropriate Veolia depot (if Veolia transport is to be used) or direct if a third party haulier is to be used.

If the booking is a new enquiry, the TEF is then sent to Veolia's Technical Control department for a second technical evaluation. This process creates a 'Waste Specification' on the company system, against which consignments of that waste will be logged. Copies of this paperwork are sent to the customer to accompany the load during transport, one copy to be signed to confirm the specification is agreed, and the second to accompany the load during transport.

Having been assessed as suitable, the material is then booked onto the system. Cross-referencing is made to the original quotation for the material and the internal

paperwork reference if required. A booking is then given for delivery of the material.

Waste Acceptance

For deliveries of drummed and packaged materials a series of checks and documentation verification takes place. Waste sampling and analysis is done after the delivery has been offloaded into the covered reception area. Offloading is authorised by a chemist once the list has been evaluated to ensure that the operator unloading the vehicle is aware of any special hazards/unloading instructions.

For solids in drums, the material is offloaded into the covered reception area before statistical sampling of the drums in the load takes place. This sampling is a risk based approach, the criteria include the description, whether the material has been received before, who the producer is, etc. Unless criteria are satisfied which reduce the sampling, 10% of the drums in each identifiable waste stream on the load will be sampled and analysed. Analysis of these samples would include XRF spectroscopy. If any problems are encountered with any of the inspections or samples, then the load will be scrutinised much more closely.

After categorisation, the drums are barcoded to provide traceability via a unique record.

Waste Storage

Materials are then stored in the Main Storage Building. Storage of the packaged waste is undertaken in accordance with the controlled plan for each bay, with incompatible materials kept apart. It is unlikely that materials such as air/water reactives, peroxides or controlled drugs will be accepted.

As mentioned earlier, all packaged wastes will receive a barcode label once accepted at the site, which logs each item electronically. It contains important hazard and commercial data, which the operators and computer utilise during movement and transfer. The barcode information is held electronically, allowing inventory management and commercial information to be readily available.

Systems are also in place, from the initial enquiry stage onwards, to identify materials relevant to the HSE quantities allowed on site. Toxic, Very Toxic and named components are identified and allocated appropriately to the stock. This data is incorporated into the barcode system. On arrival, labelling and lists are reviewed, and analysis results obtained, in order to re-assess the incoming material against these classifications. The new classification is incorporated into the barcode label to define the material's actual final classification to ensure accurate segregation and appropriate precautions in handling. Wherever practical, location information is included in the packaged waste record to increase the level of information available in the event of an emergency.

The following sets out the approximate capacity of the Main Storage Building (NB: 1 pallet equates to approximately 1 tonne):

- Flammable bay: 63m², which holds approximately 24 pallets
- Toxic bay: 63m², which holds approximately 24 pallets
- Caustic bay: 49.5m², which holds approximately 18 pallets
- Acid bay: 49.5m², which holds approximately 18 pallets
- Oxides bay: 49.5m², which holds approximately 18 pallets

Note that one of the smaller bays may be used for the storage of clinical waste, see below for details.

The Covered Reception area will hold approximately 22 pallets.

A fire management system will be installed on site. Smoke alarms, fire extinguishers and smoke detection systems will be installed within the buildings. In addition, a fire suppression system consisting of a suppression fluid system and spray cannons will be installed around the vicinity of the site to manage any outbreak of fire around the site. Note that as-built drawings will be forwarded to the Environment Agency prior to operating the site.

Waste Repackaging

Certain packaged wastes are categorised in the reception and evaluation process as requiring 'repacking' prior to storage. This may include the following:

- Repacking of laboratory chemicals to suit the disposal outlet i.e. breaking liquids down to <40ltrs per drum or reducing heavy metal content per drum by repacking.
- consolidation of smaller containers into larger ones for ease of transport

These materials are assessed by the Chemists and recorded. This is then scheduled for processing, and the materials are moved by fork truck to the appropriate area of the main storage building.

The operators repack the materials specified into open top 205 litre drums which are bought specifically for this purpose. The drum can contain either all one material from a pallet of boxed pharmaceuticals/agrochemicals or a combination of this plus a small drum (base size <350mm) in the base. In the latter case, the drum remains sealed throughout, and no mixing of wastes occurs. Each newly created repacked drum is then re-barcode and moved into the

main storage building for storage prior to transfer.

Waste Transfer

Waste will not be stored for more than six months prior to transfer off site for recovery or disposal.

Healthcare Waste Operation

It is proposed that the site would receive small collections (van sized) of healthcare waste, from facilities such as veterinary surgeries, care homes, schools, shops etc, in line with Veolia's strategy for its other hazardous waste transfer stations. These would be offloaded into healthcare waste storage bins held on site, which will be sent out every 14 days to Veolia's High Temperature Incinerator at Tyseley for incineration. The bins would be exchanged and cleaned at Tyseley and replacement clean bins returned to Avonmouth for reuse.

The healthcare waste trailer that Veolia services other sites with can hold 32 x 770L healthcare waste bins, therefore to make the load cost effective it is proposed to store and fill 32 bins per fortnight.

The proposed storage area for the bins would be in a bay within the Main Storage Building. This measures 49.5m². A 770L healthcare waste bin is approximately 1400mm x 780mm. Based on these sizes it is estimated that the bay can store 28-35 bins with sufficient room to move around the bins.

Pre-acceptance: Due to the nature of the waste, we will not be able to sample or inspect the waste on arrival. Therefore we are required to audit the producers before accepting waste, to ensure they are aware of the need to segregate different types of waste, and ensure they comply.

Acceptance: Initially we would have a chemist monitoring offloading to ensure waste is segregated appropriately. In the long term it may be acceptable to simply allow unloading to take place by the driver with CCTV coverage.

Some facilities may have radioactive waste, for example from X-rays or certain treatments. We are required to check for radioactive materials and will use appropriate equipment that is already used within the business.

Pest control: The site has regular visits from Rentokil, we would need to make them aware of the additional risks from clinical waste but this is unlikely to require any additional measures other than extra bait boxes. Waste is stored in bins and provided there are no spillages there should be no additional increase from vermin or flies.

Using appropriate PPE, the waste will be manually removed from the vehicle and placed in a receiving 770 litre bin.

Further visual checks for contamination will be carried out during the initial cart unloading process as more of the waste becomes visible in the van. If at any point visual contamination is identified the unit will be quarantined in line with existing procedures.

Waste will be segregated by type into separate bins, in accordance with the requirements of HTM 07-01. i.e. by using the colour coding system for healthcare waste, and by following guidance in the Healthcare Appropriate Measures.

Closed primary containers which have been unloaded will then be stacked upright using the handles incorporated into the design of the package where possible.

Once the vehicle has been unloaded completely the 770 litre containers will be wheeled into the appropriate bay with the Clinical Waste Building.

There will be no containers overhanging the bays.

Spillages should occur by exception only and will be treated as an abnormal operation. Only operators specifically trained in spill response will attempt to clean up any spillage using appropriate PPE. The area will be isolated to avoid any other person gaining access. The bay would have a sump (2m³) to allow us to undertake routine disinfection and cleaning and then pump out the effluent into IBCs, prior to disposal off site.

We would also look to paint the floor of the bay with suitable impermeable, high grip floor paint.

Exclusions:

- Biohazard waste: Any waste known or likely to contain ACDP Hazard Group 4 biological agents; any waste from a containment level 3 laboratory; and all microbiological cultures from any source, and any potentially infected waste from pathology departments and other clinical or research laboratories (unless autoclaved before leaving the site of production).
- Anatomical Wastes

Bins will not be cleaned at the site, having already been disinfected at the disposal location.

Additional signage will be installed above the bay to show the hazard classes being stored.

To comply with the Healthcare Appropriate Measures Veolia would assign individual bins to each waste stream, either by laminating labels and fixing them to the top of the bin, or

potentially one row of bins per type of waste depending on which types of healthcare waste are being accepted.

Records of how many of each type of bin are to be sent on each load to Tyseley will also be made to comply with guidance.

In addition to the lockable cabinet for medicines, we would look to add CCTV cameras, to deter intruders and also to monitor what waste is being delivered.

- **Storage quantities** - The operation will be small scale, with a maximum of 32 bins stored at any one time. Storage times will be in accordance with the Healthcare Appropriate Measures.
- **Storage of quarantined material** - Waste that has failed to meet the acceptance criteria will be stored for a maximum of five working days in a secure and clearly labelled area. Depending on the reason for quarantine it may not be appropriate to store waste for five days therefore an assessment will be carried out which will take account of the potential for odour generation and insect infestation.
- **Storage times** - Proposes storage times from the subject waste streams will be in line with those described in the Healthcare Waste Appropriate Measures.

The proposed layout of the new plant and associated equipment is set out in a series of drawings (ref: VES_TD_AVONWTS_100_000 to VES_TD_AVONWTS_100_003) in Appendix A.

3.2. Waste types

The types of waste to be received at the site will be wide ranging and include the following Hazardous waste categories (HP codes).

- Flammable: HP6, HP7, HP5, HP4, HP14, HP3, HP13, HP8
- Alkali: HP6, HP8, HP4
- Acid: HP6, HP8, HP4
- Oxidisers: HP2, HP6, HP5, HP14, HP8
- Toxics: HP4, HP5, HP6, HP7, HP10, HP14, HP11

Only compatible materials will be stored together within the storage building. Incompatible wastes will be stored in separate storage bays.

The List of hazardous and non-hazardous wastes are set out in Table 1 below. We would like to accept the same waste codes as our hazardous waste transfer facility at Stewartby (Permit ref:EPR/QP3237SC). Stewartby's permit is set out in Appendix H.

Chapter	Description of waste
01	Waste resulting from exploration, mining quarrying and physical and chemical treatment of minerals
02	Waste from agriculture, horticulture, aquaculture, forestry, hunting and fish, food preparation and processing
03	Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard
04	Waste from leather, fur and textile industries
05	Wastes from petroleum refining, natural gas purification, pyrolytic treatment of coal
06	Waste from inorganic chemical processes
07	Waste from inorganic chemical processes
08	Waste from the manufacture, formulation, supply and use of coatings (e.g. paints), adhesives, sealants and printing inks
09	Waste from photographic industry
10	Waste from thermal processes
11	Waste from chemical surface treatment and coatings of metals and other material; non-ferrous and hydro-metallurgy
12	Waste from shaping and physical and mechanical surface treatment of metals and plastics
13	Oil wastes and wastes of liquid fuels
14	Waste organic solvents, refrigerants and propellants
15	Waste from packaging; absorbent, wiping cloths, filter materials and protective clothing

16	Waste as a result of end of life e.g. spent catalyst, batteries etc.
17	Waste from construction and demolition including excavation soil from contaminated sites
18	Waste from human or animal healthcare and/or related research
19	Waste from waste management facilities, off-site wastewater treatment plants and the preparation of water intended for human consumption and water for industrial use
20	Municipal waste (household and similar commercial industrial and institutional waste)

Table 1 - Proposed list of wastes to be received at Avonmouth Waste Management Centre

Table 2 lists the Chapter 18 European Waste Codes being requested as part of this application.

Waste code	Description of waste	Comments
18 WASTES FROM HUMAN AND ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (EXCEPT KITCHEN AND RESTAURANT WASTES NOT ARISING FROM IMMEDIATE HEALTH CARE)		
18 01	Wastes from natal care, diagnostic, treatment or prevention of disease in humans	
18 01 01	Sharps (except 18 01 03)	Storage and repackaging activity
18 01 02	Body parts and organs including blood bags and blood preserves (except 18 01 03)	not included
18 01 03*	Wastes whose collection and disposal is subject to special requirements in order to prevent infection	Storage and repackaging activity
18 01 04	Waste whose collection and disposal is not subject to special requirements in order to prevent infection	Storage and repackaging activity
18 01 06*	Chemicals consisting of or containing dangerous substances	Storage and repackaging activity
18 01 07	Chemicals other than those mentioned in 18 01 06	Storage and repackaging activity
18 01 08*	Cytotoxic and cytostatic medicines	Storage and repackaging activity
18 01 09	Medicines other than those mentioned in 18 01 08	Storage and

		repackaging activity
18 01 10*	Amalgam waste from dental care	Storage and repackaging activity
18 02	Wastes from research, diagnosis, treatment or prevention of disease involving animals	
18 02 01	Sharps (except 18 02 02)	Storage and repackaging activity
18 02 02*	Wastes whose collection and disposal is subject to special requirements in order to prevent infection	Storage and repackaging activity
18 02 03	Wastes whose collection and disposal is not subject to special requirements in order to prevent infection	Storage and repackaging activity
18 02 05*	Chemicals consisting of or containing dangerous substances	Storage and repackaging activity
18 02 06	Chemicals other than those mentioned in 18 02 05	Storage and repackaging activity
18 02 07*	Cytotoxic and cytostatic medicines	Storage and repackaging activity
18 02 08	Medicines other than those mentioned in 18 02 07	Storage and repackaging activity

Table 2 - LoW chapter 18 codes alongside descriptions and comments describing which codes additional codes are requested and which are to be included in the proposed repacking activity

Table 3 describes the relevant waste types and their associated primary containment. For healthcare waste streams some need to be dual coded and described to ensure that multiple components of the waste are adequately identified (for example, infectious sharps - 18 01 03* - containing cytotoxic contamination - 18 01 08*).

Waste Type / Proposed Disposal Route and R or D code	Contents	Colour coding	Form	EWC Code	Hazard codes	UN packing standards
Waste which requires disposal by incineration HTI/CWI (D10)	Clinical infectious waste, Mixed sharps, and pharmaceutical waste but not containing cytotoxic material	Yellow sharps	Solid	180103* and 180109 or 180202 and 180208	HP9	UN3291

Infectious sharps HTI/CWI (D10) or alternative treatment	Infectious Sharps that are not medicinally contaminated	Orange Sharps	Solid	180103* or 180202*	HP9	UN3291
Cytotoxic and cytostatic waste HTI/CWI (D10)	Sharps contaminated with Cytotoxic and Cytostatic Medicines	Purple Sharps	Solid	18 01 03* and 180108*	HP6,7,10,11	UN3249
Cytotoxic and cytostatic waste HTI/CWI (D10)	Other infectious waste contaminated with cytotoxic and cytostatic medicines	Purple lidded container	Solid	180103* and 180108*	HP6,7,10,11	UN3291
Cytotoxic and cytostatic waste HTI/CWI (D10)	Cytotoxic and cytostatic medicines (in original packaging)	Purple lidded container	Solid / liquid	180108 or 180207*		UN1851 UN3248 UN 3249
Cytotoxic and cytostatic waste HTI/CWI (D10)	Cytotoxic and cytostatic medicines (not in original packaging)	Purple lidded container	Solid / liquid			UN1851 UN3248 UN 3249
Medicinal waste for incineration HTI/CWI (D10)	Medicines - not cytotoxic or sharps	Pharma Waste	Solid	180109 or 180208	HP4,6	UN3249
Medicinal waste for incineration HTI/CWI (D10)	Medicines - not cytotoxic or sharps	Pharma Waste	Liquid	180109 or 180208	HP4,6	UN3248

Table 3 - categorisation and colour coding of healthcare waste with disposal requirements, EWC coding, hazard codes and the relevant UN packaging standard.

3.3. Management system

The Veolia Management System is registered and approved to standards ISO 9001, ISO 45001 and ISO 14001. The operational, monitoring and management procedures implemented at the proposed facility, are in accordance with the Veolia Management System and have been audited against the requirements of the standards detailed previously.

The proposed operation will be covered by group level and local procedures which form part of the Company's documented management system. A summary of Veolia's Business Management System is provided in Appendix B.

Local procedures will reflect the requirements of the Agency's Chemical Waste and Healthcare Waste Appropriate Measures, as well as HSE guidance on Chemical Warehousing and Storage of Flammable Liquids. These will be under regular review and updated as required.

An overview of the procedures for a similar Veolia site are presented in Appendix B.

3.4. Waste tracking

Waste pre-acceptance, acceptance, handling and storage procedures are in place for Veolia's existing hazardous waste transfer operations. These will be used for the new transfer station at Avonmouth.

Veolia uses a computerised waste tracking system to update information about the available capacity, quarantine, reception, general storage areas of a given facility. The Waste Information Management System (WIMS) is a complete waste information management system designed specifically for waste treatment, storage, disposal and recycling facilities linking sales, waste approval, transportation, treatment, and disposal activities. The proposed new facility will be integrated into this existing system.

3.5. Operational hours

The operating hours will be in line with the Veolia operation hours, between the hours of 7am and 5pm - Mondays to Fridays and 7am and 12pm - Saturdays.

4. Environmental risk assessment

A qualitative environmental risk assessment 'ERA' for the operation has been produced to consider the risks associated with the new development. The ERA includes a habitat assessment and is provided in Appendix C.

4.1. Technical standards

Activities at the Avonmouth Waste Management Centre will be covered by corporate and local procedures which form part of the Company's documented management system.

Local procedures for this new facility will reflect amongst other things the requirements of the Waste Treatment BREF and Appropriate Measures guidance:

- Best Available Techniques (BAT) Reference Document for Waste Treatment
- Appropriate measures for permitted facilities that take Chemical Waste
- Appropriate measures for permitted facilities that take Healthcare Waste
- Relevant HSE guidance documents: HSG51 and HSG71.
- Relevant statutory instruments and related or supported technical guidance

A review of the BAT requirements of the Waste Treatment BREF and the Appropriate Measures are set out in Appendix D.

4.2. Avoidance of waste production from the activity

The new facility will generate limited waste due to its storage and repackaging activities. Waste packaging such as pallets, IBCs and drums will be recycled where possible.

4.3. Technical competence

Certificates of Technical Competence (awarded by WAMITAB) are set out in Appendix G.

The COTC holder for the Avonmouth Waste Management Centre is set out in Table 4 below:

Name	Type	Expiry Date	Certificate no.	DoB
Glen Privett	4TMH	18/11/22	5171635	[REDACTED]
	4TSH	15/10/23	5186681	
Alan Purtill	4TSH	01/02/23	5174098	[REDACTED]

Table 4 - COTC holders for the Avonmouth Waste Management Centre

4.4. BAT assessment

A BAT assessment has been carried out as part of this application (see Appendix D).

4.5. Habitats Assessment

Habitats are considered as part of the Environmental Risk Assessment, set out in Appendix C.

There is only one RAMSAR and Site of Special Scientific Interest (SSSI) within 2km of the installation: Severn Estuary, which is located approximately 570m to the west.

There are no residential properties within 1km of the site. The closest settlement (village of Hallen) lies 2.2km to the south east and beyond the M49 motorway.

It is envisaged that due to the nature of the operation and the site setting, the potential for impact on the designated habitats in the area will be insignificant.

4.6. Emissions to air

There will be no point source emissions to air from this operation.

Fugitive emissions will be by exception only as all waste material will be retained within its primary packaging.

4.7. Emissions to surface water and groundwater

The pollution prevention measures that are to be implemented at the Avonmouth Waste Management Centre are set out below. They fall into two main categories, those relating to hardware designed to prevent the escape of potentially polluting substances to ground,

groundwater or surface water, and those relating to operating techniques and operator competence. These measures will apply to the new infrastructure.

Primary containment

Packaged materials are inspected on receipt and periodically whilst held in storage to ensure that the packages are not leaking or damaged to the extent that their integrity could be compromised. The total storage capacity for waste in primary containers is equivalent to approximately 124 pallets (<150 tonnes).

Packaged waste will be held under cover, either in the covered Reception Area or the Main Storage Building to prevent any exposure to the elements, which would lead to a deterioration of the primary packaging.

Secondary Containment

All waste held in the Main Storage Building will be located in bays. The bays will be constructed from materials which are resistant to the substances with which they may come into contact (typically reinforced concrete).

Within each bay there will be a sealed sump (2m³ capacity). This is to capture any liquids that may spill or leak out of the packaged waste. These sumps can be pumped to IBCs or equivalent for transfer off site to suitably licensed facilities for disposal.

The covered reception area will also drain to a sealed sump (2m³ capacity).

Tertiary containment

The new site will occupy approximately 2,500m² of unused space within Veolia's existing waste management facility, operated under permit references: EPR/DB3805US (Wood Processing) and EPR/DB3806FZ (RDF). The site is surfaced with concrete and a surface water drainage system will be installed as part of the development. The indicative drainage arrangements are set out on Drawing ref: VES_TD_AVONWTS_100_006 in Appendix A. Note that as-built drawings will be forwarded to the Environment Agency prior to operating the site.

The drainage philosophy is as follows:

The entire site will be covered in impermeable paving, with a perimeter containment kerbs and ramps formed at the vehicle entrances to provide a fully bunded site.

Rainwater for the Main Storage Building roof will be directed to a pumping station, which will discharge into the surface water drainage system on the existing permitted site.

The Main Storage Building and the Waste Reception/Sorting building slabs will have a slight

back fall, with individual 2m³ drainage sumps provided to each bay to capture any spillages. In the event of a spillage these sumps would be manually pumped out and tankered off site for disposal.

Discharge from the remaining yard areas will be directed to a holding tank (proposed at 45m³, however will be sized appropriately during the construction phase) via a Class One bypass interceptor. This will allow samples to be taken (if required) by the chemist prior to opening a penstock valve, allowing water to discharge to the surface water drainage system on the existing permitted site. In the event that the water in the tank shows signs of contamination, arrangements will be made for the offsite disposal via a tanker and the tank will be cleaned as necessary. During non-operational hours or periods of inactivity the penstock will be left open.

The calculated retention capacity of the tertiary containment systems is around 250m³.

H1 Assessment

A H1 assessment has been completed for the discharge of surface water runoff from the site to surface water, using monitoring data taken from one of Veolia's similar operations (Preston Waste Management Centre). This was undertaken by our third party consultant Wood.

Note that Preston WMC operates as a hazardous waste transfer facility, however the site has several open waste storage areas and therefore the potential for contaminants in the discharge (from accidental spillages) is much higher. Consequently, this data should be regarded as representative of the worst-case scenario. Preston's surface water is discharged to sewer as a result.

The H1 assessment concludes that:

Using data from Veolia's Preston site as an indicator of likely worst-case water quality in the surface water run-off from the proposed new HWTS at their Avonmouth site, application of the EA's ERA methodology to assess the effects of this discharge on the Severn Estuary showed that all substances examined could be screened out at Test 1 or Test 2 stage of the assessment. The surface water run-off from the yard area of the proposed HWTS will pass through a tank furnished with a penstock before passing into the existing surface water drainage system, thus allowing any spillage to be captured before discharge, minimising the risk of any discharge outside the range of concentrations considered in this assessment. The conclusion from the assessment is that the emission of the surface water run-off from the HWTS via the existing surface water drainage system to the Severn Estuary will have no adverse effects and that it would be appropriate for the discharge to be treated in the same way as surface water drainage from the rest of the Site.

A copy of the H1 report is set out in Appendix C.

4.8. Emissions to sewer

There will be no emissions to sewer resulting from this new development. The site office and laboratory will be provided with a Klargestep septic tank or equivalent.

4.9. Emissions to land

There will be no emissions to land resulting from this new development.

4.10. Noise

Noise is considered as part of the Environmental Risk Assessment, set out in Appendix C.

4.11. Odour

It is predicted that there will be negligible odour risk resulting from this new development. All waste will be stored, repackaged and transferred with its original primary packaging and in line with the Agency's Appropriate Measures. Odour is considered as part of the Environmental Risk Assessment, set out in Appendix C.

4.12. Site Condition Report

The Site Condition Report is set out in Appendix F. This includes reference to a Phase 1 report undertaken by our third party consultant BryneLooby (report ref: 14-K6027-GEO-R000 dated 21st September 2021). The Phase 1 report also references investigative work done historically for the adjacent waste management facility, operated by Veolia under permit references: EPR/DB3805US (Wood Processing) and EPR/DB3806FZ (RDF).

The Phase 1 report concludes that:

From the site history, walkover survey and information obtained during the desk study, potential sources of contamination have been identified associated with the former site use including that of the circa WW1 activities include National Filing Factory (chemical), charging and assembling 6-inch chemical shell, and current site use. However, based on the proposed developments which will be built on the existing concrete slab and therefore not break ground, the risk to site workers and future site users is considered low. Further investigation is considered unnecessary for this development.

For completeness the historic site investigation undertaken by Terraconsult which is referenced in Section 1.4 of the Phase 1 report: *Bristol Resource Recovery Facility and Depot, Avonmouth, report ref. 10506/R01 Issue 1 dated November 2019*, is also appended to this Supporting Statement.

Given the site setting, site construction and type of operation there is a negligible risk of contamination to land, groundwater or surface water from this operation. Therefore, it is proposed that periodic groundwater or soil monitoring is not required for this installation.

4.13. Flood Risk Assessment

A Flood Risk assessment is provided in Appendix E. This report summarised the risk from flooding as follows:

In accordance with NPPF requirements the proposed HWTS Site has been demonstrated to be compliant with the NPPF Sequential Test and Exception Test.

Following an assessment of flooding from all sources it is concluded that tidal flooding from the Severn Estuary constitutes the most significant flood risk to the HWTS Site, particularly in combination with tide-locking, in which the rhines are unable to drain to the sea due to high tides. The Site currently benefits from flood defences (raised earth embankments) which are being improved as part of the ASEA Project. This will further reduce the risk of flooding at the HWTS Site. There is also a limited risk from groundwater, surface water and sewer sources of flooding at the Site. However, the proposed flood risk mitigation for tidal flood risk would also manage the risk from these sources.

Based on the ASEA Tidal Inundation Model, a design flood level has been set based on a modelled flood level of 6.77 m AOD for the extreme case of breach of the ASEA flood defences (corresponding to the 0.5% AEP plus CC event (2098)). A 300 mm freeboard has been applied to give a design level of 7.07 m AOD.

The HWTS Site, with the flood risk management measures recommended below, would not be subject to an unacceptable level of flood risk, nor would it increase flood risk elsewhere.

The following recommendations are made:

- *The FFL of the proposed office/welfare/lab building, HWTS building, sorting area and other sensitive development should be set at or above 7.07 m AOD (provided by a perimeter bund or ground raising);*
- *The use of other flood resilient and resistant design measures for new sensitive development should be considered, where appropriate;*
- *All new pollution control measures (i.e., oil interceptor) should be maintained for the operational lifetime of the HWTS Site;*
- *A flood evacuation plan including evacuation routes should be drawn up and*

implemented at the HWTS Site. The evacuation plan is designed for workers who may be on site in the event of a flood alert or flood event; and

- *Surface water runoff from the HWTS Site yard and building roofs should be connected to the existing surface water drainage system for the wider Avonmouth Site.*
- *The above recommendations are in-line with the NPPF, Bristol City Council and Defra requirements on flood risk.*
- *On this basis, it is concluded that the HWTS Site, with the proposed mitigations, would be compatible with the identified level of flood risk at the HWTS Site. The proposed flood mitigation measures would ensure the safety of staff at the HWTS Site, minimising the risk of flooding to the HWTS Site and ensure no increase in flood risk to the surrounding area.*

4.14. Monitoring and measurement

The Veolia Management System includes procedures for inspecting the site and its perimeter on a daily basis.

Monitoring of the surface water runoff will be undertaken, when required, in order to determine suitability to discharge.

4.15. Energy efficiency

Based on similar Veolia hazardous waste transfer facilities, we anticipate electricity usage to be approximately 1,000 kW/month. This would generally be for yard lighting as well as office/laboratory usage.

4.16. Raw Material Usage

The use of raw materials will be limited to diesel for forklift trucks.

Water usage would be limited to welfare facilities and occasional cleaning/disinfection of the clinical waste bay.

4.17. Climate Change

The climate change risk screening tool (question 6b - Form B2) has been assessed. Given that the site is unlikely to operate beyond 2040 the score is <5, therefore a full Climate Change Risk Assessment is not required and has not been prepared.

5. Application contact information

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APPENDIX A
SITE PLANS

APPENDIX B
EMS AND PROCEDURES (SOP MATRIX)

APPENDIX C
ENVIRONMENTAL RISK ASSESSMENT AND H1

APPENDIX D
BAT ASSESSMENTS

APPENDIX E
FLOOD RISK ASSESSMENT

APPENDIX F
SITE INVESTIGATIONS AND SITE CONDITION REPORT

APPENDIX G
TECHNICAL COMPETENCE

APPENDIX H
STEWARTBY PERMIT