

Unit 41 Pembroke Dock Application for Environmental Permit

SI B4.2 – Site Specific Management Plan

1.0 Introduction

This outline site specific management plan is part of the Pembrokeshire County Council (PCC) Environmental Permit application for its residual waste transfer facility. This forms part of the PCC residual waste treatment procurement process, for which it is intended that the appropriate planning and permitting permissions are in place for this waste transfer station prior to award of the contract. This will provide bidders with an equal footing with regard to access to a potential treatment and transfer site. The aim of this application is to secure the appropriate relevant permissions, which will then be transferred to the winning contractor.

Through pre-application discussion with Natural Resources Wales (NRW) officers, it is understood that there may be a number of pre-operational conditions that will have to be met to ensure compliance with the Environmental Permit should it be granted. The outline site specific management plan has been informed by NRW's Form Part B3. It has been written to provide supporting information to the environmental permit application regarding how the site is envisaged to be operated and draws upon Best Available Technique (BAT) as highlighted in the BAT Reference Document (BREF). The majority of the information pertaining to the management of environmental risks is included in the permit application and this supporting information. A detailed site specific management plan will be produced by the winning bidder prior to the contract commencement date and submitted to the NRW when applying for a permit transfer.

2.0 Technical Standards

Table 1: Technical Standards Used

Description of waste operation	Relevant technical guidance note	Document reference (if appropriate)
Facility Operations	EPR – How to Comply with your Environmental Permit – Part 2	V6 – June 2013
Facility Operations	EPR – How to Comply with your Environmental Permit – Part 3	V6 – June 2013
Facility Operations	BAT – Waste Treatments Industries	June 2006
Facility Operations	Horizontal Guidance Notes	H2 – Energy Efficiency H3 – Noise Assessment and Control H4 – Odour Management
Facility Operations	Reducing fire risk at sites storing combustible materials	TGN7.01

3.0 Specified Waste Management Operations

3.1 Reception, Acceptance, Traceability and Quality Assurance

3.1.1 Pre Acceptance

Waste received and treated at the site will consist of local authority and commercial and industrial mixed municipal non-hazardous residual waste (EWC code 20 03 01). Waste will be delivered under a contract between the appointed site operator and Pembrokeshire County Council. Limited pre-acceptance procedures are required as the site will only accept similar waste types, therefore no variation in treatment techniques and no requirement to conduct any pre-acceptance test with regard to the nature of accepted waste is necessary. Best available techniques outlined in BAT 7 are therefore considered not to apply in this case.

The appointed contractor is required to have a clear route for onward treatment/recovery/disposal of all waste treated at the site as defined in the contract specification. It is the intention that this site will pre-treat all waste to prepare it for transport to a suitable facility off-site.

3.1.2 Acceptance Procedure, Sampling and Reception

The opening hours of the site are shown in Table 2. Whilst operational hours for Saturdays, Sundays and Bank Holidays have been provided, it is expected that operations will only take place during these times on occasion.

Table 2: Site Opening Hours

Day	Time
Monday-Friday	07:30-19:30
Saturday	07:30-19:30
Sunday and Bank Holidays	09:00-16:00

During site opening hours, waste will be delivered to the site by residual waste collection vehicles and bulk transport vehicles and exit via bulk transport vehicles. All vehicles delivering and collecting waste will be required to enter and exit the site via the site's weighbridge system which will allow for the monitoring and documentation of waste quantities accepted in accordance with BAT 8b.

The site has a potential internal storage capacity of 700 tonnes of pre-treated waste. It is the intention that the site will initially take acceptance of up to 30,000tpa of residual waste. It is anticipated that, under normal operational conditions, unprocessed waste will not be stored inside for longer than 48 hours and therefore there will be approximately 230 tonnes of unprocessed waste stored internally at any one time. At maximum capacity (74,000tpa) this will rise to 570 tonnes of residual waste stored internally at any one time. It should be noted that it is unlikely that the site will reach this maximum permitted capacity. There is sufficient internal storage capacity to allow for this and provide contingency storage should there be any processing failure. Recording and monitoring weighbridge data will ensure that waste storage can be kept to maximum capacity and that there is sufficient internal storage capacity available in accordance with BAT 8a and 8c.

Due to the nature of waste accepted at the site, extensive sampling as set out in BAT 9 is considered inappropriate.

3.2 Processing, Storage and Handling

Upon entering the site, all vehicles will be directed to unload waste in the enclosed reception hall within the waste reception building. Appropriate health and safety processes in line with the HSE136 guidance document will be implemented to ensure that site operations comply with BAT 28. All waste accepted at the site will be pre-treated in preparation for onward transport to off-site incineration facilities. This will involve shredding and baling processes with metal extraction to extract high value recyclate from the waste stream in line with the revised Waste Framework Directive. Extracted metals will be stored separately within a container before being transported for re-processing. The exact nature of the processing operations and the equipment to be used will be determined by the solution presented by the appointed contractor through a competitive procurement process.

Safe systems of work will be in place to ensure that loading and unloading of waste into and out of the processing plant will be undertaken in an appropriate manner to minimise risk of accident or incident.

Dusts and fines resulting from processing techniques will be minimised through the use of dust and fines collection systems incorporated within treatment equipment and site damping down where deemed necessary. All processing will take place within the waste reception building therefore release of dust and fines to the external environment will be minimal.

Processed waste will be baled and wrapped in several layers of plastic film to ensure its protection from weathering and during transportation. Baling and packaging of waste will only take place under instruction and supervision and carried out by trained personnel as recommended by BAT 29. Baled and wrapped waste will be transferred in an appropriate manner to a dedicated external storage area prior to onward transportation to further treatment/recovery facilities.

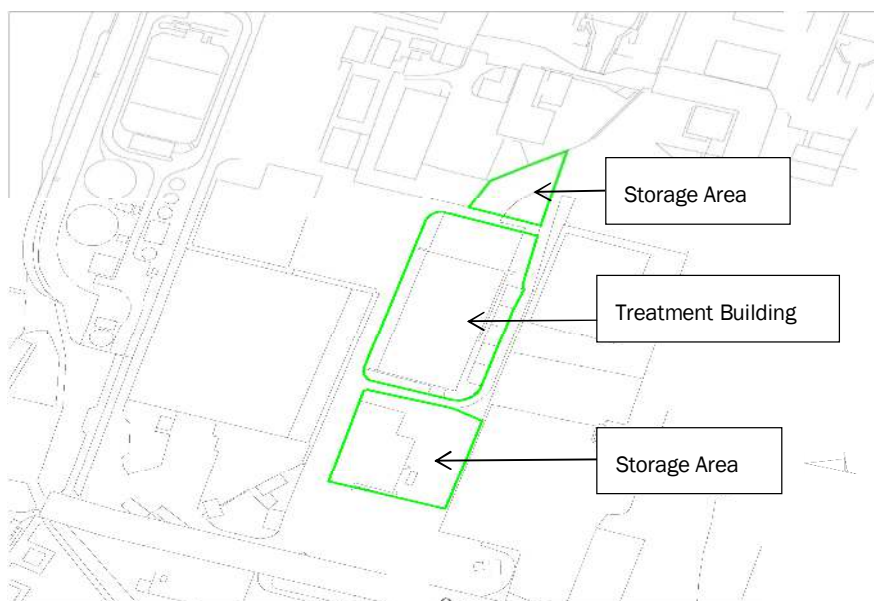
An inspection of stored wastes for pest infestations or damage shall be carried out on at least a weekly basis by the site supervisor, and shall be recorded in the site diary. On detection or notification of pest infestations or damage to bale wrapping, immediate action shall be taken. In the instance of a pest infestation, the attendance of a professional pest control contractor, to prevent pest infestation shall be sort. Where damage to bales is identified, appropriate measures to secure the bale will be undertaken. The incident and the remedial action shall be recorded in the site diary.

As shown in Figure 1, the storage areas are located in close proximity to the waste reception building so that baled waste can be moved directly to the storage area to minimise double handling the bales. There is sufficient external storage capacity for the storage of 4,500 tonnes of baled and wrapped waste. As part of the lease agreement with Milford Haven port Authority baled waste will not be stored externally on site for longer that six weeks.

Baled waste will be stored in accordance with TGN7.1 to reduce the risk of fire on site. Within Dyfed Powys LRF a task group has been formed to identify and consider

the multi-agency response to incidents arising (including fire) from waste facilities. There will be a generic response plan with specific arrangements for designated sites. This facility will be risk assessed and if necessary specific response arrangement will be developed.

Figure 1: Site Plan



In accordance with BAT 24, both internal and external storage areas are equipped with appropriate drainage to foul sewer. An application for Trade Effluent Consent has been submitted which will include all potentially contaminated run-off and wash water (see SI B3.3). Bunds will be installed around the perimeter of the storage areas in accordance with BAT 25 to ensure all site effluent is contained.

4.0 General Requirements

4.1 Management of Odours

4.1.1 Management

Due to the nature of the site operations, it is likely that both waste delivered to the site and waste stored onsite prior to transportation off site will be potential sources of odour release. Any odour release from either source may reach receptors via air. A number of receptors have been identified:

- Settlement of Neyland – located 0.8 miles to the North across Milford Haven estuary;
- Settlement of Pembroke Dock – located 0.2 miles to the East;
- South Pembrokeshire Hospital – located 0.15 miles to the South; and
- Site operational staff

To minimise the impact of odour release to site operational staff, any appointed contractor will be required to meet the minimum standards of the Health and Safety

Executive. Internal storage of pre-treated waste will be kept to a maximum for 48 hours to maintain a suitable internal air quality.

It is expected that there will be a certain amount of air dispersion of any odorous release, particularly with regard to receptors at Neyland, although detailed dispersal modelling has not been undertaken at this stage. However, it is recognised that the site is in close proximity to residential developments for which the release of odours could potentially be a cause for concern. Given the prevailing wind direction and proximity to the site, the settlements of Pembroke Dock and South Pembroke Hospital are potentially vulnerable to odorous release. Site operations will therefore seek to minimise the release of odours firstly by requiring all pre-treated waste to be delivered and deposited on site within the waste treatment building (see area Figure 1). To limit the emissions to air (e.g. odours, dust, VOCs) all waste will be deposited directly within the fully enclosed waste reception building.

A number of direct external vents will be in operation within the waste reception building. Odour management in line with the scale and the nature of the operation will be established prior to operation, taking into account the release of odour to the external atmosphere. It is anticipated that abatement techniques appropriate to the site design will be applied. It is anticipated that this may include the use of an appropriate deodorising system.

Following treatment, waste will be baled and wrapped in a number of layers of tough waterproof plastic film packaging in accordance with Waste Treatment Industries BAT 35b to reduce the release of odour. Baled and wrapped waste will be stored externally on hard standing prior to onward transportation.

4.1.2 Monitoring

Monitoring of aerial emissions from the site shall be carried out by the site manager or supervisor on a daily basis at the site boundary situated downwind of the waste operations, and shall be recorded in the site diary. Site staff supervising individual waste handling operations, during the carrying out of those operations will also monitor site odour levels.

On detection or notification of aerial emissions of odour that are or are likely to be transported beyond the site boundary at such levels that they are likely to cause pollution of the environment, harm to human health or serious detriment to the amenity of the locality, immediate action shall be taken to stop the waste handling operations giving rise to the emission and to suppress the aerial emission from the waste. The incident and the remedial action shall be recorded in the site diary.

An appropriate complaints system will be put in place to address any complaints in relation to odour. All complaints and remedial action taken to resolve the complete will be logged. A complaints escalation procedure will also be put in place.

4.2 Management of Noise and Vibration

4.2.1 Management

As shown in SI B4.2.1 a baseline noise survey has been conducted showing a background noise level of between 40_{LA90,T} and 45 _{LA90,T} during proposed operational hours.

Table 3 shows the maximum noise levels of vehicles and plant anticipated to be used at the facility at a distance of one meter.

Table 3: Maximum Noise Level of Onsite Equipment

Equipment	Maximum Noise Levels at 1 meter (dB)
Shredder	90
Baler	85
RCV	75

Using the receptor sites monitored for the noise survey (South Pembrokeshire Hospital and St Clements Veterinary Clinic at the edge of Pembroke Dock settlement), the noise impact of site equipment has been calculated using free field calculations. The results are shown in Table 4. This shows that noise levels at receptor sites are below background noise levels during operational hours.

Table 4: Noise Impact of Onsite Equipment

Receptor	Time	Background Noise Level (LA90,T) dB	Equipment Noise Levels dB		
			Shredder	Baler	RCV
South Pembrokeshire Hospital	Monday – Friday 07:30-19:30	45	43	38	28
	Saturday 07:30-19:30	45	43	38	28
	Sunday and Bank Holiday 09:00-16:00	45	43	38	28
St Clements Veterinary Clinic (edge of Pembroke Dock settlement)	Monday – Friday 07:30-19:30	43	40	35	25
	Saturday 07:30-19:30	41	40	35	25
	Sunday and Bank Holiday 09:00-16:00	41	40	35	25

To minimise noise levels of site operations further, all waste treatment will be conducted within the enclosed reception building. The building has been designed with doors positioned facing away from nearby receptors. Doors can be closed between deliveries of waste to minimise noise levels. All processing equipment used on site will be regularly maintained to monitor their wear in order to prevent increase

in noise levels due to wear.

It is recognised that there may be sensitivities to noise in neighbouring areas. Such sensitivities are likely to vary with the time of day. Therefore the site will not be in operation during the evening (generally taken as 1900 to 2300 hours) and night (2300 to 0700 hours) hours.

Due to the nature of operations proposed for the site, it is anticipated that any vibrations resulting from the site operations are unlikely to be in excess of the vibration levels already resulting from the port development.

4.2.2 Monitoring

A log will be kept of processes and checks carried out to minimise noise emissions from normal operations, failures and other factors. Any sound level monitoring will be undertaken and reported in accordance with relevant British Standards.

On detection or notification of noise at such levels that they are likely to cause harm to human health or serious detriment to the amenity of the locality, immediate action shall be taken to stop the waste handling operations giving rise to excessive noise and to suppress noise levels. The incident and the remedial action shall be recorded in the site diary.

4.3 Management of Effluent

4.3.1 Management

In accordance with the Waste Treatment Industries BAT 47 the whole treatment area will have a full concrete base that provides a declining slope to the site drainage system.

A WRATE analysis has been conducted for the site operations in order to identify potential effluent contaminants arising from the waste treatment activities. The analysis states that:

"Estimates by the Environment Agency, contamination (of wash water) likely to be insignificant"

It is therefore considered unnecessary to apply separate water drainage according to the pollution load. Due to the nature of the site, it is not considered necessary to install a sealed drainage system. Discussion with both Natural Resources Wales and the Port Authority suggest it is preferable to release effluent directly to foul sewer. All surface and wash water will therefore be released to foul sewer via onsite drainage for which a trade effluent consent application has been submitted to Welsh Water (see SI B3.3). No treatment of water/effluent will take place on site. Inspection of drainage points for blockage will be undertaken as part of site management checks in accordance with BET 50.

It is anticipated that consideration will be given to appropriate water harvesting techniques in accordance with BET 45 and 48 within the solution provided by the winning site contractor. This is particularly in reference to the reuse of rainwater collected from the roof of the reception building for re-use as waste water.

4.3.2 Monitoring

Monitoring of potential effluent contamination will be carried out by the site manager or supervisor as part of standard daily checks. This will identify any contamination

sources e.g. issues with externally stored waste, equipment failure. Regular sampling of site effluent will also be scheduled to monitor levels of potential contaminants within the effluent discharged to sewer.

Upon detection of any potential source of effluent contamination, immediate action will be taken to suppress the contamination source. The incident and the remedial action shall be recorded in the site diary.

5.0 Impact on Designated Areas

The site is located 150 meters away from both the Pembrokeshire Marine Special Area of Conservation and Milford Haven Site of Special Scientific Interest. Both sites have been designated for the quality of the marine environment. All trade effluent will be released directly to foul sewer, processing will take place within the waste reception building, the site perimeter fencing will minimise windblown litter and there will be no point source emissions to air that would impact upon the marine environment. The operations proposed for this facility are therefore expected to have minimal impact upon the designated sites.

6.0 Resource Efficiency and Climate Change

6.1 Energy

Regulation 11 (3) (b) of the Pollution Prevention and Control Regulations 2000, SI 1973, specifically requires that installations should be operated in such a way that energy is used efficiently.

It is recognised that the regulatory requirements for Energy Efficiency under IPPC are

1. All installations falling under the scope of IPPC shall meet a set of defined basic energy requirements for energy efficiency. The basic energy requirements are based on the implementation of generic, low-cost measures designed to address gross inefficiencies only; and
2. All installations falling under the scope of IPPC must meet additional energy efficiency requirements, either:
 - through participation in a Climate Change Agreement or Emissions Trading Scheme Direct Participant Agreement with the UK Government; or
 - through compliance with further permit-specific requirements as determined by the Regulator.

Pembrokeshire County Council has adopted a Single Integrated Plan with a policy statement regarding resource efficiency and climate change, including waste (see SI B4.2.2). The contractor appointed to manage the site will be required to produce a written energy policy and energy management plan to demonstrate commitment and ensure ongoing improvement in energy efficiency. This will be submitted prior to the site becoming operational. This will include continuous monitoring of site energy use.

6.2 Raw Materials

Water: water will be used on site for the purpose of standard personal hygiene. There will also be approximately 37,500kg/yr of water used onsite for the use in washing

down equipment which is considered essential for adequate maintenance.

Plastic Film Wrapping: Plastic film will be used onsite for the use of wrapping baled waste. This is considered essential in both protecting the baled waste during onward transport and in the prevention of potential release of odour of stored waste.

Baling Wire: baling wire or strapping will be used to secure bales. Bales are highly compressed and must be secured for storage and transportation.

6.3 Waste Disposal

Due to the nature of the site, it is anticipated that minimal waste will require disposal from the site. The majority of waste produced will be fed back into the processing facility. There may be a small amount of process dust and fines. It is anticipated that this will be dealt with in accordance with the waste hierarchy.

The waste hierarchy will be applied to waste processing techniques where possible. It is anticipated that some extraction of metals within the waste received at the site will be undertaken. Any recyclable material extracted from the waste will be sent for further treatment with an appropriate reprocessor.