



PEMBROKESHIRE COUNTY COUNCIL ECO-PARK

# ENVIRONMENTAL PERMIT APPLICATION

Environmental Risk Assessment V1

# About WRAP

WRAP is a climate action NGO working around the globe to tackle the causes of the climate crisis and give the planet a sustainable future.

Our core purpose is to help you tackle climate change and protect our planet by changing the way things are produced, consumed, and disposed of.

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**Written by:** SLR Consulting Ltd



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## **Acknowledgements**

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# 1.0 Introduction

The Waste and Resource Action Programme (WRAP), on behalf of Pembrokeshire County Council (PCC), has instructed SLR Consulting Limited (SLR) to prepare an Environmental Risk Assessment (ERA) in support of a bespoke Environmental Permit (EP) application for the Pembrokeshire County Council Eco-Park in Milford Haven, Pembrokeshire under the Environmental Permitting (England and Wales) Regulations 2016 (as amended). The Eco-Park will consist of a Waste Transfer Station (WTS) and a Waste and Recycling Centre (WRC).

## 1.1 Methodology

This ERA is an assessment of the risks to the environment and to human health that may be associated with the proposed operations at the site.

The assessment has been completed in accordance with the Environment Agency (EA) Technical Guidance 'Risk Assessments for your Environment Permit' (April 2022) which is also adopted by Natural Resources Wales (NRW). The aim of the assessment is to identify any significant risks and demonstrate that the risk of pollution or harm will be acceptable by taking the appropriate measures to manage these risks.

This ERA uses the following approach for identifying and assessing the risks from the proposed operation:

- Step 1** Identify risks and sources of risk from your activity.
- Step 2** Where risks are identified from Step 1 then identify the receptors that could be affected.
- Step 3** Identify potential pathways between the sources of risk and receptors.
- Step 4** Assess the risks and check that they are acceptable. Justify appropriate measures to control your risks, if necessary.
- Step 5** Submit your assessment.

Section 2.0 of this document is a screening step to identify the risks requiring consideration as part of this assessment.

Section 3.0 identifies people or parts of the environment that could be harmed (at potentially significant risk) by the activity. The ERA for an EP application requires all receptors that are near the site and could reasonably be affected by the activities to be identified and considered as part of the assessment.

For the purposes of this ERA, a 2km radius from the site's EP boundary has been adopted in reviewing potentially sensitive receptors of ecological importance along with features such as sites of cultural and natural heritage. A radius of 500m from the site's EP boundary has been

adopted for all other potentially sensitive receptors (for example, residential, commercial, industrial, agricultural and surface water receptors).

Section 4.0 of this document presents the assessment and demonstrates that any risks of pollution or harm will be mitigated to manage the risk.

This ERA should be read in conjunction with the following documents:

- Non-Technical Summary (NTS);
- Drawings:
  - Drawing 001 Environmental Permit Boundary
  - Drawing 002A Environmental Site Setting Local Receptors
  - Drawing 002B Environmental Site Setting Natural and Cultural Heritage
  - Drawing 003 Site Layout and Environmental Permit Boundary – Overview
  - Drawing 004 Site Layout and Environmental Permit Boundary – WRC
  - Drawing 005 Site Layout and Environmental Permit Boundary – WTS
  - Drawing 006 Drainage Layout
- Site Condition Report (SCR);
- Operating Techniques (OT) document;
- Fire Prevention & Mitigation Plan (FPMP);
- Noise Impact Assessment and Management Plan (NIAMP);
- Odour Impact Assessment (OIA);
- Odour Management Plan (OMP);
- Pest Management Plan (PMP); and
- Dust and Emissions Management Plan (DEMP).

## 1.2 Identifying the Risks

Step 2 is a screening step to identify the potential risks to the environment from the development. The following are generally considered to require assessment for bespoke operations:

- Amenity and Accidents;
- Site Waste (Installations Only);
- Global Warming Potential;
- Odour;
- Noise; and
- Point source emissions to air, water and land.

There will be no point source emissions to groundwater, surface water, air or land resulting from the proposed facility and neither will there be any site waste arising or global warming potential.

Therefore only 'Amenity and Accidents', remain applicable for assessment in this instance, and includes the consideration of noise and vibration, fugitive emissions (including dust, mud, litter and pests) and accidents.

Noise has been considered separately in the NIAMP (416.00798.00039/NIAMP) which is included within Section 8 of this EP application.

Odour has been considered separately in the OIA (416.00798.00038/OIA) and OMP (416.00798.00039/OMP) which are included within Sections 9 and 10 of this EP application.

The prevention and management of pests has been considered separately in the PMP (416.00798.00039/PMP) which is included within Section 11 of this EP application.

Dust has been considered separately in the DEMP (416.00798.00039/DEMP) which is included within Section 12 of this EP application.

Fire Prevention and Mitigation has been considered separately in the FPMP (416.00798.00039/FPMP) which is included within Section 7 of this EP application.

## 2.0 Site Setting and Receptors

### 2.1 Site Setting

The site is situated approximately 3km north west of Milford Haven and approximately 8km south west of Haverfordwest. The National Grid Reference (NGR) for the site is SM 88985 09338.

The area to the north of the site consists predominantly of open/agricultural land and commercial/industrial premises associated with Puma Energy are located immediately to the south and west. Pembrokeshire Coast National Park lies approximately 30m from parts of the site's northern boundary and extends to the north and west. An individual residential property (holiday let property – human receptor) lies approximately 25m to the north and further residential and farm/agricultural buildings are located approximately 75m north.

The surrounding land uses and local receptors within 1km are identified on Drawing 002A. Drawing 002B shows the cultural and natural heritage receptors within 2km.

A summary of the site's immediate surrounding land uses is identified in Table 1 below.

*Table 1: Surrounding Land Uses*

Boundary	Description
North	Pembrokeshire Coast National Park and an unnamed road, followed by a residential property (holiday let property – human receptor), and farm/agricultural buildings. Beyond this lies open/agricultural ground.
East	Farm/agricultural buildings (including a poultry farm) and open/agricultural land. Beyond this lies a solar farm.
South	Immediately to the south lies commercial/industrial premises associated with Puma Energy (separately permitted COMAH industrial fuel storage facility). A railway line and open/agricultural ground are also located in this direction.
West	Commercial/industrial land is located to the west of the site. Beyond this lies open/agricultural land, individual residential properties, and Pembrokeshire Coast National Park.

The immediate surrounding land uses are described in further detail below.

#### 2.1.1 Residential Properties

A few individual residential properties lie to the north west of the site. The closest is a holiday let (human receptor) situated approximately 25m from the site's northern boundary. Further residential properties associated with farms and agricultural premises are located approximately 75m north, 230m north and 330m north west.

## 2.1.2 Commercial and Industrial Premises

The area adjacent to the site's south/south west boundary is dominated by commercial/industrial premises associated with Puma Energy. Puma Energy is a separately permitted industrial fuel storage facility (COMAH site).

## 2.1.3 Farm/Agricultural Buildings

A farm/agricultural area, associated with a poultry farm lie adjacent to the site's south eastern boundary. Additional farm/agricultural premises can be found approximately 75m north.

## 2.1.4 Local Transport Network

Access to the site is via the existing Amoco Road. Old Hakin Road links Amoco Road to Dale Road in the south and Haverfordwest via Tiers Cross in the north.

The local road network, providing access to the immediate surrounding area is illustrated on Drawing 002A.

A private railway line which runs direct to the Puma Energy terminal for fuel loading is located approximately 360m south of the site.

## 2.1.5 Open/Agricultural Ground

The site is located within an area which predominantly consists of open/agricultural ground. The closest areas are situated, approximately 40m north.

## 2.1.6 Solar Farms

A solar farm is located approximately 500m east.

## 2.1.7 Surface Water Features

Several drains can be found within a 500m radius of the EP boundary, particularly associated with the commercial/industrial area to the south/west. The closest drain lies approximately 10m to the south.

Small streams are located approximately 200m north west and 310m east, and a small ponds lies approximately 360m north.

### 2.1.8 Geology

The Site Condition Report, submitted with the application details that the site is underlain by a bedrock of Milford Haven Group.

There are no superficial deposits recorded underlying the site.

## 2.2 Hydrogeology

### 2.2.1 Aquifer Designations

The bedrock underlying the Site is classified as a Secondary A Aquifer.

As there are no superficial deposits underlying the site, these are classified as unproductive.

### 2.2.2 Source Protection Zones

A review of Data Map Wales<sup>1</sup> confirms that the site does not lie within a Source Protection Zone.

## 2.3 Hydrology

The Groundwater Vulnerability layer on the Onshore GeoIndex website<sup>2</sup> reveals that the site lies within a high groundwater vulnerability area, classified as a Secondary Aquifer.

NRW long term flood risk maps reveal that no sections of the site are at risk of river, sea, or surface water course and small water course flooding.

## 2.4 Ecology

The following information has been assessed to determine the ecological site setting:

- MAGIC Mapping Website<sup>3</sup>;
- Data Map Wales; and
- Natural Resource Wales Designated Sites Tool<sup>4</sup>.

<sup>1</sup> [Home | DataMapWales \(gov.wales\)](#), accessed March 2023

<sup>2</sup> [Onshore GeoIndex Map](http://mapapps2.bgs.ac.uk/geoindex/home.html), available at <http://mapapps2.bgs.ac.uk/geoindex/home.html>, accessed March 2023

<sup>3</sup> <https://magic.defra.gov.uk/MagicMap>, accessed March 2023

<sup>4</sup> [NRW Designated Site Search](#), accessed March 2023

### 2.4.1 National Park

Pembrokeshire Coast National Park lies approximately 30m from parts of the site's northern boundary and extends to the north and west of the site.

### 2.4.2 Ancient Woodland

Multiple areas of ancient woodland are located within 2km of the site's EP boundary. The closest lie approximately 270m west of the site and a second is situated approximately 510m north west.

The searches confirmed that none of the following lie within a 2km radius.

- Ramsar's;
- Special Protection Area's (SPA);
- Special Areas of Conservation (SAC);
- Sites of Special Scientific Interest (SSSI);
- Areas of Outstanding Natural Beauty;
- Local Nature Reserves;
- National Nature Reserves.

## 2.5 Cultural and Heritage

### 2.5.1 Listed Buildings

Several listed buildings are located within 2km of the site. The closest is The Church of Saint Andrew Grade II\* listed building which is located approximately 300m north west. Additional listed buildings are described below:

- Romans Castle located approximately 1000m north;
- Coach-Shed House at Rickeston located approximately 1300m west;
- Rickeston Hall located approximately 1300m west;
- Stable Court at St Botolph's located approximately 1400m south;
- St Botolph's Mansion located approximately 1400m south
- Sunnybank, Including Attached Outbuildings located approximately 1700m south east; and
- Lodge Farmhouse at St Botolph's located approximately 1900m south.

## 2.5.2 Scheduled Monuments

The following Scheduled Monuments are situated within 2km of the site:

- Roman Castle: 1200m north;
- Burnt Mound 160m E of Woodsend: 1230m north west;
- Rickeston Rath: 1550m west;
- Skye Rath: 1700m north west;
- Thornton Rath: 1870m south east; and
- Capeston Rath: 1890 west.

The search on Data Map Wales confirmed that the following features do not lie within 2km of the site:

- World Heritage Sites;
- Registered Battlefields; and
- Registered Parks and Gardens.

## 2.6 Identified Receptors

Table 2 and Drawing 002A and Drawing 002B identify the receptors which are considered to be potentially sensitive and could reasonably be affected by activities at the site.

Table 2: *Identified Receptors*

Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (in metres)
<b>Local receptors located within 500m of the EP boundary as shown on Drawing 002A</b>			
Secondary A Aquifer	Aquifer	Below Ground	N/A
Puma Energy	Commercial/Industrial	South and west	Adjacent
Farm/Agricultural Buildings (Poultry Farm)	Farm/Agricultural Buildings	South east	Adjacent
Drains	Surface Water Feature	South	10m
Unnamed Road	Local Transport Network	North	20m
Holiday Let Property (Human Receptor)	Residential	North	25m
Open/Agricultural Ground	Open/Agricultural Ground	North	40m

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Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (in metres)
Residential Property	Residential	North	75m
Agricultural Buildings	Farm/Agricultural Buildings	North	75m
Stream	Surface Water Feature	North west	200m
Residential Property	Residential	North	230m
Stream	Surface Water Feature	East	310m
Residential Property	Residential	North west	330m
Railway Line	Local Transport Network	South	360m
Pond	Surface Water Feature	North	360m
Solar Farm	Solar Farm	East	500m
<b>Ecological, Cultural and Natural Heritage identified within 2km of the EP boundary as shown on Drawing 002B</b>			
Pembrokeshire Coast National Park	National Park	North	30m
Restored Ancient Woodland	Ancient Woodland	West	270m
Church of Saint Andrew	Grade II* Listed Building	North west	300m
Restored Ancient Woodland	Ancient Woodland	North west	510m
Romans Castle	Listed Building	North	1000m
Roman Castle	Scheduled Monument	North	1200m
Burnt Mound 160m E of Woodsend	Scheduled Monument	North west	1230m

Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (in metres)
Coach-Shed House at Rickeston	Listed Building	West	1300m
Rickeston Hall	Listed Building	West	1300m
Stable Court at St Botolph's	Listed Building	South	1400m
St Botolph's Mansion	Listed Building	South	1400m
Rickeston Rath	Scheduled Monument	West	1550m
Sunnybank, Including Attached Outbuildings	Listed Building	South east	1700m
Skye Rath	Scheduled Monument	North west	1700m
Thornton Rath	Scheduled Monument	South east	1870m
Capeston Rath	Scheduled Monument	West	1890m
Lodge Farmhouse at St Botolph's	Listed Building	South	1900m

## 2.7 Windrose

The nearest meteorological recording station to the site is Milford Haven Conservancy Boar ('Milford Haven') located approximately 4km south of the site. In reference to the 2018 to 2022 meteorological data acquired from this recording station, the prevailing winds in the site locale are from the west and south west, with winds from the north and north east being relatively infrequent.

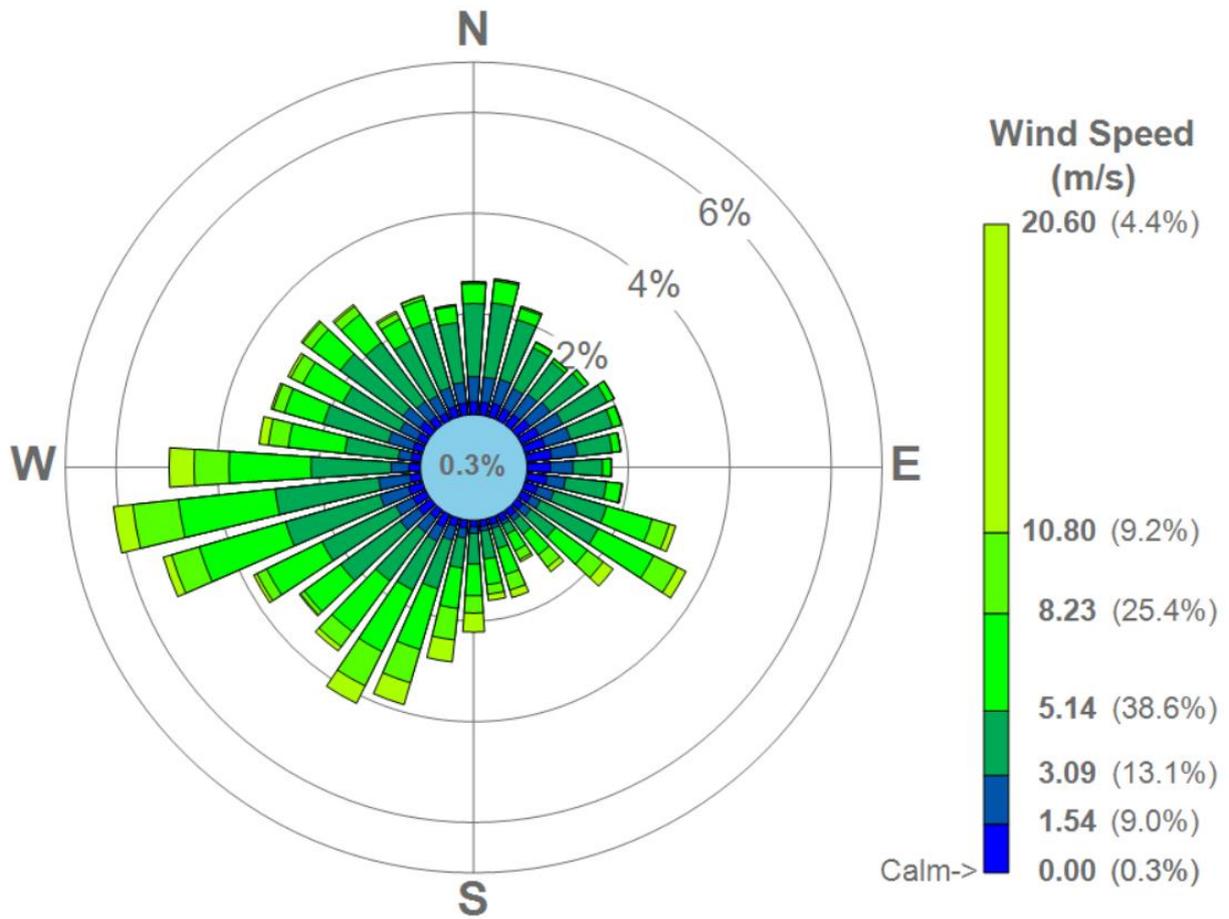


Figure 1: Milford Haven Recording Station Wind Rose (2018 – 2022 average)

## 3.0 Environmental Risk Assessment

The following tables in this section assess the site in terms of potential hazards posed, receptors and pathways, along with management and assessment of the identified risks.

The probability of exposure is the likelihood of the receptors being exposed to the hazard, and is defined as low, medium or high. These terms are qualified as follows:

- Low: exposure is unlikely, barriers in place to mitigate against exposure.
- Medium: exposure is fairly probable, barriers to exposure less controllable.
- High: exposure is probable, direct exposure likely with few barriers.

The methodology outlined in Section 1.1 of this report is the basis on which it is determined whether the operations will lead to significant impacts on the surrounding environment.

Where a conclusion of 'not significant' has been reached, it is proposed that the mitigation and management measures that will be in place at the site will be sufficient to ensure that there will be no impact at the surrounding environment.

Table 3: Noise Risk Assessment and Management Plan

What do you do that can harm and what could be harmed		Managing the Risk		Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
<p>Noise from vehicular movements (site access road and internal site movements).</p> <p>Noise from operation of site plant including household tipping at the WRC, loading and unloading of materials, and operation of automatic sorting and baling plant.</p>	<p>Potentially sensitive receptors as listed in Table 2, including residential properties, commercial and industrial premises, farm/agricultural buildings, ecological receptors and local cultural and heritage features.</p>	<p>Air</p>	<p>The noise risk from the proposed activities in this EP application has been assessed in a NIAMP which was carried out in accordance with the guidance contained in British Standard 4142:2014+A1:2019 <i>Methods for rating and assessing industrial and commercial sound</i>. The NIAMP (ref: 416.000798.00039/NIAMP) is included within Section 8 of the EP application.</p> <p>The assessment concluded that with the implementation of the identified mitigation strategy, all reasonable steps have been taken to reduce sound levels and to reduce the potential for adverse noise impact at nearby noise sensitive receptors. Therefore, it is considered that there will not be significant adverse impact during the daytime or night-time periods.</p> <p>Notwithstanding this, noise mitigation measures will be in place as detailed in the NIAMP and summarised below:</p> <ul style="list-style-type: none"> <li>• During the night (between the hours of 5am and 7am) HGV departures will be rerouted to use the southern access, removing the need for HGV movements on the northern internal road (i.e. the distance between HGV movements and receptors</li> </ul>	<p>Mobile. Intermittent throughout the day.</p> <p>Medium.</p>	<p>Noise nuisance and loss of amenity.</p>	<p>Not significant – See NIAMP (ref: 416.00798.00039/NIAMP)</p>

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<p>will be increased) during the most sensitive operational hours;</p> <ul style="list-style-type: none"> <li>• A 3m high acoustic barrier will be installed at the site's northern boundary and at the western side of the Phase 3 covered glass bay;</li> <li>• All vehicles will be washed and re-fuelled at the end of the day when vehicles return as opposed to early in the morning;</li> <li>• Collection vehicles will be reversed into parking spaces at the end of the day to reduce the noise from reversing beacons early in the morning;</li> <li>• Vehicle idling time on site will be minimised;</li> <li>• With the exception of the WRC, in which all activities will be outdoors, waste sorting and baling operations will only be carried out within the WTS main recycling building. At the WRC all waste operation activities will occur within the appropriate designated containers;</li> </ul>			

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<ul style="list-style-type: none"> <li>• Where possible plant will be located away from noise sensitive receptors;</li> <li>• Where possible, drop heights will be minimised;</li> <li>• All plant will be switched off when not in use;</li> <li>• Plant will be selected and operated to minimise noise. All equipment will be maintained and operated in accordance with manufacturer’s guidance and will be subject to a planned preventative maintenance schedule;</li> <li>• Speed limits will be implemented on site for vehicles delivering waste to reduce noise levels associated with high engine speeds;</li> <li>• Site personnel will be trained in the need to minimise noise and will be responsible for monitoring and reporting excessive noise when carrying out their everyday roles;</li> </ul>			

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<ul style="list-style-type: none"> <li>• Site access and operational areas will be maintained and repaired to minimise noise resulting from uneven and poor surfacing; and</li> <li>• Typical site operational hours will be as follows:                             <ul style="list-style-type: none"> <li>• <b>WTS:</b> Waste collections (via RRVs and CCVs) and ongoing haulage of transferred materials would typically be undertaken at the site from 7am to 5pm, Monday to Friday. To ensure continuity of service, the site would occasionally be operational (and waste collections would be undertaken) on Saturdays and Sundays, public holidays and over the Christmas and New Year period; and</li> <li>• <b>WRC:</b> Open to the public 7 days a week during the summer months (1<sup>st</sup> April to 31<sup>st</sup> October) and 5 days a week during the winter months from 8am to 6pm. In order to maintain the site</li> </ul> </li> </ul>			

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<p>for public use, the site is serviced by vehicles and operatives between 6:30 am and 8 pm.</p> <p>Auditory inspections will be carried out daily and in response to complaints.</p> <p>Any noise complaint received will be logged in the site diary. The Site Manager will investigate any complaint and will take action to identify the source of the noise and implement remedial measures where appropriate.</p> <p>The Site Manager will be responsible for implementing risk management measures in accordance with the site's Environmental Management System (EMS) and the NIAMP.</p>			

Table 4: Odour Risk Assessment and Management Plan

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Odour from the acceptance and storage of material (particularly food waste).	Potentially sensitive receptors as listed in Table 2, including residential properties, commercial and industrial premises, farm/agricultural buildings, ecological receptors and local cultural and heritage features.	Air	<p>The odour risk from the proposed activities has been assessed in an OIA included within Section 9 of the EP application. An accompanying OMP has been produced and is included within Section 10.</p> <p>The assessment concluded that there is no risk of unacceptable odour pollution (as a result of the waste operations). Notwithstanding this, mitigation measures will be in place as detailed in the OMP and summarised below.</p> <p>At the WTS material storage will occur within designated bays in either the main recycling building, the residual building, or the external covered bays.</p> <p>At the WRC all material storage will take place within appropriate designated containers.</p> <p>Doors to the recycling building and residual building will be in regular use during normal operations but will remain closed where practicable.</p> <p>Where practicable the site will operate on a 'first in, first out' basis. For example, material will be deposited into the left side of the bay on Monday and the right side on Tuesday. It is then removed from the left side first followed by the right and the process repeats like this.</p> <p>Maximum waste storage times, indicated in the FPMP will not be exceeded.</p>	Medium.	Odour nuisance and loss of amenity.	Not significant – See OIA (ref: 416.00798.00039/OIA) and OMP (ref: 416.00798.00039/OMP)

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<p>Material will be stored in the pre-allocated bays/containers and will not exceed the maximum volumes indicated in the FPMP.</p> <p>Good housekeeping methods will be undertaken on site. Site operatives will undertake a daily clean of the site flooring and bays with a brush (on telehandler) to prevent the build up of debris and dust on site. A washdown will be carried out as required.</p> <p>Mobile plant will be cleaned weekly, using the vehicle wash bay located in the phase 2 area, and the baler/sorting line will be cleaned weekly.</p> <p>The food waste bay will be washed down quarterly, and swept daily, and all other bays will be swept and cleaned on a regular basis when emptied.</p> <p>Strict waste acceptance procedures will be adhered to, to ensure that no non-confirming material is accepted on site. All vehicles leaving the site will be securely sheeted or enclosed at all times.</p> <p>Monitoring and reporting of odours is described in the OMP.</p> <p>The Site Manager will be responsible for implementing risk management measures in accordance with the site’s EMS and the OMP.</p>			

*Table 5: Fugitive Risk Assessment and Management Plan*

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
To Air:						

<p>Dust from:</p> <p>Vehicle movements</p> <p>Material storage</p> <p>Material treatment</p> <p>Dusty materials</p> <p>Unloading and loading of material</p>	<p>Potentially sensitive receptors as listed in Table 2, including residential properties, commercial and industrial premises, farm/agricultural buildings, ecological receptors and local cultural and heritage features.</p>	<p>Air</p>	<p>The dust risk from the proposed activities has been assessed in the DEMP included within Section 12 of the EP application.</p> <p>Dust mitigation measures will be in place as detailed in the DEMP and summarised below.</p> <p>All material storage at the WTS area will occur within designated bays in the main recycling building, the residual building, and the external covered storage bays.</p> <p>At the WRC all material storage will take place within appropriate designated containers.</p> <p>Doors to the recycling building and residual building will be in regular use during normal operations but will remain closed where practicable.</p> <p>Speed limits will be implemented for vehicles using the site.</p> <p>Drop heights will be minimised to prevent emissions of dust.</p> <p>Site access and operational areas will be maintained and repaired to minimise emissions of dust due to uneven and poor surfacing.</p> <p>All roads and operational areas will be swept where necessary to reduce dust emissions.</p> <p>All vehicles delivering material to the site will be sheeted or covered.</p> <p>Waste storage areas, buildings, and access points are visually inspected at the commencement of each working day, and the site perimeter is inspected weekly by site personnel.</p> <p>Any dust arising from material stockpiles or mobile plant will be immediately suppressed. This will likely comprise the use of a water bowsers and fixed spray bars on waste processing plant.</p> <p>In addition to dust suppression measures, an investigation to establish the cause of the dust will be undertaken and action taken accordingly,</p>	<p>Low</p>	<p>Dust nuisance</p>	<p>Not significant – See DEMP (ref: 416.00798.00039/DEMP).</p>
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			<p>e.g. if the problem is caused by a particular material type, cease accepting that material until a suitable method statement detailing how the material is handled, has been prepared and implemented.</p> <p>A record of the inspection findings and remedial action taken will be made in the site diary.</p> <p>The Site Manager will be responsible for implementing risk management measures in accordance with the site's EMS and DEMP.</p>			
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What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
<b>To Water</b>						
Run-off from stockpiles and site surfaces Percolation of contaminated water	Surface water: Drains located to the south, streams to the north west and east and pond to the north.  Groundwater within bedrock deposits.	Overland Percolation through the ground	All material on site will be stored and treated on impermeable concrete surfacing with sealed construction joints within the buildings or on impermeable concrete surfacing outside of the buildings. Waste storage and treatment areas will drain to a controlled drainage system. Surface water drains through a number of Sustainable Drainage Systems (SuDS) features. A rainwater harvesting system is utilised to capture water runoff from the building roofs, for use as vehicle wash down. The site utilises a number of Sustainable Drainage (SuDS) features to filter run off. Technologies in place include a rainwater harvesting system, permeable paving, urban planted rill, and swales. All SuDS features will be maintained in line with the manufacturer’s recommendations or if this is not available, as per the specific maintenance requirements of the drainage feature based on its location, use and function (e.g. planting plan for vegetated areas of the site). Maintenance specifications for each feature will be set upon completion of site construction and following consultation with the construction contractor.	Low – due to preventative management measures in place and the material types accepted on site	Contamination of surrounding surface water and groundwater	Not significant

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<p>Foul water will be collected in attenuation tanks and tankered off site if it does not comply with the requirements of the discharge consent. The main details of the site's drainage system are illustrated on Drawing 006.</p> <p>PCC's EMS for the site will include a routine monitoring and maintenance schedule to ensure the integrity and performance of the surfacing and drains. In addition, the EMS will detail how incidents which could affect the drainage system will be managed.</p> <p>Strict waste acceptance procedures will ensure that no non-conforming material is accepted on site. If non-conforming wastes are delivered and unloaded, they will be segregated and stored within the quarantine area and removed from site at the earliest opportunity (within a maximum of 72 hours). If identified on the vehicle, the material will not be deposited on site and will be rejected and sent off site to a suitably permitted facility.</p> <p>The locations of the quarantine areas are shown on Drawings 004 and 005.</p> <p>The Site Manager will be responsible for implementing risk management measures in accordance with the EMS.</p>			
Pests						

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Birds, vermin and insects	Potentially sensitive receptors as listed in Table 2, including residential properties, commercial and industrial premises, farm/agricultural buildings, ecological receptors and local cultural and heritage features.	Via air (flies) or over ground (vermin).	<p>The risk of pests related to the proposed activities has been assessed in a PMP included within Section 11 of the EP application.</p> <p>Mitigation measures will be in place as detailed in the PMP and are summarised below.</p> <p>All waste management operations on site will be undertaken such that infestation or colonisation by pests is minimised.</p> <p>All material storage at the WTS area will occur within designated bays in the main recycling building, the residual building, and the external covered storage bays.</p> <p>At the WRC all material storage will take place within appropriate designated containers/areas.</p> <p>Doors to the recycling building and residual building will be in regular use during normal operations but will remain closed where practicable.</p> <p>Dry recyclate is not considered to attract birds, vermin and insects.</p> <p>Food waste to be accepted at the WTS has the greatest potential to attract birds, vermin and insects. To minimise the potential for infestations, food waste will be delivered to the site in RRV pods/stillages or trade waste vehicles and where possible the material will be tipped directly into sealed skips or artic trailers, in some instances this will be tipped into the designated food waste bay prior to transfer to the sealed skip/trailer prior to onward transportation for processing. Each trailer will</p>	Medium	Nuisance, loss of amenity and harm to human health.	Not Significant – See PMP (ref: 416.00798.00039/PMP).

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<p>remain on site for no more than 72 hours (3 days). Food waste will be removed from site in a sealed or sheeted lorry.</p> <p>Absorbent Hygiene Products (AHPs) will be stored in a sealed skip within the bay for a maximum of 14 days.</p> <p>Waste acceptance procedures will ensure that only authorised materials are accepted.</p> <p>All vehicles will be covered when loads are entering and exiting the facility.</p> <p>Site operatives will be vigilant and undertake a daily inspection for sightings of birds, vermin and insects. The findings of the visual inspection will be recorded in the site diary.</p> <p>A specialist pest control contractor will be employed to carry out regular site inspections and baiting exercises. If birds, vermin or insects are identified at the site, a specialist pest control contractor will be employed to undertake remedial measures.</p> <p>The Site Manager will be responsible for implementing risk management measures in accordance with the EMS and the PMP.</p>			
Mud/Litter						

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Mud on roads from vehicle movements.	Local road network	Transferral of mud on vehicle wheels	<p>The risk of mud related to the proposed activities has been assessed in the EMS - See OTD (Ref: 416.00798.00039/OTD).</p> <p>All materials will be stored on areas of impermeable surfacing. The surrounding access roads also consist of tarmac roads. These areas will be maintained free of potholes and mud and debris as far as practicable.</p> <p>All vehicles will be covered when loads are entering and exiting the facility.</p> <p>Before leaving the site, vehicles will be visually inspected by site operatives and cleaned as necessary and checked to ensure that their load is secure.</p> <p>The daily site inspection list includes checks for mud by site operatives, with a record maintained within the site diary.</p> <p>Roads will be swept and cleaned whenever necessary.</p> <p>If mud, debris or material arising from the site is deposited outside the site, the affected area will be cleaned, and traffic will be isolated from sources of mud and debris within the site.</p> <p>The Site Manager will be responsible for implementing risk management measures in accordance with the EMS.</p>	Low – due to lack of mud sources	Mud on road, road safety	Not significant

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Litter from waste	Potentially sensitive receptors as listed in Table 2, including residential properties, commercial and industrial premises, farm/agricultural buildings, ecological receptors and local cultural and heritage features.	Airborne Litter	<p>The risk of litter related to the proposed activities has been assessed in the EMS – See OTD (Ref: 416.00798.00039/OTD).</p> <p>Waste acceptance procedures will ensure that only authorised materials are accepted.</p> <p>All materials will be stored on areas of impermeable surfacing.</p> <p>Vehicles delivering or collecting material to or from the site will be securely contained to prevent the littering of material.</p> <p>All material storage at the WTS area will occur within designated bays in the main recycling building, the residual building, and the external covered storage bays.</p> <p>At the WRC all material storage will take place within appropriate designated containers.</p> <p>The doors to the recycling building and residual building will remain closed where practicable.</p> <p>Bins will be provided on site at welfare areas for the use of site visitors and personnel.</p> <p>Waste storage areas, buildings, and access points are inspected daily at the commencement of each working day, and the site perimeter is inspected weekly, with litter picking undertaken as required. The findings of the visual inspection will be recorded in the site diary.</p> <p>Any excessive litter material at the site or on the highways will be cleared using a mechanical sweeper and/or litter picker if required.</p>	Low	Nuisance from litter	Not significant

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			The Site Manager will be responsible for implementing risk management measures in accordance with the EMS.			

*Table 6: Accidents Risk Assessment and Management Plan*

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence

Spillage and Leakage	Local land quality, surface water and groundwater	Runoff and percolation through ground	<p>Vehicle refuelling will occur on site in the dedicated area adjacent to the fuel tank. The area benefits from impermeable surfacing and engineered drainage, including an interceptor. Each tank will be integrally banded providing a leakage containment bund capable of containing at least 110% of the volume of the tank or 25% of the total tank volume, whichever is the greater.</p> <p>Storage tanks will be constructed to the appropriate British Standard.</p> <p>The refuelling area including the fuel tank will be inspected visually on a daily basis by the site staff to ensure the continued integrity of the infrastructure and to identify the requirement for any remedial action.</p> <p>All waste containers delivered to the site will be visually inspected to ensure they are secure and undamaged. Any waste containers that arrive damaged will be rejected on arrival.</p> <p>Minor spillages will be cleaned up immediately, using sand or proprietary absorbent to clean up liquids and placed in alternative containers.</p> <p>Materials suitable for absorbing and containing minor spillages (spill kits) will be maintained on site. After use the materials will be bagged up and stored within the building prior to removal off site to a suitably licensed facility.</p> <p>Tanks will be visually inspected on a daily basis by site staff to ensure the continued integrity of the tanks, and identify the requirement for any remedial action.</p> <p>The site staff will undertake daily monitoring for evidence of spillage and leakage. Bay walls will be inspected as part of the daily maintenance checks and any defects reported and rectified as quickly as possible.</p> <p>Alongside regular visual inspections, tanks will be fitted with level indicators to prevent overfilling.</p> <p>In the event of a major spillage, immediate action will be taken to contain the spillage and prevent liquid from entering surface water drains and any permeable ground. The spillage will be</p>	Low	Contamination of land, groundwater and surface water	Not significant
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			<p>cleared immediately and placed in containers for off-site disposal and NRW will be notified. Details of major spillages will be kept for the lifetime of the permit. The Site Manager will be responsible for implementing risk management measures in accordance with the EMS.</p>			
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What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Fire	Potentially sensitive receptors as listed in Table 2, including residential properties, commercial and industrial premises, farm/agricultural buildings, ecological receptors and local cultural and heritage features.	Air (smoke) Ground (spillages and firewater)	The site will be managed in accordance with the approved FPMP (416.00798.00039/FP&MP).	Medium	Nuisance (smoke and fumes) and harm to human health. Water contamination (runoff).	Not significant – due to the comprehensive mitigation and management methods outlined in the FP&MP.
Vandalism and Security	Potentially sensitive receptors as listed in Table 2, including residential properties, commercial and industrial premises, farm/agricultural buildings, ecological receptors and local cultural and heritage features.	Land and air	The site as a whole will be enclosed by 2.4m high weldmesh security fencing. The site's northern boundary will consist of 3m high metal acoustic fencing. Lockable gates at the site's access point will be locked outside of operational hours and all doors to buildings will be locked when not in use. Keys to the gates will be held by PCC, their out of hours service, and the FRS. The site benefits from a recorded CCTV system that provides full coverage of the site. The CCTV system is linked to a central control station which is monitored by an external company 24 hours a day, 7 days a week. If an alarm is raised, the site manager, PCC's out of hours service and/or the emergency services are contacted immediately.	Low	Theft, Plant failure, harm to human health	Not significant

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<p>The site lies adjacent to a COMAH site (Puma Energy), and therefore police regularly patrol the area.</p> <p>Waste storage areas, buildings, and security gates are inspected daily at the commencement of each working day, and the site perimeter fencing is inspected weekly. Any defects identified which compromise the integrity of the facility will be notified to the site manager and made secure by temporary repair within 24 hours, with a permanent fix implemented within 7 days, unless a timescale is otherwise agreed with NRW.</p> <p>All visitors to the site (other than those delivering waste to reception areas of the WRC, who are required to book using PCC's booking system) will be required to register in the visitor's book and sign out again on exit to minimise the risk of unauthorised visitors being present on site. Visitors will be accompanied at all times by a site operative.</p> <p>In the event of a breach of security at the site, the cause will be investigated, and appropriate mitigation measures implemented. This will be recorded in the Daily Site Log.</p> <p>Records maintained will include inspection and maintenance of security fencing, gates, doors and locks, breaches of security, investigations and actions taken.</p> <p>The Site Manager will be responsible for implementing risk management measures in accordance with the EMS.</p>			

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Unauthorised Waste Acceptance	Potentially sensitive receptors as listed in Table 2, including residential properties, commercial and industrial premises, farm/agricultural buildings, ecological receptors and local cultural and heritage features.	Via air (odours). Overland (to surface and groundwater).	The site will follow strict waste acceptance and rejection procedures to ensure that no non-conforming material is accepted on site. Only material authorised by the permit will be accepted at the site. All waste delivered to the WTS will be subject to inspection and checking against the declaration on the waste transfer note. At the WRC, any users identified as bringing unauthorised waste onto the site will be refused access and advised of the nearest permitted facility for that particular waste (if known). If unauthorised waste is delivered to the site, the material will be segregated and stored in a designated quarantine area within the permit boundary prior to export from site to a suitable permitted facility for recovery or disposal. The Site Manager will be responsible for implementing risk management measures in accordance with the EMS.	Low	Odour nuisance. Water contamination.	Not significant

## 4.0 Conclusions

This ERA has been undertaken in accordance with EA guidance which is also adopted by NRW. The assessment is provided as part of the application for an EP for the Pembrokeshire County Council Eco-Park.

This qualitative risk assessment, in addition to the referenced specific impact assessments and management plans, has considered noise, odour, fugitive emissions, dust, releases to water, litter, and potential for accidents and incidents. All risk assessments undertaken conclude that with the implementation of the risk management measures described above and in the separate management plans, potential hazards from the development are not likely to be significant and no further assessment is required.

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