Final V1

Powys County Council
North Powys Bulking Facility

Environmental Permit Application

Environmental Risk Assessment

Project code: 416.00798.00038
Date: January 2021

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Our mission is to accelerate the move to a sustainable resource-efficient economy through re-inventing how we design, produce and sell products; re-thinking how we use and consume products; and re-defining what is possible through re-use and recycling.

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Acknowledgements

The content of this Report has been based upon information provided by WRAP Cymru and Powys County Council.

1.0 Introduction

The Waste and Resource Action Programme (WRAP), on behalf of Powys 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 proposed Bulking Facility in North Powys, under the Environmental Permitting (England and Wales) Regulations 2016 (as amended).

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'* (May 2018) 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 1km 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 Site Setting
- Drawing 002 Site Layout and Fire Management
- Drawing 003 Site Drainage
- Drawing 004 Site Location Plan

- Site Condition Report (SCR);
- Operating Techniques (OT) document;
- Fire Prevention & Mitigation Plan (FP&MP);
- 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).

2.0 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', remains 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 (416.00798.00038/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 (416.00798.00038/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 (416.00798.00038/PMP) which is included within Section 11 of this EP application.

Dust has been considered separately in the DEMP (416.00798.00038/DEMP) which is included within Section 12 of this EP application.

3.0 Site Setting and Receptors

3.1 Site Setting

The site is situated in Abermule Business Park, approximately 5km north west of Newtown and approximately 500m south of the village of Abermule. The A483 runs to the west of the site with the River Severn and Montgomery Canal located to the north. The National Grid Reference (NGR) for the site is SO 15743 94208.

The site is predominantly surrounded by open/agricultural ground and areas of woodland. To the east of the site is a small residential area with the town of Abermule located to the north. The site's location and the EP boundary is illustrated on Drawing 004.

The surrounding land uses and local receptors within 500m are identified on Drawing 001, Environmental Site Setting, in addition to the cultural and natural heritage within 1km.

A summary of the site's immediate surrounding land uses is identified in Table 3-1 below.

Table 3-1
Surrounding Land Uses

Boundary	Description
North	Abermule Business Park, the B4386 and the A483, followed by open ground. Beyond this lies the River Severn, Montgomery Canal and the residential areas of Abermule.
East	Adjacent to the site's eastern boundary lies the railway line. This is followed by a small pond, several drains and open ground. Beyond this lies an area of ancient woodland.
South	Immediately to the south runs a railway line, surrounded by a small strip of woodland. Beyond this lies open ground.
West	The A483 road followed by open ground and farm/agricultural buildings. Beyond this runs the River Severn, Montgomery Canal and areas of ancient woodland.

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

3.1.1 Residential Properties

The closest residential receptors are the farmhouses associated with Bryn-y-Maes approximately 50m west and Maesderwen 110m to the north east. A larger area of residential properties is located along Court Close approximately 270m north east of the site.

3.1.2 Commercial and Industrial Premises

The site is situated within Abermule Business Park. Additional commercial/industrial premises are located approximately 290m north east and 400m south west of the site.

3.1.3 Farm/Agricultural Buildings

The closest farm/agricultural buildings to the site are located approximately 75m to the west.

3.1.4 Local Transport Network

The A483 is located approximately 30m from the site's north western boundary whilst the B4386 runs approximately 20m north of the site.
A railway line is located adjacent to the site's south eastern boundary.
There is a public footpath following the route of the River Severn located approximately 300m north of the site at its closest.

The wider local road network is illustrated on Drawing 001.

3.1.5 Sewage Pumping Station

Adjacent to the north east of the site boundary lies a sewage pumping station.

3.1.6 Open Ground

There are areas of open ground surrounding the site in all directions. The closest areas lie adjacent to the site's south west and north east boundaries.

3.1.7 Surface Water Features

The River Severn is located approximately 210m north of the site and the Montgomery Canal is situated approximately 410m north of the site. Approximately 20m south lies a drain and a small pond beyond this at 60m.

3.2 Geology

A review of the British Geological Survey (BGS)[1] map reveals that the site is underlain by a bedrock of Nantglyn Flags Formation – mudstone, siltstone and sandstone. This is indicative of a local environment previously dominated by deep seas.

Superficial deposits are comprised of Alluvial Fan Deposits – clay and silt, indicative of a local environment previously dominated by rivers.

3.3 Hydrogeology

3.3.1 Aquifer Designations

The bedrock underlying the Site is classified as a Secondary B Aquifer which is defined by the EA as "*predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.*"

The superficial deposits are classified as a Secondary Undifferentiated aquifer.

3.3.2 Source Protection Zones

A review of the Lle Map Browser[2] confirms that the site does not lie within a Source Protection Zone.

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[1] *British Geological Survey, available at http://mapapps.bgs.ac.uk/geologyofbritain/home.html, accessed August 2020.*

[2] *Lle Map, available at http://lle.gov.wales, accessed August 2020*

3.4 Hydrology

The Groundwater Vulnerability layer on the Onshore GeoIndex website[3] reveals that the site lies within a high groundwater vulnerability area, classified as a Secondary Aquifer.

NRW long term flood risk maps identify sections in the south west and north east of the site that have a low to high risk of surface water and small watercourse flooding.[4]

3.5 Ecology

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

- MAGIC Mapping Website[5];
- Lle Map Browser; and
- Natural Resource Wales Designated Sites Tool[6]; and
- Ecological surveys:

- Preliminary Ecological Survey (GLEC-0896a-01), April 2017;
- Great Crested Newt Survey and Mitigation Plan (GLEC-0896a-01), May 2017;
- Reptile Survey (GLEC-0946b-01), June 2017;
- Dormouse Survey (GLEC-0946a-01), September 2017;
- Great Crested Newt Method Statement (RT-MME-126868-03-Rev E), November 2019; and
- Addendum Ecology Note (RT-MME-153226-01), July 2020.

3.5.1 Sites of Special Scientific Interest

The Montgomery Canal Site of Special Scientific Interest (SSSI) is located approximately 410m north of the site. The site is a designated SSSI for its open waters that support a rich assemblage of plants and aquatic invertebrates indicative of good water quality.

3.5.2 Special Area of Conservation

The Montgomery Canal, located approximately 410m north of the site, is also a Special Area of Conservation (SAC) due to the wildlife it supports.

3.5.3 Ancient Woodland

There are several areas of ancient woodland located within 1km of the site's boundary. The closest area lies approximately 550m north of the site. Additional areas are situated approximately 700m east of the site.

3.5.4 Protected Species

The following species have been identified as potentially being present within 1km of the site's boundary:

- European Eel;
- Sea/Brown Trout;
- Atlantic Salmon;
- Great Crested Newts;

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[3] *Onshore GeoIndex Map, available at http://mapapps2.bgs.ac.uk/geoindex/home.html, accessed August 2020*

[4] *NRW, Long Term Flood Risk Maps, accessed August 2020*

[5] *https://magic.defra.gov.uk/MagicMap, accessed August 2020*

[6] *NRW Designated Site Search, accessed August 2020*

- Dormouse; and
- Reptiles.

The searches confirmed that there are none of the following within the 1km:

- Ramsar's;
- Special Protection Area's (SPA).
- Areas of Outstanding Natural Beauty;
- Local Nature Reserves;
- National Nature Reserves; and
- National Parks.

3.6 Cultural and Heritage

3.6.1 Listed Buildings

There are seven listed buildings within 1km of the site's boundary as illustrated on Drawing 001. The closest is Bridge 148 and Byles lock located approximately 420m north west of the site. The other listed buildings are described below:

- Bridge 149 over Montgomeryshire Canal and Lock: 590m west;
- Oak Tree Cottage: 620m north east;
- Bridge 150 over the Montgomeryshire Canal: 735m west;
- Castle Cottage: 960m north west;
- Dolforwyn Castle: 980m north west; and
- Rock Cottage: 860m east.

3.6.2 Scheduled Monuments

The only scheduled monument located within 1km of the site boundary is Dolforwyn Castle, located approximately 940m to the north west.

The search on Lle Map confirmed that the following features do not lie within 1km of the site:

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

3.7 Identified Receptors

Table 3-2 and Drawing 001 identify the receptors which are considered to be potentially sensitive and could reasonably be affected by activities at the site.

Table 3-2
Identified Receptors

Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (in metres)
Local receptors located within 500m of the EP boundary as shown on Drawing 001			
Secondary B Aquifer	Secondary Aquifer	Below Ground	N/A

Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (in metres)
Abermule Business Park	Industrial/Commercial	Site located within the boundary of the business park	N/A
Railway Line	Local Transport Network	South east	Adjacent
Open Ground	Open Ground	South west	Adjacent
Open Ground	Open Ground	North east	Adjacent
Sewage Pumping Station	Sewage	North east	Adjacent
B4386	Local Transport Network	North	20m
Drain	Surface Water Feature	South	20m
A483	Local Transport Network	North west	30m
Bryn-y-Maes	Residential	West	50m
Pond	Surface Water Feature	South	60m
Farm/Agricultural Buildings	Farm/Agricultural Buildings	West	75m
Maesderwen	Residential	North east	110m
The River Severn	Surface Water Feature	North	210m
Court Close	Residential	North east	270m
Commercial and Industrial Premises	Commercial and Industrial Premises	North east	290m
Public Footpath	Local Transport Network	North	330m
Commercial and Industrial Premises	Commercial and Industrial Premises	South west	400m
Montgomery Canal	Surface Water Feature	North	410m
Ecological, Cultural and Natural Heritage identified within 1km of the EP boundary as shown on Drawing 001			
Species included in Section 3.5.4	Protected Species	North, East, South and West	Within 1km

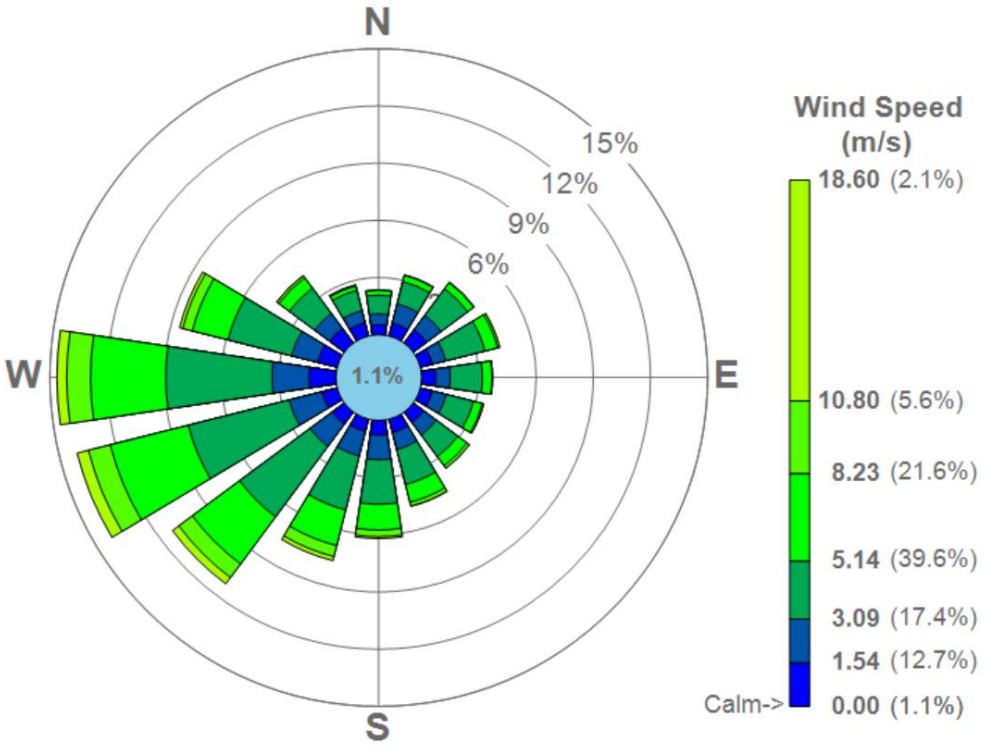
Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (in metres)
Montgomery Canal	SSSI	North	410m
Montgomery Canal	Special Area of Conservation (SAC)	North	410m
Bridge 148 and Byles lock	Listed Building	North west	420m
Ancient Woodland	Ancient Woodland	North	550m
Bridge 149 over Montgomeryshire Canal and Lock	Listed Building	West	590m
Oak Tree Cottage	Listed Building	North	620m
Ancient Woodland	Ancient Woodland	East	700m
Bridge 150 over the Montgomeryshire Canal	Listed Building	West	735m
Rock Cottage	Listed Building	East	860m
Dolforwyn Castle	Scheduled Monument	North west	940m
Castle Cottage	Listed Building	North west	960m
Dolforwyn Castle	Listed Building	North west	980m

3.8 Windrose

There are no meteorological stations in proximity to the site which were considered to be representative of the site location. Therefore, Numerical Weather Prediction (NWP) meteorological data has been utilised and presented in Figure 3-1 below.

The wind rose shows the most prominent wind direction is from the west and south west. Winds from the north, east and south are relatively infrequent.

Figure 3-1
NWP Meteorological Data Wind Rose, 2015-2019



4.0 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 4-1
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**
Noise from vehicular movements (site access road and internal site movements). Noise from operation of site plant including loading and unloading of materials.	Potentially sensitive receptors as listed in Table 3-2, including residential properties, commercial and industrial premises, ecological receptors and local cultural and heritage features.	Air	The noise risk from the proposed activities have been assessed in a NIAMP included within Section 8 of the EP application. The assessment concluded that there is a very low risk of adverse impact from noise generated by the proposed activities. Notwithstanding this, mitigation measures will be in place as detailed in the NMP and summarised below. All material storage will occur within the bulking shed or externally within the glass and green waste bays. Site operations will be restricted to hours specified in the planning consent. Speed limits will be implemented for vehicles using the site. Site access and operational areas will be maintained and repaired to minimise emissions of noise due to uneven and poor surfacing. Plant will be selected and operated to minimise noise. All site plant and machinery will be	Mobile. Intermittent throughout the day. Medium.	Noise nuisance and loss of amenity.	Not significant – See NIAMP (ref: 416.00798.00038/NIAMP)

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**
			operated and maintained in accordance with manufacturer's specifications. Site plant will be subject to a planned preventative maintenance schedule. Auditory inspections will be carried out daily and in response to complaints (EMS.S2.06). A record of the inspection findings and any complaints will be made in the site diary. The Site Supervisor will be responsible for implementing risk management measures in accordance with the site's Environmental Management System (EMS) and the NIAMP.			

Table 4-2
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 mixed municipal waste and food).	Potentially sensitive receptors as listed in Table 3-2, including residential properties, commercial and industrial premises, ecological receptors and local cultural and heritage features.	Air	The odour risk from the proposed activities have 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. The assessment concluded that there is no risk of significant pollution (as a result of the Bulking Facility operations) at all receptors. Notwithstanding this, mitigation measures will be in place as detailed in the OMP and summarised below. The nearest residential receptor is the farmhouse associated with Bryn-y-Maes located approximately 50m to the west of the site. The Institute of Air Quality Management (IAQM) guidance determines farms as having 'low sensitivity' to odours. The nearest residential receptors not located on a farm are found 270m north east of the site in Court Close. All material storage will occur within the bulking shed or externally within the glass and green waste bays. Doors to the bulking shed will remain closed unless allowing vehicles to enter or leave.	Medium.	Odour nuisance and loss of amenity.	Not significant – See OIA (ref: 416.00798.00038/OIA) and OMP (ref: 416.00798.00038/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**
			Materials will be stored on site for a maximum of 5 days (more likely to be 1 day). Material will be stored in the pre-allocated bays and will not exceed the maximum volumes indicated in the FP&MP. The bulking shed floor will be swept daily and washed down weekly or in the event of a spillage. General housekeeping including all site surfacing, site haul roads and drainage channels will be undertaken to minimise generation of odour from degrading residual material on these surfaces. All vehicles leaving the site will be securely sheeted or enclosed at all times. Monitoring and reporting of odours is described in the OMP. The Site Supervisor will be responsible for implementing risk management measures in accordance with the site's EMS and the OMP.			

Table 4-3
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:						
Dust from: Vehicle movements Material storage Dusty materials Unloading and loading of material	Potentially sensitive receptors as listed in Table 3-2, including residential properties, commercial and industrial premises, ecological receptors and local cultural and heritage features.	Air	The dust risk from the proposed activities have been assessed in a DEMP included within Section 12 of the EP application. The risk of dust emissions from the site is not considered to be significant as all material types to be accepted are not dusty in nature. Notwithstanding this, mitigation measures will be in place as detailed in the DEMP and summarised below. The doors to the bulking shed will remain closed other than for vehicle entry and exit. Materials consisting solely or mainly of dusts, powders or loose fibres will not be accepted at the site. All material storage will occur within the bulking shed or externally within the glass and green waste bays. Material stored outside is not dusty in nature. Drop heights will be minimised to prevent emissions of dust.	Low	Dust nuisance	Not significant – See DEMP (ref: 416.00798.00038/DEMP).

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**
			Speed limits will be implemented for vehicles using the site. Site access and operational areas will be maintained and repaired to minimise emissions of dust due to uneven and poor surfacing. All roads and operational areas will be swept where necessary to reduce dust emissions. All vehicles delivering material to the site will be sheeted or covered. Daily, visual inspection at all areas of the site and site boundary will be carried out by site personnel. Any dust arising from material stockpiles or mobile plant will be immediately suppressed. This will likely comprise the use of a mobile bowser or the hose from the external jet wash. In addition to dust suppression measures, an investigation to establish the cause of the dust will be undertaken and action taken accordingly, 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.			

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**
			A record of the inspection findings and remedial action taken will be made in the site diary. The Site Supervisor will be responsible for implementing risk management measures in accordance with the site's EMS and DEMP.			
To Water						
Run-off from stockpiles and site surfaces Percolation of contaminated water	Surface water: Drains and ponds located to the south of the site and the River Severn located approximately 210m to the north. Groundwater within bedrock deposits. Protected species as outlined in Section 3.5.4.	Overland Percolation through the ground	All material will be stored and treated on impermeable concrete surfacing with sealed construction joints and an engineered drainage system either within the bulking shed or in the bays located externally in the yard. The main details of the site's drainage system are illustrated on Drawing 003 and is managed as follows. The site will operate under a discharge consent to public sewer (Ref: 009188V). Clean surface water from the building roofs and the external yard area will flow to soakaway via an interceptor. Drainage from the remainder of the site including material storage areas, the vehicle washdown, storage slab and office/welfare facilities will flow to sewer via an interceptor.	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**
			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. Strict waste acceptance procedures will ensure that only permitted material types are accepted on site. If non-conforming wastes are delivered and unloaded, they will be isolated and removed from site at the earliest opportunity. 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. If identified following tipping in the building, the material will be removed to the designated quarantine area pending removal off site to a suitably licensed facility. The location is shown on Drawing 002. An extensive programme of ecological surveys has been undertaken at the site. The surveys concluded that there was no evidence of or risk to reptiles, dormice, European Eel, Sea/Brown Trout or Atlantic Salmon. Evidence of Great Crested Newts was observed, and a Newt Mitigation and			

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**
			Method Statement was implemented covering the timing of construction work, capturing and re-locating newts and enhancing habitats. The full suite of ecological reports is included as Appendix ERA1. The Site Supervisor will be responsible for implementing risk management measures in accordance with the EMS.			
Pests						
Birds, vermin and insects	Potentially sensitive receptors as listed in Table 3-2, including residential properties, commercial and industrial premises, ecological receptors and local cultural and heritage features.	Via air (flies) or over ground (vermin).	The risk of pests related to the proposed activities has been assessed in a PMP included within Section 11 of the EP application. Mitigation measures will be in place as detailed in the PMP and are summarised below. Dry recyclate is not considered to attract birds, vermin and insects. Food waste 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 enclosed collection vehicles and stored in a dedicated bay located within the bulking shed. Food waste will be removed from site in a sealed or sheeted lorry.	Medium	Nuisance, loss of amenity and harm to human health.	Not Significant – See PMP (ref: 416.00798.00038/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**
			Waste acceptance procedures will ensure that only authorised materials are accepted. 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. If birds, vermin or insects are identified at the site, a specialist pest control contractor will be employed to undertake remedial measures. The Site Supervisor will be responsible for implementing risk management measures in accordance with the EMS and the PMP.			
Mud/Litter						
Mud on roads from vehicle movements.	Local road network including the B4386and the A483.	Transferral of mud on vehicle wheels	The site comprises a mix of impermeable concrete surfacing and tarmac roads. 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. All vehicles will be covered when loads are entering and exiting the facility. Before leaving the site, vehicles will be cleaned as necessary and checked to ensure that their load is secure.	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**
			Roads will be swept and cleaned whenever necessary. 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. The Site Supervisor will be responsible for implementing risk management measures in accordance with the EMS.			
Litter from waste	Potentially sensitive receptors as listed in Table 3-2, including residential properties, commercial and industrial premises, ecological receptors and local cultural and heritage features.	Airborne Litter	Waste acceptance procedures will ensure that only authorised materials are accepted. Vehicles delivering or collecting material to or from the site will be securely contained to prevent the littering of material. All material storage will occur within the bulking shed or within the glass and green waste bays. Bins will be provided on site at welfare areas for the use of site visitors and personnel. A daily inspection and litter pick of the site and perimeter will take place. The findings of the visual inspection will be recorded in the site diary. Any excessive litter material at the site or on the highways will be cleared using a mechanical sweeper and/or litter picker if required.	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 Supervisor will be responsible for implementing risk management measures in accordance with the EMS.			

Table 4-4
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	Vehicle refuelling will occur on site in the dedicated area adjacent to the fuel tank. The area benefits from impermeable surfacing and engineered drainage. Approximately 56,000 litres of red and white diesel and 1,500 litres of adblue will be stored in a tank, the location of which is shown on Drawing 002. The tank will be integrally bunded 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. Storage tanks will be constructed to the appropriate British Standard. 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. Minor spillages will be cleaned up immediately, using sand or proprietary absorbent to clean up liquids and placed in alternative containers.	Low	Contamination of land, groundwater and surface water	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**
			Materials suitable for absorbing and containing minor spillages 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. The site staff will undertake daily monitoring for evidence of spillage and leakage. Alongside regular visual inspections, tanks will be fitted with level indicators to prevent overfilling. 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 cleared immediately and placed in containers for off-site disposal and NRW will be notified. Details of such spillages will be kept for the lifetime of the permit. The Site Supervisor will be responsible for implementing risk management measures in accordance with the EMS.			
Fire	Potentially sensitive receptors as listed in Table 3-2, including residential properties,	Air (smoke)	The site will be managed in accordance with the approved FP&MP (416.00798.00038/FP&MP).	Medium	Nuisance (smoke and fumes) and	Not significant – due to the comprehensive mitigation and

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**
	commercial and industrial premises, ecological receptors and local cultural and heritage features.	Ground (spillages and firewater)			harm to human health. Water contamination (runoff).	management methods outlined in the Fire Prevention Plan.
Vandalism and Security	Harm to Human Receptors, Ecological Receptors, Commercial/industrial receptors, Land and Water	Land and air	The site will be entirely enclosed by a 2.4m high metal palisade fence. All doors to site offices and the doors to the bulking shed will be locked outside of operational hours to prevent unauthorised access. The site will have a CCTV system that provides full coverage of the external yard areas and the inside of the bulking shed. There will be lockable gates at the site's access points and the gates will be locked outside of operational hours. The building will be inspected daily by the operations staff to identify deterioration and damage and the need for any repairs. If damage is identified, the Site Supervisor will be informed. The building will be maintained and repaired to ensure their continued integrity. If damage is sustained, repairs	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**
			will be made by the end of the working day. If this is not possible, suitable measures will be taken to prevent any unauthorised access to the site and permanent repairs will be affected as soon as practicable. All visitors to the site will be required to register in the visitor's book and sign out again on exit. This minimises the risk of unauthorised visitors being present at the site. The Site Supervisor will be responsible for implementing risk management measures in accordance with the EMS.			
Unauthorised Waste Acceptance	Potentially sensitive receptors as listed in Table 3-2, including residential properties, commercial and industrial premises, ecological receptors and local cultural and heritage features.	Via air (odours). Overland (to sewers, surface and groundwater).	Upon delivery, material will be subject to strict waste acceptance procedures to identify, reject and/or segregate potentially non-conforming waste. Only material authorised by the permit will be accepted at the site. All non-municipal wastes will be subject to inspection and checking against the declaration on the waste transfer note. If unauthorised waste is delivered to the site, the material will be segregated and handled in one of the following ways:	Low	Odour nuisance. Water contamination.	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**
			■ Deposited within the residual waste; or ■ Handpicked in the existing bay. If unable to be reprocessed, the non-conforming waste will be removed from site to a suitably authorised facility. The Site Supervisor will be responsible for implementing risk management measures in accordance with the EMS.			
Flooding	Surface water, soils and groundwater. Potentially sensitive receptors as listed in Table 3-2, including residential properties, commercial and industrial premises, ecological receptors and local cultural and heritage features.	Flood waters over land	As indicated in Section 3.4, sections in the south west and north east of the site are identified as having a low to high risk of surface water and small watercourse flooding. The site will benefit from two flood alleviation storage areas located in the south western and north eastern sections of the site. Ground levels in the north and south of the site have been raised to prevent the flooding of the building on site. The Site Supervisor will be responsible for implementing risk management measures in accordance with the EMS.	Medium	Contaminated flood waters impacting land in residential, ecological and commercial areas.	Not significant due to the flood mitigation measures designed into the site.

5.0 Conclusion

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 North Powys Bulking Facility.

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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