

**JOHN JONES**  
CIVIL ENGINEERING &  
GROUNDWORKS LTD

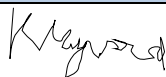
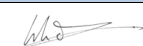








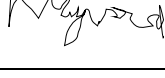

## **Environmental Risk Assessment**

**John Jones Civil Engineering &  
Groundworks Ltd**  
Cwrtgwenddw'r Wood Recycling  
Facility

Cwrtgwenddw'r Wood Recycling Facility,  
Cwrtgwenddw'r Wood,  
A470,  
Builth Wells,  
LD2 3YR

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### Quality Control

Revision No.	Date Revised	Description of changes	Authored By	Sign Off	Approved By	Sign Off
1.0	06/21	Original Draft	Kasia Haywood		Luke Bridges	
2.0	13/12/21	Assessment of risks affecting the River Wye	Kasia Haywood		Luke Bridges	
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## 1. Introduction

John Jones Civil Engineering & Groundworks Ltd is applying for a permit variation to their Tier 2 Bespoke Environmental Permit SR2010 No12 (permit number: EPR/CB3396FF), for its site at Cwrtgwenddwr Wood, A470, Erwood, Llanfared, Powys, Wales, LD2 3YN. The purpose of this application is to vary the Tier 2 permit to allow a SUDS drainage system and remove the requirement to tanker surface water off site. The permit allows for the treatment of waste to produce soil, soil substitutes and aggregate. The main activities on site will include crushing and screening soils and aggregates sourced from local construction and highways industries.

This Environmental Risk Assessment (ERA) is limited to a qualitative assessment of the potential risks to the environment and human health specifically related to the activities undertaken at the John Jones Cwrtgwenddwr recycling site. This report will identify any significant risks and detail the measures that John Jones Engineering and Groundworks Ltd will adopt to appropriately manage any risk of pollution.

## 2. Environmental Risk Assessment

### 2.1. Methodology

This report has been prepared following the risk assessment guidance provided by National Resources Wales for an SR2010 No.12 activity. It specifically relates to the potential risks associated with odour; noise and vibration; fugitive emissions and accidents and incidents.

This risk assessment addresses the above risks and is based on the following methodology:

- Identification of potential risks
- Identification of all potential receptors to these risks
- An assessment of each risk type.

The Environmental Risk Assessment (Appendix A) assesses the risks to the environment and human health from activities carried out at the John Jones site and identifies the pollutant linkage i.e., source – pathway – receptor for each risk type.

### 2.2. Potential Hazards

The potential hazards resulting from the activities carried out at the John Jones Cwrtgwenddwr site have been considered, as provided in Appendix A, and are summarised below:

- Odour:
  - Waste materials
- Noise and vibration:
  - Engine noise from vehicles
  - Use of reverse vehicle warnings
  - Use of plant and machinery
- Fugitive emissions:
  - Particulate matter i.e. dust
  - Scavenging birds, pests, and vermin

- Mud and litter
- Accidents:
  - Fire
  - Leaks and spillages
  - Flooding
  - Unauthorised access

### 2.3. Pathways

The pathways identified for each risk type are shown in Table 1:

**Table 1: Potential Pathways**

Risk Type	Pathway
Odour	Air
Noise and vibration	Air
Fugitive emissions	Air
Groundwater	Surface water run-off
Accidents	Air
	Surface water run-off
	Infiltration
	Percolation

### 2.4. Receptors

Receptors within 1km of the application site have been identified and are shown in Table 2 below, those classed as sensitive are highlighted in bold, and in the Sensitive Receptor Plan (Appendix B). The main pathway for the identified sources is the air and as such, atmospheric conditions can affect dispersion rates and the potential risk. Therefore, the location of each receptor in relation to the site may influence the potential impact of the risk, as summarised in Table 2.

**Table 2: Location of potential receptors in relation to waste operations**

Receptor	Distance from site (m)	Direction
<b>Residential</b>		
<b>Sheep Wash</b>	<b>380m</b>	<b>South East</b>
<b>Cwrt-Gwenddwr</b>	<b>100m</b>	<b>North East</b>
Properties on A470	500m	North
Tyrcelyn Halt	520m	South East
<b>Upper Pentywyn</b>	<b>445m</b>	<b>West</b>
<b>Lower Pentywyn</b>	<b>350m</b>	<b>North West</b>
Erw'rhenallt	725m	South West
<b>Woodland and Waterways</b>		
<b>River Wye (Special Area of Conservation and Site of Special Scientific Interest)</b>	<b>150m</b>	<b>East</b>
Cwm Dyfnant	340m	South
Broadleaved woodland	0-1000m	All directions
<b>Llandeilo, Rhulen and Llanbedr Hills SSSI</b>	<b>475m</b>	<b>East</b>
River Wye (Tributaries) SSSI	1000m	North East
Coed Aberedw SSSI	900m	North East
<b>Ancient Woodland</b>	<b>55m</b>	<b>East and West</b>

<b>Small surface watercourses</b>	On site	On site
<b>Sensitive Land Uses</b>		
St Mauritius Church	800m	North
Chapel Farm	600m	North East
Bedw Farm	765m	West
<b>Industrial/Commercial</b>		
Kite Hill Yurts	850m	West
<b>Public Rights of Way</b>		
Public Bridleway (off the A470)	250m	North
Public Footpath	470m	West
Public Footpath (off the B4567)	420m	East
Public Bridleway	800m	East
<b>Infrastructure/utilities</b>		
A470	50m	East
B4567	375m	East
<b>Species</b>		
Important Plant Areas (Plantlife)	150m	East
Rare Lichens and Bryophytes on Ash and other trees	0-1000m	All directions
<b>Protected fish and eels</b>	<b>150m</b>	<b>East</b>
Protected mammals	0-1000m	All directions
<b>Flood Risk</b>		
Flood risk from surface waters	On site	On site

## 2.5. Receptor Risk Assessment

There is a small surface watercourse which passes through the site near the entrance (a distance from the processing area), this has been considered as a sensitive receptor but it has been ducted to bypass the site and prevent any site run off entering the stream to eliminate the risk of contamination downstream. As such this receptor is at low risk. There are two other small surface watercourses, one which passes along the southern border of the site and another which passes perpendicular ~60m north of the site boundary. These are also sensitive receptors but considered at low risk as the on site drainage system will catch any surface water runoff in the entrance aco drain and southern filter drain before it soaks away to the ground. The low risk activities on site and the mitigation measures outlined in this document ensure there is a very low risk to surface water as outlined in the risk assessment below in Appendix A.

The rainwater run off from the quarry face which lands at the back of the site (the western edge) is also considered a sensitive receptor but as the drainage system ensures this drains off site without coming into contact with site operations or run off, this risk is considered low.

The site is not within a source protection zone. It is located in an area that has a very low risk of flooding from rivers or the sea. However, there are limited areas of the site which have a high flood risk from surface water and small watercourses, but this does not extend across the entire site. This is mitigated by culverting a section of the largest surface watercourse so it can flow naturally across the site. The other two watercourses are at the site borders and much smaller. Surface run off will be caught in the drainage system before reaching these receptors so will not increase risk of flooding or water levels.

With the mitigation measures outlined in Appendix A of this risk assessment, the flood risk can be appropriately managed and not further increased by site operations.

The site is surrounded by broadleaved woodland, Receptor 10, and is also located 150m away from an area classed as 'Important Plant Area', neither of which are classed as a high priority or protected habitat, so they have not been classed as sensitive receptors. Site operations have the potential to cause ecological stress within the plant community in these areas, especially the rare lichens and bryophytes and protected mammals, Receptors 26 and 28. However, any potential damage will be mitigated by the site being located in a quarried-out section of the hill so the cliff walls which surround the site act as a container. The mitigation measures outlined in this document and the low risk nature of the site activities will prevent any negative impacts on these protected species.

Sheep Wash, Cwrt-Gwenddwr, Lower Pentywyn and Upper Pentywyn (Receptors 1, 2, 5 and 6 respectively) are all located within 500m of the site so are considered sensitive receptors as they are susceptible to the adverse effects of exposure to site operations. However, the distance between the site and the properties forms a potential buffer zone. The trees surrounding the site and the cliff walls on the site perimeter will also act as a barrier to prevent fugitive emissions from leaving the site and affecting the properties. In addition, the prevailing wind moves to the north east from the site (Figure 2), only one of these sensitive receptors, Cwrt-Gwenddwr property, is in this direction and so fugitive emissions are unlikely to be carried towards the remaining receptors which are located to the west and south east. Adding to this, no visible pollutants are permitted to leave the boundary of the site.

The residential properties within 1000m of the site (Receptors 3, 4 and 7) are situated over 500m away from the site and not to the north east, the direction of the prevailing winds. Any fugitive emissions from the site are unlikely to spread to these receptors due to their proximity and location. The site is also protected by established vegetation and cliff walls which will act as a screen to prevent any fugitive emissions from leaving the site boundary.

The River Wye (Upper Wye) SSSI, Cwm Dyfnant and River Wye (Tributaries) SSSI (Receptors 8, 9 and 13) are waterways located 150m, 340m and 1000m to the east, south and north east of the site respectively. The River Wye (Upper Wye) SSSI is considered to be a sensitive receptor as it is a more established waterway whereas Cwm Dyfnant is often dried up and only a small tributary. The River Wye (Tributaries) SSSI is also not considered sensitive as it is located 1000m from the site. Fugitive emissions could cause potential negative environmental impacts on the plant and animal communities at these receptors, in particular the protected fish and eels in the River Wye (Receptor 27). However, no emissions are permitted to leave the site and will be prevented from doing so with the mitigation procedures set out in this document, the site specific management plans and on-site drainage system. No emissions will be blown to these receptors on the prevailing winds which move to the north east. Due to the proximity between these receptors and the site along with the vegetation and cliff walls surrounding the site, no emissions will reach these receptors to cause any adverse effects.

There are two other SSSIs located within 1000m of the site: Llandeilo, Rhulen and Llanbedr Hills, and Coed Aberedw (Receptors 11 and 13). Llandeilo, Rhulen and Llanbedr Hills SSSI is considered a sensitive receptor due to its proximity 475m from the site, whereas Coed Aberedw is further away so not

considered sensitive. The mitigation measures outlined in this document and site-specific management systems will prevent any adverse impacts on these receptors.

There are two farms: Chapel and Bedw farm (Receptors 16 and 17), located 600m and 765m from the site and are at medium risk as emissions could affect the animals and people undertaking activities/living there. However, due to the distance between the site and the cliff walls that protect the site boundary, it is highly unlikely that emissions will escape the site and reach these receptors.

There is a church and a yurt site (Receptors 15 and 18) located 800m and 850m from the site, respectively. The yurt site is at a medium risk as it involves outdoor activities so emissions could affect the people involved. Emissions from the site will not be spread by prevailing winds to these receptors. The likelihood of emissions reaching these receptors is extremely low with the abatement measures identified within Table A3 in Appendix A of the Environmental Risk Assessment, alongside the protection given by the vegetation and cliff walls surrounding the site which act as a screen for emissions exiting the site, alongside the distance between the two.

There are multiple public footpaths and bridleways (Receptors 19-22) located 250-800m from the western site boundary. Receptors 21 and 22 are both to the east of two public highways which act as a barrier between the paths and the site. No emissions will escape from the site and effect these paths due to the cliff walls surrounding the site, the distance between the receptors and the site, and the abatement controls outlined in this document. Supporting this, the prevailing winds blow to the north east, of which none of these receptors are located.

There are many wooded areas, farmland and open spaces within 1000m of the site that are not marked on the sensitive receptor plan in Appendix B as they are considered low risk or low sensitivity.

## 2.6. Risk Assessment

The Environmental Risk Assessment (Appendix A) looks at each specific hazard identified and assesses the likelihood of those hazards impacting on nearby receptors. This is achieved by fulfilling the following objectives:

- Identify the location and nature of each hazard
- Identify the specific receptors potentially at risk and assess the sensitivity of each receptor
- Provide an assessment of the risk posed to each sensitive receptor
- Identify management and monitoring techniques to remove or mitigate the risk
- Provide recommendations for more detailed assessments where necessary.

## 3. Summary

The Environmental Risk Assessment indicates that if the appropriate outlined management techniques are implemented at the site to protect nearby sensitive receptors, the proposed activities as part of the permit application will have no significant impacts in terms of odour, noise and fugitive emissions, and the likelihood of accidents is minimal.



## Appendix A – Environmental Risk Assessment

**Table A1:** Odour Risk Assessment and Management Plan

What is the risk?			Managing the risk	Assessing the risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?
Odorous Waste Types	Local population in residential dwellings and sensitive land uses listed in Table 2  Protected species  SSSIs  Public footpaths  Site Staff	Air transport then inhalation	Permitted waste types stored onsite are not putrescible and so have a low odour potential.  There will be strict waste acceptance procedures in place to minimise the risk of non-compliant wastes being accepted. Details of the waste acceptance procedures are provided in the Environmental Management System (EMS).  All site operatives will be vigilant regarding identifying non-compliant wastes and any non-conformances or odour issues will be reported to the Site Manager.	Very unlikely as the waste types accepted on site do not give off odour unless heated and the material will be stored at ambient temperature. Work will be within the effective operational capacity of the site to minimise prevent build-up of waste.	Odour annoyance and complaints	Low

**Table A2:** Noise and Vibration Risk Assessment and Management Plan

What is the risk?			Managing the risk	Assessing the risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?
Noise and vibrations from loading and unloading of waste	Local population in residential dwellings and sensitive land uses listed in Table 2  Protected species  SSSIs  Public footpaths  Woodland	Air and vibration	<p>All noise generating activities will be undertaken between the hours of 07:00 to 18:00 Monday to Friday and occasionally 07:00 to 13:00 on Saturdays, except for emergency repairs. No operations would take place on Sundays or recognised Public Holidays.</p> <p>All plant and machinery will have effective silencers where practicable and will be maintained in accordance with the manufacturer's requirements to minimise the risk of mechanical failure which could result in increased noise emissions.</p> <p>The loading/unloading of wastes will be undertaken in a controlled manner to keep noise/vibration to a minimum. Vehicles will be directed by site operatives to minimise the drop height when depositing loads at the site.</p> <p>All noise and vibration generating activity will be monitored closely and site operatives will be vigilant and report any excessive noise or vibration issues to the Site Manager.</p> <p>The site is enclosed within cliff walls, which will act as a noise barrier and prevent noise from travelling off site. There is also established vegetation and trees surrounding the site.</p> <p>Noise and vibration will be managed in accordance with the Noise and Vibration Management Plan prepared for the site.</p>	Intermittent noise disturbance	Noise annoyance and complaints	Low
Vehicle movements on site	Local population in residential dwellings and sensitive	Air	<p>Loads will only be delivered to the site during working hours (07:00 to 18:00 Monday to Friday and occasionally 07:00 to 13:00 on Saturdays).</p> <p>There is a designated haul road system on site to reduce the need for reversing and traces the most efficient path across the site.</p>	Intermittent during operating hours	Intermittent noise and vibration disturbance	Low

	land uses listed in Table 2		The delivery of waste will take place in a controlled manner to keep noise to a minimum.			
	Protected species		All plant and machinery will have effective silencers where practicable and will be maintained in accordance with the manufacturer's requirements to minimise the risk of mechanical failure which could result in increased noise emissions.			
	SSSIs		An anti-idling policy ensures that all equipment and vehicles when not in regular use shall be switched off. The Site Manager will be responsible for ensuring the above measures are implemented.			
	Public footpaths					
	Woodland		All noise generated by vehicle movements will be monitored closely and site operatives will be vigilant and report any excessive noise or vibration issues to the Site Manager.			
			Noise and vibration will be managed in accordance with the Noise and Vibration Management Plan prepared for the site.			
Use of plant and machinery.	Local population in residential dwellings and sensitive land uses listed in Table 2	Air	All noise generating activities will take place during working hours (07:00 to 18:00 Monday to Friday and occasionally 07:00 to 13:00 on Saturdays), except for emergency repairs.	Intermittent during operating hours.	Intermittent noise and vibration disturbance.	Low
	Protected species		All plant and machinery will have effective silencers where practicable and will be maintained in accordance with the manufacturer's requirements to minimise the risk of mechanical failure which could result in increased noise emissions.			
	SSSIs		All equipment and vehicles, when not in regular use, shall be switched off. The Site Manager will be responsible for ensuring the above measures are implemented.			
	Public footpaths		All noise generating activity will be monitored closely and site operatives will be vigilant and report any excessive noise or vibration issues to the Site Manager.			
			Noise and vibration will be managed in accordance with the Noise and Vibration			

	Woodland		Management Plan prepared for the site.			
Noise from reversing vehicle warnings	Local population in residential dwellings and sensitive land uses listed in Table 2  Protected species  SSSIs  Public footpaths  Woodland	Air	<p>All noise generating activities will take place during working hours (07:00 to 18:00 Monday to Friday and occasionally 07:00 to 13:00 on Saturdays) except for emergency repairs.</p> <p>There is a designated haul road system on site to reduce the need for reversing and traces the most efficient path across the site.</p> <p>All noise and vibration generating activity will be monitored closely and site operatives will be vigilant and report any excessive noise or vibration issues to the Site Manager.</p> <p>Vehicles will be fitted with push alarms in replace of loud reversing beeping alarms.</p>	Intermittent during operating hours.	Intermittent noise disturbance.	Low
Noise from processing of waste materials (crushing and screening)	Local population in residential dwellings and sensitive land uses listed in Table 2  Protected species  SSSIs	Air	<p>All noise generating activities will take place during working hours (07:00 to 18:00 Monday to Friday and occasionally 07:00 to 13:00 on Saturdays) except for emergency repairs.</p> <p>Screening activities will not generate levels of noise above that originating from the surrounding roads, commercial and industrial area.</p> <p>Drop heights will be limited when moving materials.</p> <p>Plant and machinery will be orientated to ensure noise travels into the centre of the site instead of to the outer perimeter to reduce noise spreading off site. The crusher and screener will be orientated with the quietest side facing towards the residential properties.</p>	Intermittent during operating hours	Intermittent noise disturbance	Low

	Public footpaths		All plant and equipment will be switched off when not in regular use. Crushing and screening will be done on a campaign basis, only once sufficient material has accumulated to avoid on-off use.			
	Woodland		<p>All plant and machinery will have effective silencers where practicable and be maintained in accordance with the manufacturer's requirements to minimise the generation of noise.</p> <p>The site is enclosed within cliff walls, which will act as a noise barrier and prevent noise from travelling off site. There is also established vegetation and trees surrounding the site.</p> <p>All noise and vibration generating activity will be monitored closely and site operatives will be vigilant and report any excessive noise or vibration issues to the Site Manager.</p> <p>Noise and vibration will be managed in accordance with the Noise and Vibration Management Plan prepared for the site.</p> <p>Crushing will be carried out on a campaign basis during a limited number of weeks per year.</p>			

**Table A3:** Fugitive emissions risk assessment and management plan

What is the risk?			Managing the risk	Assessing the risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?
<b>To Air</b>						
Dust emissions from vehicle movements	Local population in residential dwellings and sensitive land uses listed in Table 2.  Woodlands and waterways  Protected species  SSSIs  Site Staff  Users of roads listed in Table 2	Air transport then deposition	<p>Wastes being delivered to the site will be covered or sheeted to prevent the generation of dust while the waste is in transit.</p> <p>The purpose of the site is to produce aggregates and the material stored on site will mainly be aggregates which have had the fines removed thus reducing their potential as a dust source. Careful observation of stockpiles containing materials that still contain fines will be carried out.</p> <p>Vehicle speeds will be limited onsite and the access road to 5mph to prevent re-suspension and movement of dust.</p> <p>All equipment and vehicles when not in regular use shall be switched off to minimise the risk of dust emissions that may arise from idling.</p> <p>The implementation of a dust suppression system including the use of a mobile bowser and hose pipe system used to dampen down any dusty waste on site and the maintenance of the site surface.</p> <p>The site is enclosed by cliff walls and trees to screen any dust emitted during site activities and act as a dust defence.</p> <p>The site benefits from a mobile bowser which can supply water for damping down and dust suppression. This will be filled by tankering water on to site or using water from the underground holding tank.</p>	Unlikely due to measures in place	<p>Local nuisance i.e. dust on cars, clothing, and vegetation.</p> <p>Nutrient enrichment.</p>	Low

			<p>There is a designated haul road system on site to reduce the need for reversing and traces the most efficient path across the site.</p> <p>The Site Manager undertakes a daily visual assessment of dust levels, and all site operatives will be vigilant and report any problems to the Site Manager.</p>			
Dust emissions generated during unloading of waste from HGVs.	<p>Local population in residential dwellings and sensitive land uses listed in Table 2.</p> <p>Woodlands and waterways</p> <p>Protected species</p> <p>SSSIs</p> <p>Site Staff</p> <p>Users of roads listed in Table 2</p>	Air transport then deposition	<p>A mobile bowser and hose pipe system will be used to dampen the site surface and storage bays if necessary.</p> <p>The loading/unloading of wastes will be undertaken in a controlled manner to keep dust emissions to a minimum.</p> <p>Drop heights will be minimised to reduce the generation of dust whilst the waste is being handled.</p> <p>The surrounding cliff walls will act as a screen for dust so no dust escapes from the site boundary.</p> <p>Established vegetation surrounds the site which acts as a dust barrier and screens any dust from site operations.</p> <p>The mobile bowser can access all surfaces on site to be used for damping down and dust suppression.</p> <p>The Site Manager will undertake a daily visual assessment of dust levels and all site operatives will be vigilant and report any problems to the Site Manager.</p> <p>Operations will temporarily cease when winds are likely to generate dust emissions from wastes and materials.</p>	Dust could potentially reach nearby properties when a strong wind blows in their direction. Management actions should prevent this happening	<p>Local nuisance i.e. dust on cars, clothing, and vegetation.</p> <p>Nutrient enrichment.</p>	Low
Dust from haul roads	Local population in residential dwellings and sensitive land uses listed in Table 2.	Air transport then deposition	<p>The use of modern plant and regular maintenance shall be practiced to reduce emissions.</p> <p>The implementation of dust suppression systems including the</p>	Unlikely due to measures in place	Local nuisance i.e. dust on cars, clothing, and	Low

	Woodlands and waterways  Protected species  SSSIs  Site Staff  Users of roads listed in Table 2		<p>use of a mobile bowser in high activity waste processing areas, the hosing of vehicles where necessary and regular maintenance of haul roads with a jet wash.</p> <p>The site will benefit from a jet wash hose pipe which is used by HGV's before they leave the site. This will minimise the risk of dust emissions on the haul road.</p> <p>There is a designated haul road system on site to reduce the need for reversing and traces the most efficient path across the site.</p> <p>The cliff walls surrounding the site will act as a screen for dust so no dust escapes from the site boundary.</p> <p>The site benefits from a mobile bowser which can supply water for damping down and dust suppression. This will be filled by tankering water on to site or using water from the underground holding tank.</p> <p>Dust will be managed in accordance with the site-specific Dust Management Plan.</p> <p>The Site Manager undertakes a daily visual assessment of dust levels and all site operatives will be vigilant and report any problems to the Site Manager.</p>		vegetation.	
Dust emissions from the processing of waste materials (crushing and screening)	Local population in residential dwellings and sensitive land uses listed in Table 2.  Woodlands and waterways  Protected species	Air transport than deposition	<p>The implementation of a dust suppression system including the use of a mobile bowser and hose pipe system used to dampen down any dusty waste on site and the maintenance of the site surface.</p> <p>Plant and machinery will be orientated to ensure dust travels into the centre of the site instead of to the outer perimeter to reduce dust spreading off site.</p> <p>The cliff walls around the site and the surrounding vegetation will act as a screen for dust so no dust escapes from the site</p>	Unlikely due to measures in place	Local nuisance i.e. dust on cars, clothing, and vegetation.  Nutrient enrichment.  ·	Low



	<p>SSSIs</p> <p>Site Staff</p> <p>Users of roads listed in Table 2</p>		<p>boundary.</p> <p>All plant and equipment will be switched off when not in regular use.</p> <p>Crushing activities will only operate on a campaign basis during a limited number of weeks per year.</p> <p>The site benefits from a mobile bowser which can supply water for damping down and dust suppression. This will be filled by tankering water on to site or using water from the underground holding tank.</p> <p>The Site Manager undertakes a daily visual assessment of dust levels and all site operatives will be vigilant and report any problems to the Site Manager</p>			
<p>Release of particulate matter (dusts), vapours and polluting gases</p>	<p>Local population in residential dwellings and sensitive land uses listed in Table 2.</p> <p>Woodlands and waterways</p> <p>Protected species</p> <p>SSSIs</p> <p>Site Staff</p> <p>Users of roads listed in Table 2</p>	<p>Air transport then inhalation</p>	<p>Permitted waste types do not include dusts, powders or loose fibres and waste is not typically dusty unless it is stored during prolonged dry periods when damping down is carried out where required.</p> <p>Hazardous wastes are not permitted on site, only inert and non-hazardous materials are on site that do not release polluting gases.</p> <p>The potential sources of fugitive emissions to air have been identified and a Dust Management Plan has been prepared to prevent any potential dust emissions from reaching any nearby receptors.</p> <p>The Site Manager undertakes a daily visual assessment of dust levels and all site operatives will be vigilant and report any problems to the Site Manager</p>	<p>Unlikely due to measures in place and no hazardous wastes permitted on site</p>	<p>Respiratory illness including lung cancer and mesothelioma.</p>	<p>Low</p>

To Water						
Contaminated rainwater run-off.	<p>Surface water and groundwater</p> <p>Waterways listed in Table 2</p> <p>SSSIs</p> <p>Protected species in waterways</p>	Water	<p>Permitted waste types are only inert and non-hazardous, they do not include hazardous wastes or those in sludge or liquid form. Any waste types stored in open stockpiles are inert and so any run-off that is generated on site is unlikely to be contaminated. The site activities are very low risk.</p> <p>The site benefits from a sustainable drainage system where surface water run off drains into a filter drain connected to a full retention interceptor connected to a holding tank. This then drains into a filter drain to allow non-contaminated water to filter back into ground with no risk of contamination.</p> <p>No hazardous wastes are permitted on site, this prevents the leaching of contaminants into groundwater.</p> <p>The small stream across the entrance of the site is ducted to bypass the site and rainwater run off from the quarry face at the back of the site is also collected in a perforated pipe to drain naturally off site without coming into contact with any site operations.</p> <p>No operations occur at the southern and northern borders where there are two additional small surface watercourses nearby, and no site surface water will drain into these as it will be captured by the northern and southern drains.</p> <p>In the event of a spill, emergency procedures as outlined in the EMS will be followed. The holding tank has a stop-off valve to allow discharge to the filter to be prevented in the event of a spill.</p> <p>Fuel will be stored in a double bunded and locked tank, following strict Environmental Law to reduce chances of fuel spills.</p>	Very unlikely due to permitted waste types and sustainable drainage system	Contamination of groundwater surface water bodies	Low

			<p>All wastes will be inspected on arrival, any non-conforming or non-permitted wastes will be stored in the designated quarantine skip located at a distance from other waste. All quarantined waste will be removed from site within 5 working days to reduce any potential contamination from the waste.</p> <p>There are strict waste acceptance procedures in place at the site to prevent the acceptance of non-conforming waste types. Details of the waste acceptance procedures are provided in the EMS.</p>			
Run-off containing high levels of silt	<p>Waterways listed in Table 2 (particularly the River Wye)</p> <p>SSSIs</p> <p>Protected species in waterways</p>	<p>Water</p> <p>Site run-off</p>	<p>Permitted waste types are only inert and non-hazardous so any silt will not be contaminated.</p> <p>No hazardous wastes are permitted on site, this prevents the leaching of contaminants into groundwater.</p> <p>All wastes will be inspected on arrival, any non-conforming or non-permitted wastes will be stored in the designated quarantine bay located at a distance from other waste. All quarantined waste will be removed from site within 5 working days to reduce any potential contamination from the waste.</p> <p>There are strict waste acceptance procedures in place at the site to prevent the acceptance of non-conforming waste types. Details of the waste acceptance procedures are provided in the EMS.</p> <p>A strict housekeeping regime will be followed to ensure no dust, debris or litter is found on the surface of the site.</p> <p>The site has a permeable surface so rainwater will</p>	Very unlikely due to the sustainable drainage system	Contamination of local watercourses with silt laden run off	Low

			<p>percolate naturally into ground and only excess surface water will enter the drainage system. This reduces the silt levels as an impermeable surface would increase run off rates and therefore silt. Silt will naturally stay on the ground instead of entering the drainage system.</p> <p>The site has a sustainable drainage system including all site run off draining into a full retention interceptor, holding tank and finally a filter drain to prevent silt from leaving the site and entering any nearby watercourses. The system slows down drainage and provides opportunity for silt to be trapped in the filter drain.</p> <p>The small stream across the entrance of the site is ducted to bypass the site and rainwater run off from the quarry face at the back of the site is also collected in a perforated pipe to drain naturally off site without coming into contact with any site operations.</p> <p>No operations occur at the southern and northern borders where there are two additional small surface watercourses nearby, and no site surface water will drain into these as it will be captured by the northern and southern drains.</p>			
<b>Pest/Scavenging Birds</b>						
Birds and pests	<p>Local population in residential dwellings, sensitive land uses, and woodlands listed in Table 2.</p> <p>Protected species</p> <p>SSSIs</p>	Air transport and over ground	<p>Permitted wastes stored onsite are not putrescible and so are not attractive to pests or scavenging birds.</p> <p>The site has a secure office/storage barn to prevent the entry of animals.</p> <p>The boundary of the site is surrounded by trees and vegetation to blend into the existing environment and not attract any birds or pests.</p>	Very unlikely due to the measures in place	Nuisance to local receptors within 1km of the permit boundary.	Low

			<p>There are strict waste acceptance procedures in place at the site to prevent the acceptance of non-conforming waste types. Details of the waste acceptance procedures are provided in the EMS.</p> <p>The Site Manager will undertake regular reviews of pests and scavenging birds at the site. All site operatives will be vigilant and report any problems to the Site Manager.</p>			
<b>Mud</b>						
Mud from vehicle movements	Users of local highways	Tracked on vehicle wheels.	<p>The use of a jet wash hose on site used to wash any muddy vehicles.</p> <p>If mud is deposited on the access road and/or highway then a road sweeper will be employed if necessary.</p> <p>All vehicles exiting the site would be checked for exterior mud or debris.</p> <p>The site benefits from an operational jet wash which will be used on any exiting HGVs to remove any mud or debris.</p> <p>The amount of mud on local roads will be monitored daily by site operatives.</p>	Unlikely due to measures in place.	Local nuisance. Mud on roads is unsightly and can increase the likelihood of road traffic accidents.	Low
<b>Litter</b>						
Litter	All receptors listed in Table 2.	Air transport then deposition	<p>Waste types received by the site generally do not contain litter. Operatives will be vigilant, and any litter reported will be removed immediately.</p> <p>All incoming loads will be sheeted and remain sheeted until they are ready to be tipped.</p> <p>The site is surrounded by cliff walls that act to prevent the escape of any litter.</p> <p>There are strict waste acceptance procedures in place at the</p>	Unlikely due to measures in place.	Local nuisance	Low

			<p>site to prevent the acceptance of non-conforming waste types. Details of the waste acceptance procedures are provided in the EMS.</p> <p>Working areas will be regularly cleared and inspected to minimise litter. Housekeeping measures are in place during operating hours.</p>			
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**Table A4:** Accident and Incident Risk Assessment and Management Plan

What is the risk?			Managing the risk	Assessing the risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?
Fire or failure to contain firewater	<p>Air transport then inhalation or deposition</p> <p>Groundwater and surface water.</p> <p>Local residents listed in Table 2</p> <p>Woodlands and waterways</p> <p>SSSIs</p> <p>Protected species in waterways</p>	Infiltration and contamination of surface water	<p>The risk of fire is considered to be low as the proposed waste types are not combustible and no waste shall be burnt on site.</p> <p>The use of welding/cutting tools (tools with a naked flame) are sanctioned first by the site manager/competent person.</p> <p>All site operatives are required to recognise signs of smouldering waste at the point of reception. Such wastes shall remain in the container and removed to a safe area. The site manager shall be informed.</p> <p>All wastes will be inspected on arrival, any non-conforming, nonpermitted or combustible wastes will be stored in the designated quarantine bay located at a distance from other wastes. All quarantined waste will be removed from site within five working days to reduce any potential fires caused by waste.</p> <p>There will be strict waste acceptance procedures in place at the site to prevent the acceptance of non-conforming waste types. Details of the waste acceptance procedures are provided in the EMS.</p> <p>The site benefits from a sustainable drainage system to contain any firewater. This includes a holding tank with a stop-off valve to prevent any firewater from escaping the system.</p> <p>The small stream across the entrance of the site is ducted to bypass the site and rainwater run off from the quarry face at the back of the site is also collected in a perforated pipe to drain naturally off site without coming into contact with any</p>	Unlikely	Contamination of local groundwater and/or surface water.	Low

			<p>site operations or any firewater.</p> <p>Any firewater will drain into the aco and filter drains at the northern and southern sides of the site before reaching the small surface watercourses. Booms and spill kits will be used in the event of fire to further protect the watercourses.</p> <p>The operator will undertake routine maintenance of equipment in accordance with manufacturer's guidance. This will minimise the risk of mechanical failure which may result in an increased risk of combustion.</p> <p>Site notices and training will be undertaken regarding fire hazards.</p> <p>Site Manager will be responsible for actions in the event of a fire.</p> <p>The site has fire extinguishers on site.</p> <p>Fuel is stored in a double banded and locked secure tanks so leaks from fuel which may contribute to a fire on site are unlikely.</p>			
Leaks and spillages of oil or fuel.	<p>Groundwater and surface water.</p> <p>Waterways listed in Table 2</p> <p>SSSIs</p> <p>Protected species in waterways</p>	Infiltration	<p>The operator does not accept liquid wastes.</p> <p>The operator will undertake regular maintenance of plant equipment in accordance with manufacturer's guidance. This will minimise the risk of mechanical failure which may result in leaks.</p> <p>All fuel, oil and lubricants will be contained within banded tanks. The tanks will be maintained and inspected in accordance with the manufacturer's recommendations.</p> <p>Daily vehicle / plant checks to ensure any fuel/oil leaks etc. are repaired as soon as possible.</p>	Unlikely due to measures in place.	Contamination of land and watercourses.	Low

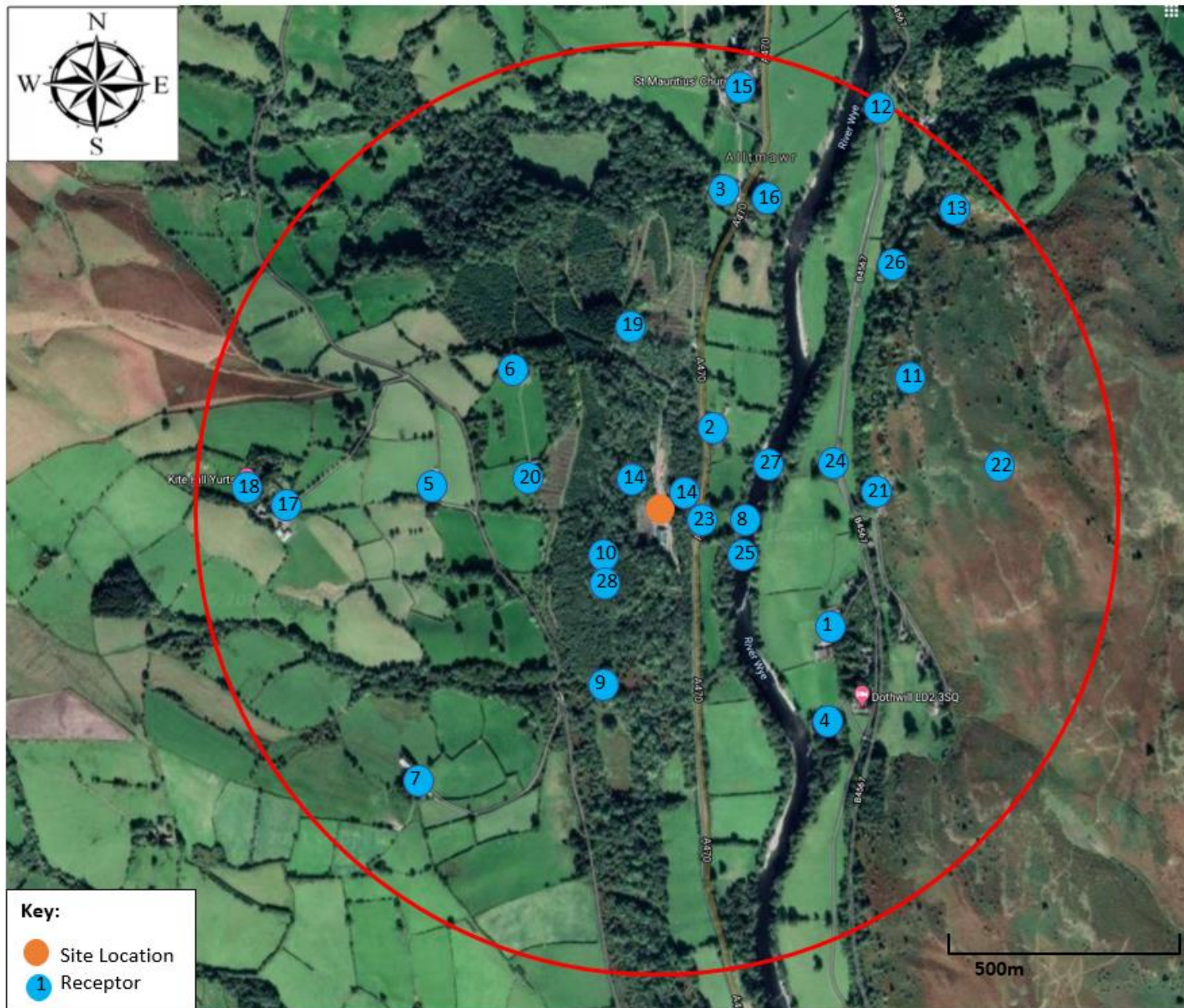


			<p>The site benefits from a sustainable drainage system which will contain any leaks or spills. It includes a full retention interceptor to separate any hydrocarbons out. The holding tank has a stop-off valve to prevent any spills from escaping the system.</p> <p>The small stream across the entrance of the site is ducted to bypass the site and rainwater run off from the quarry face at the back of the site is also collected in a perforated pipe to drain naturally off site without coming into contact with any site operations or any spills/leaks.</p> <p>Any spills or leaks will drain into the aco and filter drains at the northern and southern sides of the site before reaching the small surface watercourses. Booms and spill kits will be used in the event of a spill or leak to further protect the watercourses.</p> <p>The site will follow secondary risk management provisions such as spill kits, emergency response procedures as detailed in the site EMS and staff training to manage spills.</p> <p>The Site Manager will be responsible for ensuring effective remediation and documenting any incident.</p>			
Flooding	<p>Groundwater and surface water</p> <p>SSSIs</p> <p>Protected species in waterways</p>	<p>Infiltration and Percolation</p>	<p>The site is not located in an area at high risk of flooding from rivers or surface waters.</p> <p>Hazardous waste is not permitted on site and only inert material will be stockpiled which is very low risk and highly unlikely to contaminate floodwater.</p> <p>The site has a permeable surface to allow for natural infiltration into ground and prevent flooding on site and the surrounding area. An impermeable surface would increase run off rates and increase the risk of flooding. The SuDS allows the continuation of natural percolation.</p>	<p>Unlikely due to measures in place in the nature of the proposed development.</p>	<p>Disruption to works operations</p> <p>Contamination of local groundwater and/or surface water</p>	<p>Low</p>

			<p>The waste stored onsite is unlikely to cause contamination of groundwater through infiltration as the proposed waste types are inert and non-hazardous and the site benefits from a sustainable drainage system. Due to the nature of waste types which are proposed to be accepted on site (inert and non-hazardous), if surface water comes into contact with these wastes, significant pollution or contamination of groundwater or surface water is considered highly unlikely.</p> <p>The small stream across the entrance of the site is ducted to bypass the site and rainwater run off from the quarry face at the back of the site is also collected in a perforated pipe to drain naturally off site.</p> <p>The drainage system does not act to block the natural path or flow of floodwater and cause further issues.</p> <p>There is no proposed ground raising within the site boundary so this will not impact on flood risk to the site or nearby receptors.</p> <p>The site will be evacuated and closed in a flood event following a flood warning and evacuation plan.</p> <p>Flood levels will be monitored through signing up to flood alerts and site staff inspecting levels in the watercourses daily. All site staff are to receive training on trigger levels in watercourses. If this is not sufficient, then site level monitors will be installed.</p>			
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Vandalism	Local population in residential dwellings and sensitive land uses listed in Table 2.  Site staff	Unauthorised entry to the site	<p>The site has operating 24-hour CCTV.</p> <p>Access to the waste area will be restricted to trained depot staff.</p> <p>Any fuel or valuables will be stored in locked storage.</p> <p>Any identified damage to the locked storage that could compromise the site security will be recorded and reported to the landowner. A temporary repair will be made as necessary before the end of the working day. Permanent repair or replacement will be undertaken as soon as practicable.</p> <p>Procedures are in place which require all visitors to the site to sign in on arrival and sign out on departure.</p>	Unlikely due to measures in place.	Release of polluting materials to air, water or land.	Low
All on-site hazards from wastes; machinery and vehicles	Local human population gaining unauthorised entry to the site, site staff and contractors.	Direct physical contact	<p>Activities will be managed and operated in accordance with an EMS which will include measures to prevent unauthorised access. Wastes, machinery, and vehicles will be handled by trained site operatives.</p> <p>All plant is serviced and maintained as part of a cyclical maintenance plan.</p>	There is always a risk of accidents, but measures have been put in place to reduce the risk associated with site activities.	Injury or health effects	Low

## **Appendix B** – Sensitive Receptor Plan



ID	Receptor
<b>Residential</b>	
1	Sheep Wash
2	Cwrt-Gwenddwr
3	Properties on A470
4	Tyrcelyn Halt
5	Upper Pentywyn
6	Lower Pentywyn
7	Erw'rhenallt
<b>Woodland and Waterways</b>	
8	River Wye (Upper Wye) SSSI and SAC
9	Cwm Dyfnant
10	Broadleaved woodland
11	Llandeilo, Rhulen and Llanbedr Hills SSSI
12	River Wye (Tributaries) SSSI
13	Coed Aberedw SSSI
14	Ancient Woodland
On site	Small surface watercourses
<b>Sensitive Land Uses</b>	
15	St Mauritius Church
16	Chapel Farm
17	Bedw Farm
<b>Industrial/Commercial</b>	
18	Kite Hill Yurts
<b>Public Rights of Way</b>	
19	Public Bridleway (off the A470)
20	Public Footpath
21	Public Footpath (off the B4567)
22	Public Bridleway
<b>Infrastructure/utilities</b>	
23	A470
24	B4567
<b>Species</b>	
25	Important Plant Areas (Plantlife)
26	Rare Lichens and Bryophytes
27	Protected eels and fish
28	Protected mammals
<b>Local Wildlife Sites</b>	
	Allt Mawr Uchaf
	Old Bedw and Old Bedw 2
	Old Bedw GCN Pond



