Caulmert Limited

Engineering, Environmental & Planning
Consultancy Services

Brecon Waste Transfer Station

Potters Waste Management

Amenity and Accident Risk Assessment

Environmental Permit Variation Application

Prepared by:

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APPROVAL RECORD

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DISCLAIMER

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1. INTRODUCTION

1.1 Background

1.1.1 This report is an amenity and accident risk assessment of the impact of the proposed operational changes and forms part of the permit variation application.

1.1.2 An amenity and accident risk assessment has been carried out previously for this site, this risk assessment for the existing activities remains unchanged. The current report solely covers the additional activities proposed at the site.

1.1.3 The proposed changes to the site operations are as follows:

a) Amendment to Table S1.1 of the permit to allow for additional waste types to be stored outside the transfer building;

b) This includes the storage of untreated green waste and other waste types listed in the supporting document which are to be stored on a concrete slab with drainage to the existing alarmed cess pool.

1.2 Identification of receptors

1.2.1 The site setting is within a rural area in Brecon, near Llanwern, in Powys, Wales. It is located off the A470, approximately 5 km to the north east of Brecon, and 1.5 km south of Felin Fach.

1.2.2 The surrounding area is mostly agricultural with a few domestic dwellings within 500 metres.

1.2.3 A Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) known as Drostre Bank overlie each other approximately 310m to the east of the site.

1.2.4 Drostre Bank SAC and SSSI, centred at grid reference SO 097 312 covers an area of 12.6 hectares and is of special interest for its species-rich fen-meadow comprising plants such as meadow thistle, quaking grass, flea sedge and marsh valerian. The site is also of European importance for its large area of alluvial ash woodlands and "*Molinia* meadows on calcareous, peaty or clayey-silt-laden soils" (as taken from Drostre Bank SSSI & SAC citation, CCW).

1.2.5 The nearest residential receptors are located 120m south east.

1.2.6 There are no schools or hospitals within 500 metres of the site.

1.2.7 There are no Source Protection Zones for groundwater within 1 km of the site.

1.2.8 The potential receptors within 500 metres of the site boundary are summarised in the table below.

Receptor type	Potential receptors
Local human population	Residential properties within 500 m are:- • Upper Penishawain – 430 m N-NW; • Pantau – 250 m N; • Garn-galed – 280 m N; • Tyflat – 310 m N; • Crwt-y-Plyfin Court – 210 m NE; • Twynyrodyn Bungalow – 120 m W-SW; • Ty Crug – 150 m S-SE; • Tan-yr-allt – 200 m S.
Footpaths, recreational areas etc.	Public right of way – adjacent to current boundary to W
Drainage systems/ Sewers	None (site in non-sewered area).
Surface water	Unnamed watercourses to W and N, flowing in a generally northern direction towards the River Wye located over 7km north east at the nearest point.
Groundwater	Superficial deposits aquifer characteristics – unproductive. Bedrock aquifer characteristics – secondary A. No Source Protection Zones within 1 km.
Protected sites	Drostre Bank SSSI and SAC – 310 m to E

2. RISK ASSESSMENTS

2.1 Odour, noise and vibration, fugitive emissions and accidents risk assessments

2.1.1 Separate risk assessment tables have been completed for odour, noise and vibration, fugitive emissions and accidents in line with guidance provided by Natural Resources Wales.

2.1.2 Possible hazards (i.e. odour sources, sources of noise or vibration, sources of fugitive emissions that could be harm the environment or escape beyond the permit boundary and possible sources of accidents that could harm the environment) have been identified. For each possible hazard, an assessment of the risk that poses to potential receptors has been carried out; taking into account the control measures that will be in place.

2.1.3 The risk assessments are presented in table 1 to 4 below.

Table 1: Odour risk assessment

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? If it occurs – 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
Storage of green waste and dry recyclables outside the main waste transfer building.	Residential properties within 500 m of the site. Users of adjacent footpath and roads.	Air	Preventative measures include: • Green waste is untreated and therefore air pockets remain between the keep the waste aerated, reducing the impact of odour. • No treatment of green waste on site. • Green waste stored for no longer than 2 weeks. • Odour Management Plan (Appendix 1). • Daily site inspections will include waste storage areas being checked to assess that stored waste is not becoming odorous during storage.	**Fairly unlikely**. Nearest residential receptor at some distance (120 m). Preventative measures will further reduce the risk of exposure.	Odour annoyance which will have more impact in summer when people outdoors and temperatures higher. For road and footpath users, any odour annoyance would be transient.	**Not significant**.
Odour from waste handling and storage.	Residential properties within 500 m of the site. Users of adjacent	Air	Preventative measures include: • Storage times for unprocessed material to be kept to a minimum. • General housekeeping, such as sweeping of surfaces and machinery being cleared regularly of residue build up.	**Fairly unlikely**. Nearest residential receptor at some distance (120 m). Preventative measures will	Odour annoyance which will have more impact in summer when people outdoors and temperatures	**Not significant**.

	footpath and roads.		• Daily site inspections will include waste storage areas being checked to assess that stored waste is not becoming odorous during storage.	further reduce the risk of exposure.	higher. For road and footpath users, any odour annoyance would be transient.	

Table 2: 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? If it occurs – 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 waste transfer and treatment.	As above.	Air	Preventative measures include: • Operational hours restricted as per planning permission (currently Mon – Fri: 08.00 – 17.00 & Sat: 08.00 – 16.00). • HGV movement to be managed so that reversing is minimised reducing noise from reversing alarms and speeds reduced. • Smooth running surfaces as the site roads and waste handling area will be concreted. • During waste loading and unloading, drop heights should be minimised. • All machinery and plant will be maintained in accordance with manufacturers' specifications. • Daily site inspections will include checks to assess that noise from site operations is not excessive.	This would be a small scale operation and the general nature of road sweeping waste or gully emptyings (i.e. very few large solid items) is unlikely to be noisy during unloading and trommelling.	As above.	**Low**

Table 3: Fugitive emissions risk assessment

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? If it occurs – 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 external waste transfer and treatment areas.	Residential properties within 500 m of the site.	Air - wind borne dust.	**Generic measures and actions** as above. **Specific measures** in relation to the outdoor waste transfer and treatment areas include: • Green waste is stored within a bay with 3m high walls with stockpiles not exceeding the height of bay walls. • Drop heights should be minimised when loading and unloading wastes. • Roads and site areas will be regularly swept. • Daily site inspections will include visual monitoring for dust from the waste storage areas. • In general, good housekeeping with regular sweeping and clearing of waste areas is encouraged. • No shredding of green waste	**Low.** Residential receptors are unlikely to be affected at > 120 m distance.	Nuisance - dust on cars, clothing etc. Human health effects from fine particulates (<10 µm).	**Small - medium**

Bioaerosols as a result of green waste storage	Residential properties within 500 m of the site.	Air - wind borne dust.	Preventative measures include: • No green waste is treated on site. • Green waste is stored on concrete with bay walls to 3m high. • Cleaning will take place on a regular basis and the frequency increased if the technically competent manager deems it necessary. • Site staff are appropriately trained and continuing competency certificates are regularly updated. • All bulker lorries collecting waste for onward recycling or disposal will be sheeted or netted before leaving the loading area.	**Unlikely** Not necessary to undertake monitoring because green waste is not treated on site.	Human health effects from fine particulates (<10 µm).	**Low**
To Water						
Runoff from site surfacing into surface water	Surface water	Over ground or surface water drainage system.	Preventative measures include: • Any materials stored outside stored on impermeable pavement draining to cesspool • Green waste stored on concrete with drainage to cesspool. • Cesspool is alarmed to warn if becoming too full. • Catch pit and gully from concrete slab into cesspool to catch any contaminated run off from green waste/other waste types.	**Unlikely** due to waste types stored on site, runoff from these materials is not considered a potential risk to local water courses.	Contamination of local surface water	**Low**

Contaminated run-off percolating through ground.	Groundwater – classified as Secondary A, not within groundwater protection zone. Surface water	Migration through site surfacing and underlying soil layer.	Measures to control contaminated runoff into ground will include: • Offloading and storage of waste to be supervised by suitably trained staff who will be aware of storage requirements for various wastes. • Daily site inspections will include checks to see that wastes are stored in their designated storage areas. • Waste acceptance procedures are in place to ensure only permitted non-hazardous waste types are stored on site. • All areas used for storage or handling of wastes that may have contaminated runoff will have impermeable pavements constructed such that runoff is directed towards the cesspool. • Cesspool is alarmed to prevent any overflow from the tank to surface water. • Regular inspections of impermeable pavements: Any damage detected that could impair the integrity of the pavement should be recorded and repairs carried out as soon as possible.	**Unlikely**. The areas of the site used for waste activities are provided with impermeable pavements, so only in the unlikely failure of the pavement integrity or waste being deposited in an area of permeable ground could lead to the risk of ground contamination.	Contamination of groundwater and surface water.	**Very low**
Pests						
Rats	Residential receptors > 120 m from site.	Over ground	Measures taken to prevent infestation: • Daily site inspections will monitor for the presence of rats on site. • Waste storage bays will be regularly emptied.	**Low** However, with any kind of biodegradable waste, occasionally rats will be present	General nuisance and health risk from rats being vectors for human pathogens (e.g. weil's disease).	Low

			• In general, good housekeeping with regular sweeping and clearing of waste areas is encouraged. Actions in the event of rats being detected at the site: - • The incident must be reported to the site manager; • A record must be made of the incident and actions taken; • Waste acceptance and storage procedures should be reviewed; and • a specialist pest control contractor is employed.	but the types of wastes and the high turnover are unlikely to result in rats being a significant problem.	Flora and fauna in surrounding areas could be affected by rats.	
Flies	Residential receptors > 120 m from site.	Air	Measures taken to prevent infestation: • Daily site inspections will monitor for the presence of flies on site. • Waste storage bays will be regularly emptied. • Green waste stored no longer than 2 weeks. • No putrescible waste to be stored outside. • In general, good housekeeping with regular sweeping and clearing of waste areas is encouraged. Actions in the event of a fly infestation being detected at the site: - • The incident must be reported to the site manager;	Significant flies are not anticipated due to nature of wastes to be stored outside and no historical problems identified at current operation	General nuisance	Low.

			• A record must be made of the incident and actions taken; • Waste acceptance and storage procedures should be reviewed; and • In the event of severe infestations, a specialist pest control contractor may be appointed or insecticides may be applied.			
Birds scavenging on deposited wastes.	Residential receptors > 120 m from site.	Birds flying over other properties	Measures taken to prevent infestation: • Daily site inspections will monitor for the presence of scavengers on site. • No putrescible waste to be stored outside. Actions in the event of scavenging birds being detected at the site: - • The incident must be reported to the site manager. • A record must be made of the incident and actions taken. • Waste acceptance and storage procedures should be reviewed. • In the event of severe infestations, a specialist pest control contractor may be appointed.	Unlikely as the nature of the waste stored in outside areas unlikely to attract birds.	Nuisance and possible pathogen spread.	Low
Mud/Litter						
Litter from off-loading	Residential receptors > 120 m from site.	Air - via wind	Litter could be generated from the storage of loose wastes outside a building or from the loading, unloading or screening of waste containing loose materials. Measures taken to prevent litter leaving the site:	Litter may escape the site from time to time but likely to be in relatively small quantities due to nature of	Nuisance to nearby residential properties.	Low risk

			• Loose green waste stored in bays with 3m high walls. • If the waste contains significant amounts of loose materials that are becoming windblown, it must be stored within the building. • Security fencing that will also minimise the risk of litter escaping. • Daily site inspections will monitor for litter leaving the site. • In general, good housekeeping with regular sweeping and clearing of waste areas is encouraged. Actions in the event of litter leaving the site being detected: - • Litter picking will be carried out. • The incident must be reported to the site manager. • A record must be made of the incident and actions taken. • Waste storage and treatment procedures should be reviewed and additional control imposed as deemed necessary by the site manager.	wastes stored outside and only during high winds.		

Table 4: Accidents risk assessment

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? If it occurs – who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Fire in outdoor waste storage areas.	Surface Water. Air.	The drainage system. Air.	Fires could occur as a result of arson or from sources of ignition or from electrical faults. **Preventative measures**: • Separation of combustible materials and ignition sources. • Greenwaste stored in separate concrete bay. • Short residence times (<2 weeks)for green waste • Maintain tidy site and restrict stockpiles of combustible materials. • No smoking policy. • Emergency vehicles will be able to gain access to the processing buildings at all times whilst the site is operational. • Equipment will be available within each processing building to put out small fires. • Drain protection kits will be available at the site in order that drains can be	Even with measures in place to prevent the occurrence of fires, it is possible that fires could break out. However, measures in place to prevent the fire spreading or to limit its consequences will significantly reduce the probability of receptors being affected by a fire.	Smoke, local nuisance, risk of fire spreading to other areas or properties.	**Low** providing management procedures adhered to.

			blocked up to prevent escape of firewater run-off – see the for spills/leaks measures above. • All staff involved in waste handling will be inducted in the emergency procedures including the fire action plan. **Actions** in the event of fire: • Where it is safe to do so, site staff will use on-site fire fighting equipment to extinguish fires. • Where possible and safe, combustible materials will be isolated from the fire using the site machinery. • Inert materials on site such as soil may also be used to smother the fire. • Where a fire may have been caused by electricity or is close to electrical equipment, electricity to that area should be switched off and isolated. • Clear directions will be given to the fire service and a member of staff will wait at the entrance to the site to direct the service to the site on arrival, to ensure that the speediest service is provided. The emergency procedure includes incident reporting. As part of the environmental management system, incidents will be reviewed by management on a regular basis to identify whether lessons can be learnt and procedures improved.			

Flooding	Underlying soil. Groundwater. Surface water.	Flood water. Drainage systems.	**Preventative measures**: • The site is surrounded by robust security fencing which will prevent most waste materials escaping the boundary. • Materials stored externally are not hazardous and are not likely to cause any contamination if partially submersed. • Drainage system will direct any potentially contaminative runoff to sealed tank	**Very low**. None of the site is within the Environment Agency's flood zones. No history of flooding problems	Contamination of surface waters or surrounding areas with waste materials could, depending on the properties of the waste, affect water quality or be unsightly.	Very low.

3. CONCLUSION

3.1.1 The risk assessments above enables identification of appropriate mitigation measures to control the amenity and accident risks from the proposed activities in relation to non-hazardous and hazardous wastes. All identified risk mitigation measures will be incorporated within the management system for the site.

3.1.2 The amenity and accident risk assessment indicates that provided the identified risk mitigation measures, which are identified in the tables above, are implemented, the risk of nuisance or pollution from fugitive emissions or accidents is low.

4. REFERENCES

1. Environment Agency (2010): How to comply with your environmental permit. Additional guidance for: Horizontal Guidance Note H1 - Annex (a).

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