

Environmental Risk Assessment

Issue 1.0

Produced for **AF Pinkerton & Partners**

Document Reference **EPR-C03**





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Document Title:	Environmental Risk Assessment
Revision:	Issue 1.0
Date:	28/07/2020
Document Reference:	AFP-C03
Prepared For:	A F Pinkerton & Partners
Project Reference:	WRM/0890/W01
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Quality Control Sign Off		
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Quality Reviewer	Martin Ropka	

Version No.	Date	Description of change
0.1	17/06/2020	First draft
0.2	24/06/2020	Internal review
0.3-0.4	28/07/2020	Update following client review
1.0	28/97/2020	First Issue

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1.0 INTRODUCTION

Walker Resource Management Limited (WRM) are acting consultants for A F Pinkerton & Partners (hereon referred to as AF Pinkerton) who have commissioned WRM to produce an Environmental Risk Assessment in line with operational activities associated with an Open Windrow Composting facility at Blackbirds Farm, Aldenham, WD25 8DS.

This Environmental Risk Assessment has been produced in support of a bespoke waste recovery option permit covering open windrow composting activities at a site named Works Field, immediately east of Blackbirds Farm. This document provides a full environmental risk assessment for composting activities at the Works Field site, in addition to the management and operation of an on-site lagoon to store leachate originating from, and subsequently reused in, the open windrow composting process. This document has been produced in conjunction with the following documents:

- Non-Technical Summary;
- Environmental Permit Management System;
- Site Condition Report;
- Accident Management Plan;
- Odour Management Plan;
- Fire Prevention Plan;
- Site Capacity Assessment;
- Environmental Permit Reporting Procedure;
- Waste Acceptance Procedure;
- Waste Treatment Procedure;
- Maintenance Schedule, and;
- Monitoring Schedule.

1.1 Assessment Process

The Guidance “Risk assessments for your environmental permit” produced by the Environment Agency and DEFRA gives a five-step process for assessing the site activity and the risk to local amenity to successfully produce an Environmental Risk Assessment:

1. Identify and consider risks for your site, and the sources of the risks.
2. Identify the receptors (people, animals, property and anything else that could be affected by the hazard) at risk from your site.
3. Identify the possible pathways from the sources of the risks to the receptors.
4. Assess risks relevant to your specific activity and check they're acceptable and can be screened out.
5. State what you'll do to control risks if they're too high.

The risk assessment will identify people or parts of the environment that could be harmed by the activity and carries out risk assessments for:

- Odour;

- Fugitive emissions (including dusts, pests and scavengers);
- Noise;
- Fire.

The table below presents the potential risks on site, the links between source, pathway and receptor and provides an assessment of the residual risk after the implementation of the proposed risk management strategy.

Sector Guidance Note 2.8¹ page 76, point 8, states that there should be an accident plan in place which identifies the likelihood of consequences of accidents and identifies the actions required to prevent accidents and mitigate any consequences. Assessment of potential accidents at the facility and the consequential effects on sensitive receptors have been accounted for in AFP-C01 Accident Management Plan.

¹ Environment Agency. *Guidance for the Recovery and Disposal of Hazardous and Non-Hazardous Waste*. Sector Guidance Note S5.06

2.0 ENVIRONMENTAL RISK ASSESSMENT

P = Possibility C = Consequence M = Magnitude

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
Airborne dust particulates.	Deposition from air.	Human Health	Med	High	Med	Potential for frequent and long-term exposure for people working close to the site (apart from licence holder/operator and employees).	<ul style="list-style-type: none"> • Most waste inputs will have high moisture content so the production of dust will be minimal (composting facility). • Shredding will take place in the designated shredding area. • The site will be kept clean and dust suppression will be used as and when needed. • Material will be assessed by site prior to processing and water can be added if required to increase the moisture content. • Loads deemed to be excessively dusty will not be allowed to enter site. • Monitoring of visible emissions will occur during site operations. 	Low residual risk
Airborne particulates generated during composting recovery	Inhalation and ingestion.	Human Health	Low	High	Low	Potential for frequent and long-term exposure if anyone is living or working close to the site (apart from licence holder/operator and employees).	<ul style="list-style-type: none"> • Most waste inputs will have high moisture content so the production of dust will be minimal. • The site will be kept clean and dust suppression will be used as and when needed. 	Low residual risk

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
process and by the movement of vehicles onsite.							<ul style="list-style-type: none"> Material will be assessed by site prior to processing and water can be added if required to increase the moisture content. Material will be maintained at a moisture content of between 40-60% during the composting recovery process. Monitoring of visible emissions will occur during site operations. 	
Airborne particulate generated during movement of product onsite.	Inhalation and ingestion.	Human Health	Low	High	Low	Potential for frequent and long-term exposure if anyone is living or working close to the site (apart from licence holder/operator and employees).	<ul style="list-style-type: none"> Material will have high moisture content so the production of dust will be minimal. The site will be kept clean and dust suppression will be used as and when needed. Material will be assessed by site prior to processing and water can be added if required to increase the moisture content. Monitoring of visible emissions will occur during site operations. 	Low risk
Airborne dust particulates generated during shredding of	Deposition from air.	Human Health	Med	High	Med	Potential for frequent and long-term exposure for people working close to the site (apart from licence	<ul style="list-style-type: none"> Shredding will take place in the designated shredding area. The site will be kept clean and dust suppression will be used as and when needed. 	Low residual risk

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
feedstock material.						holder/operator and employees).	<ul style="list-style-type: none"> Monitoring of visible emissions will occur during site operations. Material will be assessed by site prior to processing to ensure excessively dusty material is not accepted. 	
Noise from machinery.	Air transport.	Human Health	Med	High	Med	Neighbouring business often sensitive to noise and likely to complain.	<ul style="list-style-type: none"> Machinery maintenance schedule. Machinery movements not to occur outside of working hours. The location of the site means the likelihood of causing noise nuisance is unlikely. Loading shovels are fitted with white noise reversing alarms. Monitoring can be undertaken by a qualified sub-contractor if required. Appropriate PPE provided to staff. 	Low risk
Fugitive releases of litter.	Air transport.	Human Population	Low	Low	Low	Local residents/local farmers/local businesses sensitive to litter and likely to complain.	<ul style="list-style-type: none"> Waste are inspected on arrival and turned away if contamination levels exceed levels stated in the site's Management System. Daily inspection of site and removal of litter. Hand picking line to remove plastic at front end of the process. Plastic and windblown litter will be placed in a designated container prior to disposal. 	Low risk

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
Fugitive releases waste, litter and mud on local roads.	Vehicles entering and leaving site.	Human Population	Med	Med	Med	Local residents often sensitive to mud on roads and likely to complain.	<ul style="list-style-type: none"> Daily inspection of site roads and surrounds for debris. Access road swept when required. 	Low risk
Odour from recovery operations.	Air transport.	Human Population	High	High	Med	Local businesses often sensitive to odour and likely to complain.	<ul style="list-style-type: none"> Excessively odour waste is not collected by Pinkerton's fleet. Excessively odourous waste is not accepted onto site. Housekeeping and removal of spillages and debris. Daily odour monitoring on site, around the site boundary and investigation of incidents. Complaints procedure and investigation. Odour Management Plan. 	Low risk
Smoke from a fire.	Air transport.	Human Population	Med	Med	Med	Local residents / businesses often sensitive to odour and likely to complain. Fires can be deliberate or accidental.	<ul style="list-style-type: none"> Licensed activities do not permit burning of waste. Accident Management Plan details consequences and control of fires. Fresh waste and windrows will be monitored for hot spots. Fire suppression equipment located on site. Fire Prevention Plan. 	Low risk

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
Scavenging birds and animals.	Air transport and over land.	Human Population	Med	Med	Med	Scavenging birds and vermin attracted to site and affecting neighbouring businesses.	<ul style="list-style-type: none"> • Pest control measures implemented across site e.g. bait boxes. • Bait points thoroughly inspected on three-weekly basis. • Visual inspection for signs of pests is carried out as part of site walkover. • Contractual arrangements in place with professional pest controller. • Housekeeping. 	Low risk
Pests e.g. flies.	Air transport and over land.	Human Population	Med	Med	Med	Insect pests can multiply on some permitted waste types particularly in summer months.	<ul style="list-style-type: none"> • Pest control measures implemented across site e.g. bait boxes. • Bait points thoroughly inspected on three-weekly basis. • Visual inspection for signs of pests is carried out as part of site walkover. • Bait boards and red top fly bags may be installed around the site to control the infestation of flies if required. • Contractual arrangements in place with professional pest controller. • Housekeeping. 	Low risk
All on site hazards particularly relating to material handling and	Direct physical contact.	Human Population	Med	Med	Med	Waste types are non-hazardous therefore only low risk.	<ul style="list-style-type: none"> • Signs outlining onsite risks. • All wastes to be accepted are non-hazardous. 	Low risk

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
storage activity.								
Leachate with high organic content	Surface runoff	Surface Water	Med	Low	Med	Waste types are non-hazardous therefore only moderate risk.	<ul style="list-style-type: none"> All material stored on an impermeable pavement and contained drainage. Accident management plan and emergency procedures outline a methodology for loss of site liquid wastes/leachate to surface waters. 	
Leachate with high organic content.	Direct surface runoff from site pad.	Surface Water	Med	Med	Med	Waste types are non-hazardous therefore only moderate risk. Potential leachate spill into low flow watercourse. Harm is temporary and reversible.	<ul style="list-style-type: none"> All material stored on an impermeable pavement and contained drainage. All leachate is fed to the lagoon located next to composting pads for storage. Accident Management Plan. 	Low risk
Leachate with high organic content.	Permeate flow through soil.	Groundwater	Low	High	High	Site located outside groundwater source protection zones.	<ul style="list-style-type: none"> Impermeable pavement. Contained drainage system. All leachate is fed to the lagoon located next to composting pads for storage. Accident Management Plan. 	Low risk

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
Fire on site leading to run off from polluted fire fighting waters.	Direct and indirect run off.	Groundwater	Med	High	Med	Fires can be deliberate or accidental.	<ul style="list-style-type: none"> • Impermeable pavement. • Contained drainage system. • Accident Management Plan. • Fire Prevention Plan. 	Low risk
P = Possibility C = Consequence M = Magnitude								

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