

# ENVIRONMENTAL RISK ASSESSMENT

Unit 1, Colne Way Industrial Estate, Watford, WD25 9WY

**PB Donoghue**

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## **List of Appendices:**

**Appendix I - Risk Assessment Table**

# **1 Introduction**

- 1.1 This Environmental Risk Assessment (ERA) considers the potential and actual risks associated with the use of the site at Unit 1, Colne Way Industrial Estate, Watford, WD25 9WY.
- 1.2 The site will be operated by PB Donoghue in accordance with a fully comprehensive Environmental Management System (EMS) and Bespoke Environmental Permit (EP). The site will be operated as a non-putrescible household, commercial and industrial (HCI) waste transfer station with treatment.
- 1.3 All site staff should be provided with a copy of this ERA and be aware of where it is located on site.
- 1.4 All environmental risks identified in this document should be acted upon accordingly by site management to ensure all environmental risks can be appropriately managed/controlled.
- 1.5 This document primarily considers environmental risks associated with the site. This does not aim to provide detailed Health and Safety risk assessments as required separately through the necessary legislation.

## **2 Site Receptors**

- 2.1 A Receptor Plan (within the EMS) has been provided as part of the application to highlight all key receptors within 1 km of the site.

## **3 Environmental Risk Assessment Model**

### **3.1 Fundamental considerations**

3.1.1 **Source/Hazard:** A property or situation that in particular circumstances could lead to harm.

3.1.2 **Consequences:** The adverse effects or harm as the result of realising a hazard which causes the quality of human health or the environment to be impaired in the short or long term.

3.1.3 **Risk:** A combination of the probability of occurrence of a defined hazard and the magnitude of the consequences of the occurrence.

### **3.2 Pathway**

3.2.1 Important in the assessment of a particular risk(s) and to inform the subsequent management of the risk(s) is the identification of the pathway(s) through which the risk may affect the identified receptor(s). The following are examples of pathways:

- Air
- Ground
- Water
- Direct contact / exposure

### 3.3 Consequences

3.3.1 The following table highlights the consequences of the hazard(s) identified and the abbreviations for each as used in the Risk Assessment Table in Section 3:

Abbreviation	Consequences
A	Minor Injury
B	Major Injury
C	Death
D	Air Pollution
E	Water Pollution
F	Pollution of Land

### 3.4 Effects of consequences

3.4.1 In order to quantify the level of risk and identify the appropriate management procedures, the potential effects must be considered, as outlined in the table below:

Abbreviation	Consequences	Management Requirements
S	SEVERE	In all cases
Mo	MODERATE	In most cases
Mi	MILD	Occasionally
N	NEGLIGIBLE	No

3.4.2 Note: "Management" is the action required to reduce the risk of a hazard causing a problem on site. Contingency measures are procedures which are in place to reduce the consequences of a hazard.

### 3.5 Risk estimation and evaluation (probability/frequency of occurring hazard)

3.5.1 The following table allows the likelihood of an occurrence of an identified risk to be assessed:

Abbreviation	Probability	Evaluation
1	Very likely	Could occur during any working day
2	Likely	Could occur regularly
3	Possible	Event possible
4	Unlikely	Event very unlikely

### 3.6 Risk assessment outcome (combination of probability & consequence)

3.6.1 The following table shows the resultant risk of an identified hazard or potential situation. This uses the hierarchy of both probability and consequence to assess the level of risk. The level of risk determines what level of management would be required in order to reduce the risk of occurrence and/or scale.

		Consequence			
		S	Mo	Mi	N
Probability	1	High	High	Medium	Low
	2	High	Medium	Low	Near-Zero
	3	Medium	Low	Near-Zero	N/A
	4	Low	Near-Zero	N/A	N/A

3.6.2 Where the risk assessment outcome is high, first-level management of the risk is essential, i.e. removal of hazard, implementation of major infrastructure/structural design measures to contain the risk/hazard and company policy changes to incorporate the management of the risk. All risk management measures must be supplemented with detailed induction training, spot training and tool-box talks to ensure all site staff and users are made fully aware of the risk/hazard, all potential consequences and necessary management and contingency procedures.

- 3.6.3 Where the risk assessment outcome is medium, the management of the risk should be tackled by management or delegates. If removal of the hazard is not possible, management will normally be met through implementing minor structural design measures or by imposing procedures for the prevention of occurrences which will be conveyed to all site staff through the appropriate training, including any contingency measures/procedures.
- 3.6.4 Where the risk assessment outcome is low, the management of the risk can be done wholly through appropriate training to site staff including any contingency measures/procedures.
- 3.6.5 Where the risk assessment outcome is near-zero, site staff should be made aware of the possibility of an occurrence and contingency measures should be readily available to all staff should they be required.

## **4 Risk assessment table**

- 4.1 The following pages contain the site-specific risk assessment for the site with appropriate remedial actions, recommendations and comments included for each identified hazard, potential contaminant or situation.
- 4.2 As discussed in Section 3.6 above, all situations which identify a risk from Low –High should be incorporated into the staff/visitor training schedule, where appropriate and acted on as required.

**SEE TABLES BELOW**

# Appendix I

## Risk Assessment Tables

Hazard / Potential Contaminant or Situation	Source(s)	Pathway	Receptor(s)	Consequences	Effect	Probability	Assessment Outcome	Remedial Action/ Recommendations/ Comments
Dust / particulates	<p>Site surfaces (dry and windy weather)</p> <p>Reception of waste</p> <p>Waste processing operations</p> <p>External stockpiles</p>	Air	<p>Site personnel / visitors</p> <p>Surrounding site users / occupiers</p> <p>Surface waters</p> <p>Flora &amp; fauna (ecology)</p> <p>Residential receptors</p>	D, E, F	Mo	2	Medium	<p>Reference should be made to the operator's Dust Management Plan.</p> <p>The waste reception area for mixed waste and inert wastes are inside buildings, providing a wind barrier.</p> <p>Mobile bowser, accompanied by mechanical sweeper used as main form of suppression.</p> <p>All site surfaces used for tracking and running of vehicles are wetted and cleaned using sweeper at least once per day.</p> <p>Areas of site where potentially dusty wastes are to be stored consists of concrete, reducing risk of airborne debris such as mud, stones etc. being tracked around areas of the site from vehicle chassis.</p> <p>Drop heights will be kept to a minimum.</p> <p>If required, stockpiles sprayed with water during periods of dry/windy weather to prevent excessive drying and dust formation.</p> <p>Vehicle speed on site restricted to reduce re-suspension of dust and particulate matter.</p> <p>Staff trained in procedures to keep dust/debris to a minimum, including prevention and mitigation. regular inspections undertaken, minimum of once per day, more frequent during dry/windy weather conditions, if required.</p> <p>Complaint's procedure in place.</p>

Hazard / Potential Contaminant or Situation	Source(s)	Pathway	Receptor(s)	Consequences	Effect	Probability	Assessment Outcome	Remedial Action/ Recommendations/ Comments
Odour	<p>Stored biodegradable waste</p> <p>Cracks in concrete leading to trapped waste</p> <p>Warm weather</p>	Air	<p>Site personnel / visitors</p> <p>Surrounding site users / occupiers</p> <p>Residential receptors</p>	D	Mi to Mo	3	Low to near zero	<p>Reference should be made to the operator's Odour Management Plan.</p> <p>The site is operated as non-putrescible household site.</p> <p>The site does not routinely accept black bag waste at the site. Any putrescible waste is removed within a suitable timeframe. Odorous wastes, including wastes which are likely to be odour producing during storage shall be subject to monitoring in accordance with the EP and shall in any case not be stored for longer than 24 hours.</p> <p>The EMS has specific training measures for staff contingencies in the event of problematic odour.</p>
Litter	<p>Pre-processing stockpile</p> <p>Unsheeted / poorly sheeted skips on delivery vehicles</p> <p>Light waste</p> <p>Poor housekeeping</p>	Air	<p>Site personnel / visitors</p> <p>Surrounding site users / occupiers</p> <p>Surface waters</p> <p>Flora &amp; fauna (ecology)</p> <p>Residential receptors</p>	D, E, F	Mi to Mo	3	Low to near zero	<p>All drivers will ensure their skips / containers are securely sheeted / contained prior to carriage of waste loads.</p> <p>Daily inspections of the site and areas in the immediate vicinity of the site boundary for litter.</p> <p>The EMS will have specific training measures for staff contingencies in the event of problematic litter.</p>

Hazard / Potential Contaminant or Situation	Source(s)	Pathway	Receptor(s)	Consequences	Effect	Probability	Assessment Outcome	Remedial Action/ Recommendations/ Comments
Noise/vibration	Plant and machinery Tipping / loading waste into vehicles  Operation of treatment plant	Air	Site personnel / visitors  Surrounding site users / occupiers  Residential receptors	D	Mi to Mo	2	Medium to Low	Reference should be made to the operator's Noise Management Plan and Noise Impact Assessment.  Complaint's procedure in place.  Waste treatment is undertaken inside a building.  Drop heights will be kept to a minimum to minimise noise / vibration.  Management will ensure that all loading plant is functioning suitably i.e. moving parts to be regularly lubricated.  Operatives will be informed to turn off engines when the plant is not in use, and no revving of engines will be permitted at the site.  Any malfunctions in plant i.e. missing screws/bolts which result in excessive noise will be decommissioned until an alternative loading plant sourced.  If repairs to the site are required, the work is to be undertaken with due regard for the possible noise nuisance and during the normal working day.
Vermin (leptospirosis etc.)	Stored putrescible/ biodegradable wastes	Water, direct contact with waste	Site personnel / visitors  Surrounding site users / occupiers  Residential receptors	A to C	Mi to Mo	3	Low to near zero	Wear PPE - gloves and masks as appropriate.  Site inspections daily.  Any wastes considered unsuitable after deposit will be assigned to the quarantine skip.  The site has pest control regime in place whereby a pest controller visits the site on a monthly basis.

Hazard / Potential Contaminant or Situation	Source(s)	Pathway	Receptor(s)	Consequences	Effect	Probability	Assessment Outcome	Remedial Action/ Recommendations/ Comments
Fire/ smoke / particulates	Plant exhausts Storage of wastes Combustion of wastes	Air, direct contact	Site personnel / visitors Surrounding site users / occupiers Surface waters Flora & fauna (ecology) Residential receptors	A to F	Mi to S	3	Medium to near zero	No fires on site. Smoking will only be permitted in designated smoking areas. Good site security. Low storage volumes and retention times reduces risk of fire. Preventative maintenance procedures. Reference should be made to the operator's Fire Prevention Plan.
Vehicle collision/ accident	Mud on roads from waste storage & vehicle bodies Poor visibility	Direct contact	Vehicle users Pedestrians	A to F	Mi to S	3	Medium to near zero	Good housekeeping/ vehicle management. Stockpile management. An accident logbook should be kept for all incidents. Encouragement for staff for greater number of "accident-free days" to encourage a safer working environment. HSE compliant risk assessments for all site activities to identify situations which may lead to harm for site users (employees, visitors and management).
Leachate	Stored wastes	Ground	Surface waters Flora & fauna (ecology)	E, F	Mi to S	3	Medium to near zero	All mixed waste with leachate potential is stored on an impermeable concrete surface with a sealed drainage system. All surface water from the external yard and clean surface water from roofs drain into the existing drainage system. All wastes which are liable to give rise to contamination will be removed from site. Regular (minimum daily) checks of site surface infrastructure. Any spillages identified will be dealt with in accordance with spillage procedures and spill kits are available at the site.

Hazard / Potential Contaminant or Situation	Source(s)	Pathway	Receptor(s)	Consequences	Effect	Probability	Assessment Outcome	Remedial Action/ Recommendations/ Comments
Impact/injury	Collapse of stored materials/ falling materials	Direct contact	Site personnel/ visitors	A to C	Mi to S	3	Medium to near zero	Storage heights will be kept to a minimum.  Drop heights will always be kept to a minimum.  Appropriate PPE issued to all site staff and available in the main site office.  Staff training and handling procedures in place.
Hydrocarbons	Unbunded fuel tanks  Drips when refuelling  During delivery Leakage from stored drums  Plant failure	Ground  Direct contact, ingestion  Inhalation (of volatiles)	Site personnel / visitors  Surrounding site users / occupiers  Surface waters  Flora & fauna (ecology)  Residential receptors	A, B, D, E, F	Mi to S	3	Medium to near zero	Any fuel tanks (and pipework) to be stored within a bunded area and locked when not in use.  Ensure that all fuel storage continue to be stored securely.  Spill kits kept close to source(s) of hazards.  Preventative maintenance schedule for plant/machinery.  Any spillages identified will be dealt with in accordance with spillage procedures and spill kits are available at the site.
Release of gases/fumes/ vapours/ volatiles	Mixing of waste/ chemicals  Spillage of chemicals  Overturned vehicle plant/plant failure  Reaction between stored wastes	Air  Ground  Water  Confined spaces	Site personnel / visitors  Surrounding site users / occupiers  Surface waters  Flora & fauna (ecology)  Residential receptors	A to F	Mi to S	3	Medium to near zero	Ensure any storage of hazardous substances in properly designated areas and kept separate.  Hazardous waste will not be routinely accepted at the site, beyond those specified around Utility excavations.  Preventative maintenance schedule for plant/machinery.  Quarantine of rejected (i.e. Potentially hazardous and outside of EWCs accepted at site) wastes.

<p>Release of Asbestos Fibers</p>	<p>Separated ACM's (non-licensable) imported onto site sourced from Underground Utility Contractors excavation wastes</p>	<p>Air</p>	<p>Site Personnel and operatives</p>	<p>D</p>	<p>Minor</p>	<p>3/4</p>	<p>Low to near zero</p>	<p>The waste material will be collected from site in two forms, waste that is identified as containing bound asbestos (e.g. piping). This will be double bagged (clear and red heavy asbestos bags), with clear and visible hazardous (asbestos) waste pictogram labelling. The bagged material will be contained within a fully sealed and lockable skip, again with clear and signed indication that it contains hazardous, asbestos waste, waste origin and producers details and date of internment). This material will either go straight for disposal or temporary quarantine storage at the PD Donoghue's site. The soils and spoils excavated material will then be transported to site under cover and with a consignment note. Individual quantities will be small and stockpiled on site in a separate and cordoned off bay (indicated again on site plan). Once the stockpile has reached 20 tonnes it will be sampled and closed, with the samples sent for testing at a UKAS accredited lab prior to determination for appropriate onward transport and processing/ disposal of that specific batch. All sampling will be undertaken by a Non-Licensed CAT-B Asbestos contractor (from our contractor Soile Ex) who will also have broader responsibility for site monitoring and management of the coded waste in line with the Control of Asbestos Regulations and other associated requirements. Following testing and confirmation on asbestos contamination and typology, the material will then be transported (with required Hazardous waste consignment note) to a relevant and licensed facility for processing/disposal. On site, the sealed and locked skip will be stored</p>
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