

ENVIRONMENTAL RISK ASSESSMENT

SITE DETAILS:

Genevieve Farms

Ingham Pit
Thetford Road
Ingham
Bury Saint Edmunds
Suffolk
IP31 1NR

APPLICANT DETAILS:

Genevieve Farms
Park Farm Business Centre
Fornham Park
Fornham St Genevieve
Bury St Edmunds
Suffolk
IP28 6TS

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APPENDICES

APPENDICES	REFERENCE
Appendix A	Groundsure Report – Enviro + Geo Insight (GS-7213369) 01/11/2020

DRAWINGS

DRAWING	DATE	REVISION	REFERENCE
Permit Boundary Plan	23/12/2020	A	K173.3~20~001
Site Setting Plan (2 km Buffer)	23/12/2020	A	K173.3~20~002

TABLES

TABLE	REFERENCE
ERA1	Identified Hazard types
ERA2	Key Receptors
ERA3	Pathways
ERA4	Probability of exposure
ERA5	Consequences of exposure
ERA6	Assessing overall risk
ERA7	Environmental Risk Points
ERA8	Fugitive Emission - To Air – Odour, Dust and Particulate Matter
ERA9	Fugitive Emissions – To Air – Litter and Debris
ERA10	Fugitive Emissions – Pests – Pests, Vermin, Scavengers
ERA11	Fugitive Emissions – Mud & Debris
ERA12	Fugitive Emissions – To Water
ERA13	Accidents
ERA14	Noise and Vibration

ABBREVIATIONS

ABBREVIATION	DEFINITION
ERA	Environmental Risk Assessment
mAOD	Metres Above Ordnance Datum

1 INTRODUCTION AND BACKGROUND

1.1 SCOPE

This risk assessment is based on the source-pathway-receptor approach. All potential sources of pollution associated with the acceptance and recovery of permitted inert waste activities have been assessed against the principal receptor types identified within the Site's vicinity.

Sensitive receptors are identified using a variety of source information and are summarised in the Sensitive Receptors Table (ERA2). Sensitive Receptors are also found on K173.3~20~002 Site Setting Plan (2 km Buffer).

The requirement for risk management measures is then dependent on a viable pathway being present between the source and the receptor. Where such a pathway exists, management measures are required to reduce risk.

1.2 AIMS

This assessment aims to consider potential environmental hazards associated with the activity, to identify sensitive receptors which these may impact, and determine the influence management practice has on reducing risk.

2 SITE SETTING

2.1 LOCATION

Ingham Pit (hereafter 'the Site'), is located approximately 500 metres north of Ingham village, where a church, residential properties and commercial buildings are present, and seven kilometres north of Bury Saint Edmunds. The Site is centred at National Grid Reference (NGR) TL 8565 7150.

The entire Site is approximately 14.7 hectares, with an area of 6.4 hectares to be infilled with inert waste material. The Site boundary is shown on drawing K173.3~20~001 Permit Boundary Plan. Ground elevations at the Site range from approximately 51 mAOD in the northwest to approximately 42 mAOD in the south. The elevation at the centre of the pit is approximately 45 mAOD, merging with the surrounding land towards the former pit entrance in the south. The land is currently disused and is a part-restored former quarry. There is no public access to the Site.

The Site is bounded to the east by the A134, with farm tracks (which are also a footpath and Public Rights of Way) to the south and west, and an agricultural field to the north (also owned and farmed by Genevieve Farms). The wider area is predominantly arable with further small copses and woodland, including a forestry plantation to the east.

2.2 HUMANS AND PROPERTY

The Site is predominantly surrounded by agricultural land with the nearest residential properties situated approximately 300 metres to the south of the Site at Ingham Village. The next nearest residential properties are located approximately 770 metres away at Ampton Village to the east. Culford Village is located approximately 1.7 kilometres to the southwest of the site.

Bodney Farm buildings are situated approximately 500 metres to the northwest and Folly Cottage approximately 600 metres to the northeast.

Five Heritage Grade II Sites are situated in the village of Ingham and 22 in the village of Ampton.

2.3 DESIGNATED ENVIRONMENTALLY SENSITIVE RECEPTORS

Sites of ecological interest within 2 kilometres of the site are summarised in the paragraphs below and are also shown on the Site Setting Plan (ref: K173.3~20~002).

The closest site protected by a statutory designation, at 1.9 kilometres from the Site, is Breckland Forest, a Site of Special Scientific Interest (SSSI). The SSSI reason for this designation is;

*"This site is notified for its internationally important population of stone curlew *Burhinus oedicnemus*.*

Description: Breckland Forest SSSI lies between Bury St Edmunds in Suffolk and Swaffham in Norfolk. Breckland is characterised by its climate and soils. Breckland's climate is semi-continental, being the driest region of the British Isles and subject to great extremes of temperature. The soils are complex, but typically are very sandy free draining mixes of chalk, sand, silt, clay and flints. The predominant land use within the SSSI is pine plantation with harvests that create clear-felled areas and young plantations which are suitable as breeding territories for woodlark and nightjar, which occur in internationally important numbers.

Breckland Forest is also designated as both a Special Protection Area (SPA) and a Forest Park.

Special Protection Areas are sites classified by the UK Government under the EC Birds Directive; SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union. The Breckland SPA covers the Breckland Forest SSSI. The remnants of dry heath and grassland which have survived these recent changes support heathland breeding birds, where grazing by rabbits and sheep is sufficiently intensive to create short turf and open ground. These breeding birds have also adapted to live in forestry and arable habitats. Woodlark and nightjar breed in clear-fell and open heath areas, whilst stone curlews establish nests on open ground provided by arable cultivation in the spring, as well as on Breckland grass-heath.

Stone curlew nest from March each year, in cultivated land which has plenty of bare ground and very short vegetation. Late sown spring crops such as sugar beet and vegetables are favoured. Stone curlews are very sensitive to recreational disturbance and benefit from lack of recreational access on agricultural land; they are not usually

*affected by mechanised agricultural operations. A restored mineral working also supports breeding stone curlews."*¹

Forest Parks are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

Environmentally sensitive sites include;

Sites of Special Scientific Interest (SSSI); Special Areas of Conservation (SAC); Special Protection Areas (SPA); RAMSAR sites; National Nature Reserves (NNR); Ancient Woodlands (AW); Local Nature Reserves (LNR); County Wildlife Sites (CWS); World Heritage Sites; Areas of Outstanding Natural Beauty (AONB); Biodiversity Action Plan (BAPs); and National Parks.

2.4 GEOLOGY

2.4.1 Artificial Ground and Made Ground

Geological map (1:50,000 scale), provided within Appendix 1, presents information on the availability of an area of made ground in the southeast corner of the Site.

The permeability of the artificial ground ranges from Low to Very High.

2.4.2 Superficial and Drift Geology

The superficial geology in the central area of the Site is designated as Cover Sand.

The south of the Site is dominated by sand and gravel, described as Croxton Sand and Gravel Member.

The records of superficial deposits in the northern part of the Site are described as Lowestoft formation – DIAMICTON.

The permeability of the superficial geology ranges from Low to Very High and is characterised by a combination of mixed and intergranular flows.

No records of landslips on Site or within 500 metres of the Site.

2.4.3 Bedrock and Solid Geology

The bedrock geology underlying the Site is described as Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation and Culver Chalk

¹ Natural England, [SSSI detail \(naturalengland.org.uk\)](https://www.naturalengland.org.uk), accessed 04/12/2020.

Formation (undifferentiated) – Chalk, LCCK-CHLK. Sedimentary Bedrock formed approximately 71 to 94 million years ago in the Cretaceous Period. Local environment previously dominated by warm chalk seas.²

The permeability of the bedrock is very high with a fractured flow type.

2.5 HYDROGEOLOGY

Superficial Deposits

The superficial deposits in the southern area are defined as a Secondary A Aquifer.

Secondary A Aquifers are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base.

The superficial deposits in the northern area of the Site is defined as a Secondary Undifferentiated Aquifer.

Undifferentiated Aquifer designation is assigned where it is not possible to attribute either category A or B to a rock type. In general, these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.

Bedrock Deposits

The bedrock deposits on Site are designated as a Principal Aquifer.

Principal Aquifer's geology is made of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale.

The Site is in an area of medium (bedrock deposits) to high (superficial deposits) groundwater vulnerability. High vulnerability deposits can easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.

There are two identified Groundwater Source Protection Zones on Site, one Inner Catchment and one Outer catchment.

² <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

Approximately 370 metres south of the Site there is a Source Protection Zone (Total Catchment).

There are no records of Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day on Site or within 2 kilometres of the Site.

2.6 HYDROLOGY

Surface Waters

There are inland rivers, lake, loch or reservoir in the vicinity of the Site.

Two Inland rivers not influenced by normal tidal action (no name), are located to the south and southeast of the Site. These are located approximately 40 metres from the Site and at ground surface.

Another inland river is recorded 40 metres to the southeast of the Site and is located underground.

At approximately 50 metres and 115 metres to the east of the Site lie two lakes or reservoirs. Another lake is located approximately 90 metres to the southeast of the Site.

Lakes are also located at both Bodney Farm, at the northwest boundary of the Site, and Folly Cottage, to the northeast of the Site.

All the listed features contain water year-round.

Culford Stream, listed under the Water Framework Directive (WFD), lies approximately 1.6 kilometres south of the Site. The overall classification is Moderate, as a combination of Good Chemical rating and Moderate Ecological rating.

Groundwater

Cam and Ely Ouse Chalk, underlying the Site, is also listed under the WFD. The overall classification is Poor, as a combination of Poor chemical rating and Poor quantitative rating.

2.7 FLOOD RISK

River and coastal

No risk of flooding has been identified from river and/or the Site on, or in the vicinity of the Site.

Groundwater

The risk of groundwater flooding at the Site is Negligible in the northwest area and Low in the northeast and southern areas. An area of a Moderate risk is identified in the central area of the Site.

To the east of the Site, and within 50 metres, lies an area of moderate groundwater flood risk.

Surface water

There are eight localised areas on Site where surface water flooding (1 in 30 years return) has been identified.

The number of identified areas with risk of flooding increases in the vicinity of the Site, to the south, east and west.

2.8 AIR QUALITY

The Site falls within the AQMA for Nitrogen dioxide (NO₂).

2.9 NATURAL HAZARDS & MINING

A search of BGS GeoSure data within 50 meters of the Site revealed the following information.

HAZARD	HAZARD RATING / DETAIL
Shrink Swell	Negligible to Low
Landslides	Very Low to Low Moderate – northeast corner of the Site
Soluble Rocks	Very Low to Low
Natural Ground Subsidence - Collapsible Deposits	Very Low
Natural Ground Subsidence - Running Sand	Very Low to Low
Natural Ground Subsidence - Compressible Deposits	Negligible to Very Low
British Pits (British Geological Survey)	Three recorded on Site
Natural Cavities	None
Coal mining	None

HAZARD	HAZARD RATING / DETAIL
Non-coal mining	One record on Site (chalk)
Underground workings	None
Surface Ground workings	Eight recorded on Site
Brine Affected Areas	None

2.10 NATURE OF RISK ASSESSMENT

This document provides a broad and general assessment of the risk factors considered to be of significance for the Site, and an evaluation of the impact from the principal risk factors to receptors within the Site vicinity.

3 METHODOLOGY

3.1 HAZARD IDENTIFICATION

A hazard is something with potential to cause harm to something else. Table ERA1 below identifies the principal hazard types which may be associated with the proposed activity; and indicates where hazards are identified and determined to be of significant potential risk to determine further assessment. Potential hazards from this activity are as follows:

ERA1: IDENTIFIED HAZARD TYPES

PRINCIPAL HAZARD TYPE	SUB-HAZARD TYPE	POTENTIAL SOURCE	RISK	REQUIRES FURTHER ASSESSMENT
Odour	N/A	1. Waste delivery	1. Non-conforming odorous load of waste	✓ ERA8 below
Point Source Emissions to Air	None	No point source emissions to Air	Not applicable (N/A)	No
Fugitive Emissions to Air	Dust and Particulate Matter	1. Inert waste delivery 2. Inert waste tipping	1. Small sized, light materials 2. Liberation of dust during delivery and tipping	✓ ERA8 below
	Litter and Debris	1. Inert waste delivery 2. Inert waste tipping	1. Loss of material during unloading 2. Windblown debris from non-conforming load	✓ ERA9 below
Fugitive Emissions - Pests	Pests, vermin, scavengers	1. Waste delivery	1. Non-conforming odorous load of waste	✓ ERA10 below
Fugitive Emissions – mud and debris	Litter and Debris	1. Inert waste delivery 2. Vehicle movement in and off site	1. Mud and debris tracked into the Site on incoming vehicles. 2. Mud and debris tracked off site on outgoing vehicles	✓ ERA11 below
Fugitive Emissions – to Water	Contaminated runoff	1. Inert waste tipping 2. Run off - tipped inert waste 3. Surface water run off 4. Vehicle / Mobile Plant use and storage	1. Run off to groundwater from tipped waste 2. Oil leak from vehicle / mobile plant	✓ ERA12 below
Point Source Emissions to Water	None	No point source emissions to water	N/A	No
Accidents	Transferring substances – Vehicle/ mobile plant	1. Vehicle / mobile plant use - reactive maintenance	1. Spill of lubricant oil or diesel from vehicle/ mobile plant 2. Loss of waste from vehicle	✓ ERA13 below
	Vehicle or equipment failure	1. Waste delivery 2. Waste tipping	1. Spill of lubricant oil or diesel from vehicle/ mobile plant	
	Flooding	1. Flood risk from groundwater 2. Flood risk from surface water	1. Run off from tipped waste	

PRINCIPAL HAZARD TYPE	SUB-HAZARD TYPE	POTENTIAL SOURCE	RISK	REQUIRES FURTHER ASSESSMENT
	Vandalism	1. Unauthorised access	1. Damage to vehicle/ mobile plant 2. Fly tipping	
	Fire	1. Mobile plant/ vehicle	1. Uncontrolled emissions of smoke and fire water	
Noise and Vibration	Vehicle / Mobile Plant use	1. Waste delivery 2. Waste tipping 3. Accessory restoration works	1. Amenity impact, disturbance of wildlife in designated sites	✓ ERA14 below

Where a hazard with potential for environmental impact has been identified within the process these critical points have been identified as Environmental Risk Points (ERP). These are identified on ERA7 Environmental Risk Points presented in Section 4 of this ERA.

3.2 RECEPTORS

A receptor is the object (e.g. person, organism, resource or property) impacted by a hazard. For example, odour may cause offence to a human (the receptor). When identifying receptors which may be at risk from the Site, the following have been considered:

- Ancient woods
- Locations used to grow food or to farm animals or fish
- Drain and sewer systems
- Factories and other businesses
- Fields and allotments used to grow food
- Footpaths
- Roads and railways
- Groundwater beneath the Site
- Homes, or groups of homes
- Playing fields and playgrounds
- Private drinking water supplies
- Regionally important geological sites
- Schools, hospitals and other public buildings
- Water
- Conservation and habitats protected areas and areas of scientific interest

Based on the assessment of the Site setting presented in Section 2 of this ERA, the following principal receptors have been identified for assessment and are displayed in ERA 2: Key Receptors and *Site Setting Plan* (ref: K173.3~20~002).

ERA2: KEY RECEPTORS

RECEPTOR TYPE	ID	DESCRIPTION	DISTANCE	DIRECTION
HUMANS AND PROPERTY	-	Site Workers	On site	-
	-	Site Visitors	On site	-
	INHABITANTS OF RESIDENTIAL PROPERTIES			
	1	Residents of Ingham	300 m	S
	2	Residential Properties at Bodney Farm	510 m	NNW
	3	Residential Properties - Folly Cottages	600 m	NNE
	4	Residents of Ampton	770 m	E
	5	Residential Properties off New Road - The Barracks	805 m	ENE
	6	Ampton Hall Estate	940 m	ESE
	7	Residential Properties off New Road - Pond Cottages	950 m	E
	8	Residential Properties at Balloon Barn Farm	1.55 km	WNW
	9	Residents of Brockley Corner	1.63 km	WSW
	10	Residential Properties at Heath Farm	1.74 km	NNE
	11	Residents of Ingham Lodge	1.76 km	SSW
	12	Residents of Culford	1.76 km	SW
	13	Railway Cottages	1.84 km	N
	14	Residential Properties at Neville House Farm	1.91 km	NNW
	15	Residents of Timworth	1.91 km	S
	SENSITIVE PUBLIC USE			
	1	Ingham Church	730 m	S
	2	St. Peters & St. Pauls (Church, Ampton)	1.10 km	E
	3	Church of St. Andrews (Timworth)	1.60 km	SSE
	4	Culford Preparatory School	1.80 km	WSW
	COMMERCIAL USE			
	1	Depots & Yards off the A134	170 m	S
	2	Woodside Business Park	280 m	S
	3	Transport Depot off A134 - Stennetts Transport	870 m	SSW
	4	Waste Transfer Station at Balloon Barn Farm - Culford Waste	1.50 km	WNW
	PUBLIC RIGHTS OF WAY			
	-	Footpath running between the A134 and Neville House Farm	0 m	S
	-	Footpath running between Culford Road & New Road (South)	475 m	S
	-	Footpath running between Culford Road & New Road (North)	640 m	SE
	-	Footpath running between Ingham & Culford	855 m	S
	-	Footpath running between Ampton & Great Livermere	935 m	E
	-	Footpath running between Culford & Timworth	1.75 km	SSE
	-	Footpath running between Seven Hills Lane & Green Lane	1.95 km	NNE
	ROADS AND RAILWAYS			
	-	A134	25 m	E
	-	B1106	475 m	S

RECEPTOR TYPE	ID	DESCRIPTION	DISTANCE	DIRECTION
	AGRICULTURAL AND ALLOTMENTS			
	1	Remainder of Genevieve Farms Site (Planning Boundary)	0 m	N
	2	Arable Farmland north of Culford Road	35 m	S
	3	Arable Farmland west of the A134 & Bodney Farmyard	165 m	NW
	4	Arable Farmland west of Ampton	170 m	E
	5	Arable Farmland east of Ingham	480 m	SSE
	6	Arable Farmland between Ingham & Culford	570 m	SSW
	7	Arable Farmland east of the A134 & Heath Farm Yard	665 m	ENE
	8	Farmyard off New Road (Ampton)	885 m	E
	9	Arable Farmland east of Ampton	950 m	E
	10	Arable Farmland south of Ampton	1.15 km	SE
	11	Farmyard at Neville House Farm	1.85 km	NNW
WATER	SURFACE WATER			
	-	Inland rivers (no name)	50 m	SE-E
	-	Two Ponds at Bodney Farm	490 m	NNW
	-	Three lakes or reservoirs (no name)	50-150 m	E
	-	Lakes at Ampton Hall Estate	955 m	ESE
	-	Drainage Channels & Reservoir in depot south of Ingham	1.00 km	SSW
	-	Liver Mere (Lake)	1.40 km	ESE
	-	Pond at Neville House Farm	1.95 km	NNW
	GROUNDWATER			
	-	Bedrock Aquifer: Principal - high vulnerability	On site	-
	-	Superficial Aquifer: Secondary A & Secondary Undifferentiated - moderate vulnerability	On site	-
ENVIRONMENTALLY SENSITIVE SITES	DESIGNATED SITES			
	1	Special Protection Area, SSSI & Forest Park - Breckland Forest	1.90 km	NW
	NON-DESIGNATED SITES			
	1	BAP - Deciduous Woodland south of Genevieve Farms	0 m	S
	2	BAP - Deciduous Woodland adjacent to A134; Heathfield Plantation & Old Dalmer Wo	50 m	E
	3	BAP - Deciduous Woodland east of Ingham; New Dalmer Wood & Oak Covert	400 m	SE
	4	BAP - Deciduous Woodland surrounding Ampton	715 m	E
	5	BAP - Deciduous Woodland north of Culford Road	895 m	W
	6	BAP - Deciduous Woodland at Broom Covert	1.60 km	NW
HERITAGE SITES	HERITAGE SITES			
	1	5 No. Grade II Listed Buildings in Ingham	785 m	S
	2	22 No. Grade II Listed Buildings in Ampton	850 m	E
	3	Grade II Listed Buildings - Barn & Farmhouse at Heath Farm	1.65 km	NNE
	4	Grade II Listed Building - Neville Farmhouse	1.80 km	NNW

RECEPTOR TYPE	ID	DESCRIPTION	DISTANCE	DIRECTION
	5	Scheduled Monument - Bowl Barrow known as Hill Heath	1.80 km	W
	6	Grade II Listed Building - Dairy Cottage	1.80 km	SSW
	7	Grade II Listed Buildings - Culford Estate War Memorial & Rede Lodge	1.90 km	SW
	8	Scheduled Monument - Three Bowl Barrows & a Ring Ditch 750 m NE of Neville House	1.95 km	NNE

3.3 PREVAILING WIND

The prevailing wind direction, identified at Ingham village, approximately 300 meters south of the Site, is SW.

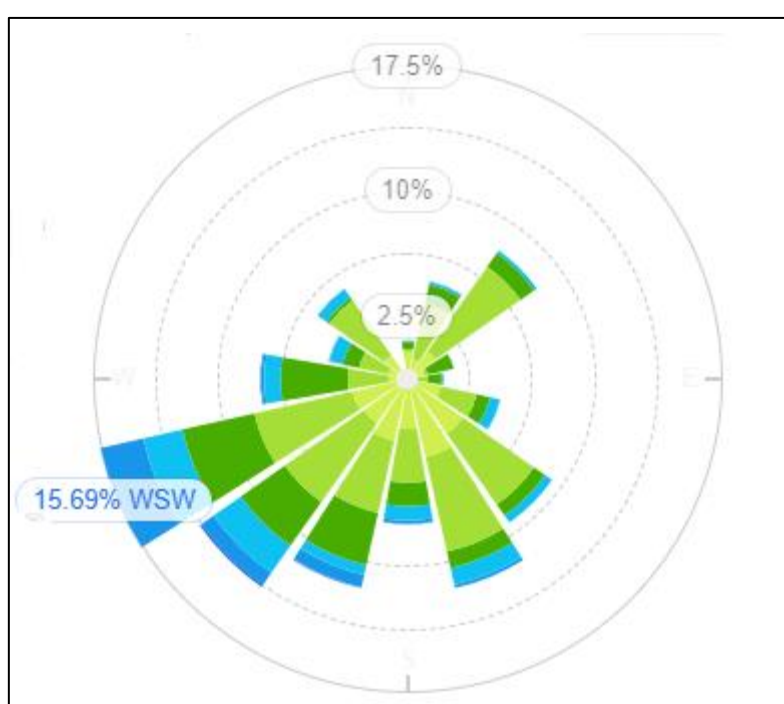


FIGURE 1 Windrose indication prevailing wind direction

Source: <http://wind.willyweather.co.uk>

3.4 PATHWAYS

The pathway is the means by which the hazard reaches the receptor and forms the link between the two. For example, a dust hazard may reach a receptor by travelling through air, with the air therefore being the pathway.

The source-pathway-receptor link must be present for there to be a risk. Management measures applied at the Site act to minimise the overall risk by impeding or removing the pathway.

ERA3: POTENTIAL PATHWAYS

RECEPTOR	HAZARD	PATHWAY
Humans and Property	Odour	Transmitted through the air.
	Dust and Particulate Matter	Transmitted through the air.
	Noise	Transmitted through the air.
	Birds, Vermin & Insects	Physical travel.
	Fire	Physical contact and spread.
Groundwater	Contaminated runoff	Infiltration through the ground.
Surface Water	Contaminated runoff	Direct discharge from the Site.
	Contaminated runoff	Infiltration through the ground.
Protected Nature Conservation Sites	Dust and Particulate Matter	Transmitted through the air.
	Noise	Transmitted through the air.
	Fire	Physical contact and spread.
	Contaminated runoff	Infiltration through the ground.
	Contaminated runoff	Via surface water.
Atmosphere	Dust and Particulate Matter	Transmitted through the air.

3.5 RISK

Assessment of risk is based on the probability of receptor exposure to the identified hazards and the consequences of such exposure. The initial assessment of risk is made assuming no risk management practices are applied.

A matrix is used to determine overall risk and uses the following definitions:

ERA4: PROBABILITY OF EXPOSURE

PROBABILITY OF EXPOSURE
HIGH – exposure is probable: direct exposure likely with no / few barriers between hazard, source and receptor.
MEDIUM – exposure is fairly probable: feasible exposure possible, barriers to exposure less controllable.
LOW – exposure is unlikely: several barriers exist between hazards source and receptors to mitigate against exposure.
VERY LOW – exposure is very unlikely; effective, multiple barriers in place to mitigate against exposure.

ERA5: CONSEQUENCES OF EXPOSURE

Consequences of Exposure
HIGH – the consequences are severe; sufficient evidence that short or long term exposure may result in serious damage.
MEDIUM – consequences are significant; sufficient evidence that exposure to hazard may result in damage that is not severe in nature and reversible once exposure ceases (e.g. irritant).
LOW – consequences are minor; damage not apparent though reversible adverse changes may occur.
VERY LOW – consequences are negligible; no evidence of adverse changes following exposure.

Comparison between probability and consequence provides the overall risk which is reached as follows:

ERA6: ASSESSING OVERALL RISK

		CONSEQUENCES			
		Very Low	Low	Medium	High
LIKELIHOOD	High	Low	Medium	High	High
	Medium	Low	Medium	Medium	High
	Low	Low	Low	Medium	Medium
	Very Low	Very Low	Low	Low	Low

3.6 RISK MANAGEMENT

Risk management practices for the key hazards identified above are summarised in Section 4 of this ERA. The information presented below is supported by various documents and this is clearly indicated within each table presented. In addition, risk management measures have been developed with reference to relevant guidance documents, the following being of particular note:

- Environmental Management – Guidance: Risk assessment for your environmental permit (1st February 2016, updated 25th March 2021)
- H3 Part 2 Noise Assessment and Control (1st June 2004)
- Sector Guidance Note S5.06: Recovery and disposal of hazardous and non-hazardous waste (13th May 2013, updated 10th October 2018)
- Guidance: Dispose of waste to landfill (30th January 2020, updated 21st April 2021)
- Guidance: Landfills for inert waste (30th January 2020, updated 21st April 2021)³

³www.gov.uk

- Guidance: Control and monitor emissions for your environmental permit - GOV.UK (1st February 2016, updated 17th May 2021)

This risk assessment details the key management measures for the risk identified.

3.7 RESIDUAL RISK

The application of management practice results in a residual risk which is detailed within Section 4 of this ERA (below).

4 RISK ASSESSMENT

The key hazards identified for the activity have been subject to a risk assessment against management practice. Each hazard is assessed in a separate table. The information presented is, as appropriate, supported by other documents and these are referenced.

Many of the hazards identified in the following tables relate to 'Environmental Risk Points (ERP)' identified throughout the processes:

ERA7: ENVIRONMENTAL RISK POINTS

REFERENCE	PROCESS
ERP1	Inert waste receipt
ERP2	Inert waste deposit / tipping process
ERP3	Site preparatory/restoration works (e.g. fencing, planting, securing).

ER8: FUGITIVE EMISSIONS - TO AIR - ODOUR, DUST AND PARTICULATE MATTER

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
<p>ERP1 Reception (delivery of waste to the Site)</p> <p>Vehicle Movements (waste delivery and movement of waste within the Site)</p> <p>ERP2 Inert waste tipping</p> <p>Vehicle Movements (waste delivery and movement of waste within the Site)</p> <p>ERP3 Site preparatory / restoration works (Fencing, Planting, Securing)</p>	<p>Humans</p> <p>Property</p> <p>Atmosphere</p> <p><i>Inhalation of particles.</i></p> <p><i>Deposition of dust/particles on property and land.</i></p>	<p>Air</p> <p><i>Dominant wind direction SW</i></p>	LOW	MEDIUM	LOW	<ul style="list-style-type: none"> • All vehicles delivering materials to the Site are covered. • All waste is assessed prior to initial acceptance for suitability - inert properties in terms of permit compliance. • Waste assessment will be undertaken at nearby Waste Transfer Station – any identified non-conforming waste will not reach the Site • The number of daily incoming vehicles is relatively low (averaged at 10 lorries/ day). • Efficient and prompt unloading of delivery vehicles directly into allocated area. • All areas are subject to regular housekeeping. • Any tipped waste not permitted by the terms of the Site Permit are to be removed immediately 	LOW

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
						<p>and redirected to the nearby Waste Transfer Station (WTS).</p> <ul style="list-style-type: none"> • Dust suppression measures may be employed if dust levels justify. Where dusts are generated, they will be suppressed. • Speed limits enforced. • Optimisation of vehicle movements /routes. 	

ERA9: FUGITIVE EMISSIONS – TO AIR – LITTER AND DEBRIS

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
<p>ERP1 Reception (delivery of waste to the Site)</p> <p>Vehicle Movements (waste delivery and movement of waste within the Site)</p> <p>ERP2 Inert waste tipping</p> <p>Vehicle Movements (waste delivery and movement of waste within the Site)</p> <p>ERP3 Site preparatory / restoration works (Fencing, Planting, Securing)</p>	<p>Humans & Property <i>Litter Nuisance</i></p>	<p>Air; Windblown</p> <p>Physical transport and deposition</p>	LOW	MEDIUM	LOW	<ul style="list-style-type: none"> • All vehicles delivering materials to the Site are fitted with covers. • All waste is assessed prior to initial acceptance for suitability - inert properties in terms of permit compliance. • Waste assessment will be undertaken at nearby Waste Transfer Station – any identified non-conforming waste will not reach the Site • The number of daily incoming vehicles is relatively low (averaged at 10 lorries/ day). • Efficient and prompt unloading of delivery vehicles directly into allocated area. • All areas are subject to regular housekeeping. • Any tipped waste not permitted by the terms of the Site Permit are to be removed immediately 	LOW

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
						and redirected to the nearby Waste Transfer Station (WTS). • Site access road is regularly checked for litter and debris.	

ERA10: FUGITIVE EMISSIONS – PESTS – PESTS, VERMIN, SCAVENGERS

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
<p>ERP1 Reception (delivery of waste to the Site)</p> <p>Vehicle Movements (waste delivery and movement of waste within the Site)</p> <p>ERP2 Inert waste tipping</p> <p>Vehicle Movements (waste delivery and movement of waste within the Site)</p>	<p>Humans & Property</p> <p><i>Amenity impact and impact on human health</i></p>	<p>Land Air Water</p>	LOW	MEDIUM	LOW	<ul style="list-style-type: none"> Accepted waste is of an inert nature All vehicles delivering materials to the Site are fitted with covers. All waste is assessed prior to initial acceptance for suitability - inert properties in terms of permit compliance. Waste assessment will be undertaken at nearby Waste Transfer Station – any identified non-conforming waste will not reach the Site All areas are subject to regular housekeeping. Any tipped waste not permitted by the terms of the Site Permit be removed immediately to a designated skip. 	LOW

ERA11: FUGITIVE EMISSIONS – MUD & DEBRIS

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
ERP1 Reception (delivery of waste to the Site) Vehicle Movements (waste delivery and movement of waste within the Site) ERP2 Inert waste tipping Vehicle Movements (waste delivery and movement of waste within the Site) ERP3 Site preparatory/restoration works (Fencing, Planting, Securing)	Humans & Property <i>Amenity impact</i>	Direct deposition	LOW	MEDIUM	LOW	<ul style="list-style-type: none"> The number of daily incoming vehicles is relatively low (averaged at 10 lorries/ day). Wheel washing Tyre cleaning available at nearby WTS. Can be used as necessary. Just one access point from public roads Speed limits enforced Optimisation of vehicle movements 	LOW

ERA12: FUGITIVE EMISSION – TO WATER

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
<p>ERP1 Reception (delivery of waste to the Site)</p> <p>Vehicle Movements (waste delivery and movement of waste within the Site)</p> <p>ERP2 Inert waste tipping</p> <p>Vehicle Movements (waste delivery and movement of waste within the Site)</p> <p>ERP3 Site preparatory/restoration works (Fencing, Planting, Securing)</p>	<p>Contamination of groundwater</p> <p>Principal and Secondary Aquifers on Site</p> <p><i>Contamination</i></p>	<p>Land infiltration</p> <p>Surface water</p> <p>Run off</p>	LOW	MEDIUM <i>Poor and medium quality aquifer</i>	MEDIUM	<ul style="list-style-type: none"> Accepted waste is of an inert nature All waste is assessed prior to initial acceptance for suitability - inert properties in terms of permit compliance. Waste sampling and testing: level 3 verification Any tipped waste not permitted by the terms of the Site Permit are to be removed immediately and redirected to the nearby Waste Transfer Station (WTS). No storage of waste on Site pending disposal Surface water drainage system designed to cope with storm events Vehicles and mobile plant are effectively maintained 	LOW

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
						<ul style="list-style-type: none"> • Spill management procedures are implemented on Site in case of an accidental spill • No overnight parking of vehicles or mobile plant on Site 	
ERP1 Reception (delivery of waste to the Site) Vehicle Movements (waste delivery and movement of waste within the Site) ERP2 Inert waste tipping Vehicle Movements (waste delivery and movement of waste within the Site) ERP3 Site preparatory / restoration works (Fencing, Planting, Securing)	Contamination of surface water Rivers and lakes/ponds Contamination	Groundwater Surface Water run off	LOW	HIGH	MEDIUM	<ul style="list-style-type: none"> • Accepted waste is of an inert nature • All waste is assessed prior to initial acceptance for suitability - inert properties in terms of permit compliance. • Waste sampling and testing: level 3 verification • Any tipped waste not permitted by the terms of the Site Permit are to be removed immediately and redirected to the nearby Waste Transfer Station (WTS). • No storage of waste on Site pending disposal • Vehicles and mobile plant are effectively maintained • Spill management procedures are implemented on site in case of an accidental spill 	LOW

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
						<ul style="list-style-type: none"> • No overnight parking of vehicles or mobile plant on site • No storage of potentially harmful substances on Site 	

ERA13: ACCIDENTS

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
Transferring substances							
ERP1 Reception (delivery of waste to the Site) Vehicle Movements (waste delivery and movement of waste within the Site) ERP2 Inert waste tipping Vehicle Movements (waste delivery and movement of waste within the Site) ERP3 Site preparatory / restoration works (Fencing, Planting, Securing)	Humans & Property Protected Nature Conservation Sites Surface Water Groundwater Atmosphere <i>Adverse impact</i>	Land, water, runoff	VERY LOW	MEDIUM	LOW	<ul style="list-style-type: none"> No substances transferred into and around the Site apart from inert materials No storage of potentially harmful substances on Site Any substances for restoration works? 	VERY LOW

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
Plant or Equipment Failure							
ERP1 Reception (delivery of waste to the Site) Vehicle Movements (waste delivery and movement of waste within the Site) ERP2 Inert waste tipping Vehicle Movements (waste delivery and movement of waste within the Site) ERP3 Site preparatory / restoration works (Fencing, Planting, Securing)	Humans & Property Protected Nature Conservation Sites Surface Water Groundwater Atmosphere <i>Adverse impact</i>	Land, air, water	LOW	MEDIUM	LOW	<ul style="list-style-type: none"> All owned vehicles and mobile plant regularly inspected and maintained. Vehicles and mobile plant not parked at the Site (nearby Transfer Station). The number of daily incoming vehicles is relatively low (averaged at 10 lorries/ day). Spill management procedure and spill resources available at each vehicle. 	LOW

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
Flooding							
ERP1 Reception (delivery of waste to the Site) Vehicle Movements (waste delivery and movement of waste within the Site) ERP2 Inert waste tipping Vehicle Movements (waste delivery and movement of waste within the Site)	Humans & Property Protected Nature Conservation Sites Surface Water Groundwater Atmosphere Adverse impact	Water (Surface water ponding/flooding) (Moderate risk groundwater flooding centre of the Site)	HIGH	LOW	MEDIUM	<ul style="list-style-type: none"> Accepted waste is of an inert nature All waste is assessed prior to initial acceptance for suitability - inert properties in terms of permit compliance. Any tipped waste not permitted by the terms of the Site Permit are to be removed immediately and redirected to the nearby Waste Transfer Station (WTS). No storage of waste on Site pending disposal No storage of potentially harmful substances on Site 	LOW

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
Vandalism							
ERP1 Reception (delivery of waste to the Site) Vehicle Movements (waste delivery and movement of waste within the Site) ERP2 Inert waste tipping Vehicle Movements (waste delivery and movement of waste within the Site) ERP3 Site preparatory / restoration works (Fencing, Planting, Securing)	Humans & Property Protected Nature Conservation Sites Surface Water Groundwater Atmosphere <i>Adverse impact</i>	Land, air, water	MEDIUM	MEDIUM	MEDIUM	<ul style="list-style-type: none"> No storage of plant, equipment, or substances on site. The Site perimeter will be fenced, and security gates installed to prevent unauthorised access. Only one of the two entrances to the Site will be used. 	LOW

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
Fire							
ERP1 Reception (delivery of waste to the Site) Vehicle Movements (waste delivery and movement of waste within the Site) ERP2 Inert waste tipping Vehicle Movements (waste delivery and movement of waste within the Site) ERP3 Site preparatory / restoration works (Fencing, Planting, Securing)	Humans & Property Protected Nature Conservation Sites Surface Water Groundwater Atmosphere <i>Adverse impact</i>	Spread through physical contact; fanned by winds	LOW	HIGH	MEDIUM	<ul style="list-style-type: none"> Accepted waste is of an inert nature All waste is assessed prior to initial acceptance for suitability - inert properties in terms of permit compliance. No storage of plant, equipment, or substances. The Site perimeter will be fenced 	LOW

ERA14: NOISE & VIBRATION

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
ERP1 Reception (delivery of waste to the Site) Vehicle Movements (waste delivery and movement of waste within the Site) ERP2 Inert waste tipping Vehicle Movements (waste delivery and movement of waste within the Site) ERP3 Site preparatory / restoration works (Fencing, Planting, Securing)	Humans & Property <i>Amenity impact</i>	Air Land	LOW	MEDIUM	MEDIUM	<ul style="list-style-type: none"> vehicles may be fitted with silencers Vehicle movement relatively low (average of 10 incoming lorries per day) Eastern side of the Site bounded by A134 All machinery and equipment regularly inspected and maintained. Nearest residential property is 300m from the Site. The Site does not operate at unsociable hours or Sundays and bank holidays. 	LOW