ASHCOURT

ENVIRONMENTAL RISK ASSESSMENT

Contents

1. Introduction

The variation application seeks to add a bespoke Washplant and waste transfer area to the existing EP.

1.1 Current Environmental Permit

The existing Environmental Permit (EPR/GB3535RQ) for the site was issued in September 2012 and was subsequently varied in July 2023. The permitted activities comprise the treatment of wastes consisting of sorting, separation, screening, crushing, and blending of waste for recovery as soil, soil substitute or aggregate in addition to a Deposit for Recovery Activity.

The EP authorises the following activities as described in Annex I and Annex II of the Waste Framework Directive:

- R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced);
- R3: Recycling/reclamation of organic substances which are not used as solvents;
- R5: Recycling/reclamation of other inorganic compounds.

1.2 Methodology

This Environmental Risk Assessment (ERA) is an assessment of the risks to the environment and to human health from accidents, odours, noise, and fugitive emissions that may be associated with the proposed waste recovery activity at the site in addition to the wazste treatment activities namely the existing soil and aggregate treatment facility and the proposed soil washing facility.

The assessment has been completed in accordance with the Environment Agency (EA) Technical Guidance '*Risk Assessments for your Environmental Permit'* published February 2016. The aim of the assessment is to identify any significant risks and demonstrate that the risk of pollution or harm will be acceptable by taking the appropriate measures to manage these risks.

The ERA uses the following approach for identifying and assessing the risks from the proposed operation:

Step 1	Identify risks and sources of risk from your activity
Step 2	Where risks are identified from Step 1 then identify the receptors that could be affected
Step 3	Identify potential pathways between the sources of risk and receptors
Step 4	Assess the risks and check that they are acceptable. Justify appropriate measures to control your risks, if necessary.
Step 5	Submit your assessment.

Section 2 of this document is a screening step to identify the risks requiring consideration as part of this assessment.

Section 3 identifies people or parts of the environment that could be harmed (at potentially significant risk) by the activity. The ERA for an EP variation application requires all receptors that are near the site and could reasonably be affected by the activities to be identified and considered as part of the assessment.

Section 4 of this document presents the assessment and demonstrates that any risks of pollution or harm will be mitigated to manage the risk.

2. Identifying the Risks

Step 2 is a screening step to identity the potential risks to the environment from the proposed bespoke waste recovery activity. The following are generally considered to require assessment for bespoke operations:

- Amenity and accidents;
- Site waste;
- Global warming potential;
- Odour;
- Noise; and
- Point source emissions to air, water, and land.

There will be no point source emissions to groundwater, surface water, air or land resulting from the proposed waste activity and neither will there be any site waste arising or global warming potential.

3. Site Setting and Receptors

3.1 Site Setting

Manton Quarry is located in North Lincolnshire, approximately 450m southeast of the village of Manton, within a predominately rural area. The site is access via Manton Lane which runs adjacent to the site's northern boundary. The National Grid Reference (GCR) for the site is SE 93976024520.

The entire site is designated as a geological SSSI called Manton Stone Quarry SSSI. It is considered to be a key exposure of the more northerly development of the Lincolnshire Limestone. Four other SSSIs are located within close proximity. These include Cleatham Quarry which lies approximately 640m south, Cliff Farm Pit, which is situated approximately 1170m south, Manton & Twigmoor which is located approximately 1170m north, and Messingham Sand Quarry which lies approximately 2340m northwest.

Most of the land surrounding the site is occupied by open/agricultural ground with a few quarries located within the surrounding area including Kirton Quarry and Landfill to the southeast, approximately 50m from the eastern EP boundary.

The site's location is illustrated in Drawing 001 V3. The proposed area to hold the Washplant and Waste Transfer sits within the existing recovery EP boundary.

A summary of the site's immediate surrounding land uses is identified in Table 3.1 below.

Table 3.1
Surrounding Land Uses

Boundary	Description
North	Manton Stone Quarry SSSI is located immediately to the north, followed by Manton Lane. Beyond this lies open/agricultural land.
East	Immediately to the east lies Manton Quarry SSSI, the B1398, and Kirton Quarry and Landfill. Newlands Farm and open/agricultural land are also located in this direction.
South	Open/agricultural land and Cleatham Quarry SSSI are located to the south of the site.
West	Manton Stone Quarry SSSI lies immediately to the west, followed by open/agricultural land. Beyond this lies Manton Village which is home to a number of residential properties.

The land uses immediately surrounding the proposed waste activity boundary are described in further detail below. Distances are provided between the sensitive receptors and the waste recovery activity boundary as the risks posed to sensitive receptors by the existing activities have been previously fully assessed.

3.1.1 Commercial/Agricultural Premises

The site forms part of the wider Manton Quarry of which further areas lie immediately to the north, east and west of the EP boundary. The former Kirton Quarry which is now operated as a landfill site is located approximately 50m east of the site.

3.1.2 Residential Properties

Few residential properties are located within 500m of the site. The closest residential properties are Manton Place and Newlands Farm which lie approximately 350m west and 4670m east respectively.

3.1.3 Local Transport Network

Access to the site is provided by Manton Lane which is situated approximately 130m north of the waste activity area. This in turn provides access to the B1398 which is located approximately 30m from the site's eastern EP boundary. There are various unnamed small, trail roads within 500m of the site, mostly to the east, but with some to the west also.

3.1.4 Surface Water Features

Four surface water features were identified within a 500m radius of the waste recovery activity boundary.

- A drain is located approximately 60m to the northeast;
- A drain lies approximately 70m to the northeast;
- A drain is located approximately 420m to the north; and
- Multiple bodies of water are located within Kirton Quarry to the east of the site. The closest of these is a pond which lies approximately 220m southeast.

These are likely to be man-made surface water management ponds linked to the operation of the quarry and the landfill.

3.1.5 Open Ground

The majority of the surrounding land within a 500m radius of the site boundary is comprised of open ground. The closest area I located immediately to the south of waste recovery activity area.

3.1.6 Woodland

An area of deciduous woodland designated as a priority habitat can be found approximately 360m to the west and an area classified as a traditional orchard designated as a priority habitat is situated approximately 40m to the southwest of the site.

3.2 Geology

A review of the British Geological Survey (BGS) map reveals that the majority of the site is underlain by a bedrock of Kirton Cementstone Bends – Mudstone and Limestone interbedded, which is indicative of a local environment previously dominated by shallow carbonate seas. In a small portion of the south of the site the bedrock is comprised of Hilbaldstow Limestone – Limestone Oolitic which again is indicative of a local environment previously dominated by shallow carbonate seas.

There is no records regarding superficial deposits at the site.

3.3 Hydrogeology

3.3.1 Aquifer Designation

The bedrock deposits underlying the site are classed as a Principal Aquifer on the Multi-Agency information for the Countryside (MAGIC) website.

3.3.2 Source Protection Zones

The site does not fall within a Source Protection Zone (SPZ). However, the southernmost point of the site, is approximately 720m from a Zone II – Outer Protection Zone, at its closest point.

3.4 Hydrology

The Groundwater Vulnerability layer on MAGIC map reveals the site lies within an area known for groundwater vulnerability classified as High with Soluble Rock Risk.

3.5 Ecology

The MAGIC map website has been assessed to determine the presence of any European or Internationally designated sites within a 1km radius from the Site's boundary.

3.5.1 Sites of Special Scientific Interest (SSSI)

The entire site is located within a geological SSSI called Manton Stone Quarry SSSI. It is considered to be a key exposure of the more northerly development of the Lincolnshire Limestone. A further SSSI called Cleatham Quarry lies approximately 640m to the south of the waste activity area.

The search on MAGIC confirmed that there are none of the following within 1km of the waste recovery area boundary:

- Special Areas of Conservation (SAC);
- Special Protection Areas (SPA);
- National Nature Reserves (NNR);
- Local Nature Reserves (LNR);
- Areas of Ancient Woodland;
- National parks;
- Areas of Outstanding Natural Beauty (AONB); and
- RAMSAR sites.

3.6 Cultural and Heritage

3.6.1 Listed Buildings

There are several listed buildings within a 1km radius of the waste area. All of the listed buildings located within the 1km radius are Grade II listed. The closest to the site boundary is the Church of St. Hybald which is located approximately 480m to the west.

The searches on MAGIC confirmed that there are none of the following within 1km of the site's boundary:

- Scheduled Monuments;
- Registered Battlefields;
- Registered Parks and Gardens;
- World Heritage Sites; or
- National Parks.

3.7 Identified Receptors

Table 3.2 below shows the locations of receptors that are considered to be potentially sensitive and could reasonably be affected by the proposed waste recovery activities carried out on site.

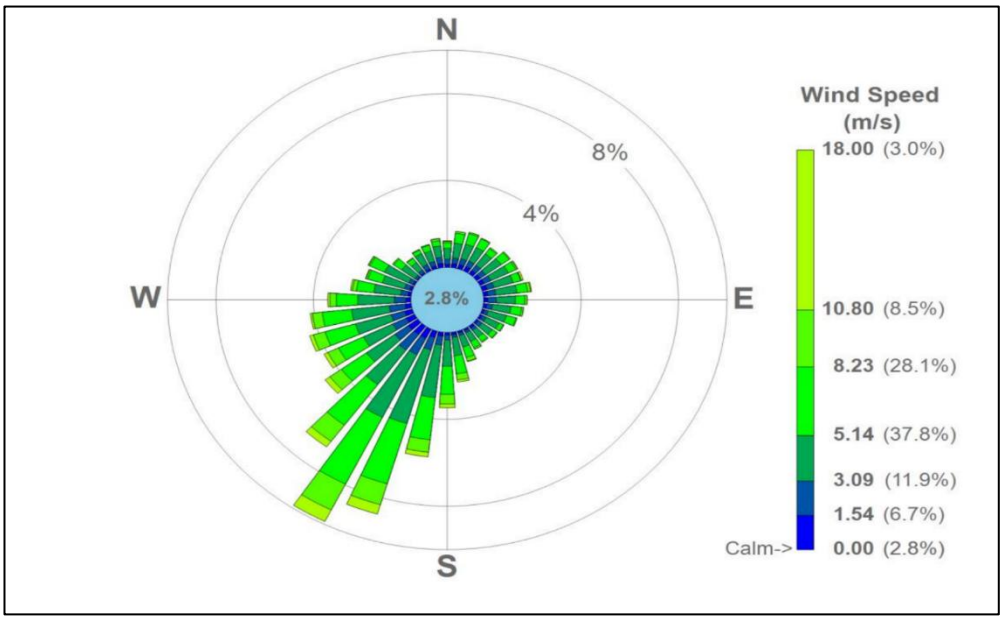
Table 3.2
Identified Receptors

Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Boundary (in metres)
Local receptors located within 500m of the waste recovery activity boundary as shown on Drawing 001 V3			
Principal Aquifer	Principal Aquifer	N/A	N/A
Open Ground	Open Ground	South	Adjacent
Manton Quarry	Commercial/Agricultural Premises	North	Adjacent
Manton Quarry	Commercial/Agricultural Premises	East	Adjacent
Manton Quarry	Commercial/Agricultural Premises	West	Adjacent
B1398	Local Transport Network	East	30
Traditional Orchard Priority Habitat	Woodland	Southwest	40
Kirton Quarry and Landfill	Industrial/Waste Facility	East	50
Drain	Surface water feature	Northeast	60
Drain	Surface water feature	Northeast	70
Manton Lane	Local Transport Network	North	130
Pond at Kirton Quarry	Surface water feature (man-made)	Southeast	220
Manton Place	Residential	West	350
Deciduous Woodland Priority Habitat	Woodland	West	360
Drain	Surface water feature	North	420
Newlands Farm	Residential	East	470
Ecological and Cultural and Natural Heritage identified within 1km of the waste activity boundary as shown on Drawing 001 V3			
Manton Stone Quarry SSSI	SSSI	N/A	Located within the boundary
Church of St. Hybald	Grade II Listed Building	West	480
Cleatham Quarry SSSI	SSSI	South	640
Cleatham Hall Barn Approximately 70 Metres North of Cleatham Hall	Grade II Listed Building	Southwest	640
Cleatham Hall Tack Room and Doug Kennel Approximately 40 Metres North of Cleatham Hall	Grade II Listed Building	Southwest	670
Cleatham Hall Coach House and Stables Approximately 50 Metres North of Cleatham Hall	Grade II Listed Building	Southwest	670
Cleatham Hall	Grade II Listed Building	Southwest	690

3.8 Windrose

Figure 3.1 shows the wind patterns between 2015-2019 as identified by the Humberside meteorological station, which is the closest weather station lying 17.4km east of the site. The most prominent wind direction is from the south-west. Winds from the south-west are frequent with winds from other directions being more infrequent.

Figure 3.1
Humberside Meteorological Station, 2015-2019



4. Environmental Risk Assessment

4.1 Amenity and Accidents Risk Assessment

The following tables (4.1 – 4.4) in this section assess the site in terms of potential hazards posed to amenity and by accidents, the associated receptors, and pathways, along with measures to manage the identified risks.

The probability of exposure is the likelihood of the receptors being exposed to the hazard, and is defined as low, medium, or high. These terms are qualified as follows;

- Low: exposure is unlikely, barriers in place to mitigate against exposure
- Medium: exposure is fairly probable, barriers to exposure less controllable
- High: exposure is probable, direct exposure likely with few barriers

The methodology outline in Section 1.1 of this report is the basis on which it is determined whether the proposed operations will lead to significant impacts on the surrounding environment. Where a conclusion of 'not significant' has been reached, it is proposed that the mitigation and management measures that will be in place at the Site will be sufficient to ensure that there will be no impact at the surrounding environment.

There will be no point source emissions to surface water, groundwater or air resulting from the proposed operations and neither will there be any site waste arising or global warming potential. Therefore, it is only considered to be applicable for standard assessment in this instance, and includes the consideration of odour, noise and vibration, fugitive emissions (including dust, mud, litter, and pests) and accidents in relation to the proposed development.

The ERA will cover risks associated with the proposed waste activities on site as a result of the EP variation application.

ENVIRONMENTAL RISK ASSESSMENT

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification of magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	Where the harmful consequences if things go wrong?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequences be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?	How can I best manage the risk to reduce the magnitude?	What is the magnitude of the risk after management?) This residual risk will be controlled by Compliance Assessment?
Local human population	Releases of particulate matter (dusts) and micro-organisms (bioaerosols)	Harm to human health - respiratory irritation and illness.	Air transport then inhalation	Medium	Low	**Medium**	Permitted waste types are inert and non- hazardous and do not include dusts, powders or loose fibres and have a low potential to produce bioaerosols, but the (dry) treatment activities may produce particulate matter so a medium magnitude risk is estimated. The permitted level of throughput and potential size of the facility means there is potential for exposure There is potential for increased dust generation from permitted activities during prolonged dry periods e.g. summer months, and / or windy weather. However,	Daily dust monitoring, pre-emptive monitoring of weather forecasts. Wetting down of stockpiles, haul roads etc. when deemed necessary. Suspension of operations if daily dust monitoring determines unacceptable dust levels to be leaving the site boundary. Maintenance and cleaning of plant and equipment in accordance with manufacturer guidelines. Use of documents: dust mitigation strategy and other requirements in EMS	Low

							the largest throughput would go through the washplant, where there is very low likelihood of dust emissions due to the enclosed nature of the process		
Statutory Sites within 1KM of site as identified in Table 3.2	Releases of particulate matter (dusts) and micro-organisms (bioaerosols)	Smothering Loss of Habitat Toxic COntamination	Air transport and deposition	Medium	Low	**Medium**	Permitted waste types are inert and non- hazardous and do not include dusts, powders or loose fibres and have a low potential to produce bioaerosols, but the (dry) treatment activities may produce particulate matter so a medium magnitude risk is estimated. The permitted level of throughput and potential size of the facility means there is potential for exposure There is potential for increased dust generation from permitted activities during prolonged dry periods e.g. summer months, and / or windy weather. However,	Daily dust monitoring, pre-emptive monitoring of weather forecasts. Wetting down of stockpiles, haul roads etc. when deemed necessary. Suspension of operations if daily dust monitoring determines unacceptable dust levels to be leaving the site boundary. Maintenance and cleaning of plant and equipment in accordance with manufacturer guidelines. Use of documents: dust mitigation strategy and other requirements in EMS	Low

							the largest throughput would go through the washplant, where there is very low likelihood of dust emissions due to the enclosed nature of the process		
Local human population	As above	Nuisance - dust on cars, clothing etc.	Air transport then deposition	Low	Low	**Low**	Nearest residential property over 350m away, not in path of prevailing wind direction.	As above	Low
Local human population, livestock, and wildlife.	Litter	Nuisance, loss of amenity and harm to animal health	Air transport then deposition	Low	Low	**Low**	Local residents often sensitive to litter, however permitted waste types have low litter potential. Nearest residential property over 350m away	Any litter would be cleared as needed. Waste types very unlikely to produce litter. Not within / near to residential area.	Very low
Local human population	Waste, litter and mud on local roads	Nuisance, loss of amenity, road traffic accidents	Vehicles entering and leaving site	Medium	Medium	**Medium**	Road safety, local residents often sensitive to mud on roads.	Road sweeper would be employed on internal roads if required, wheel wash facilities used, tarmac or sealed surfaces for approx. 200m into site, and HGVs unlikely to leave sealed surfaces once within site.	Low
Local human population	Odour	Nuisance, loss of amenity	Air transport then inhalation	Low	Low	**Low**	Local residents often sensitive to odour, however permitted waste	Odour controls not considered necessary due to waste types and processes, and lack	Very low

							types have low odour potential.	of nearby sensitive receptors.	
Local human population	Noise and vibration	Nuisance, loss of amenity, loss of sleep.	Noise through the air and vibration through the ground.	Low	Medium	**Medium**	Local residents often sensitive to noise and vibration	Noise Management Plan in place including noise mitigation measures. However, noise is not considered likely to cause unacceptable harm as the site is not located near any business/residents, with nearby main road and significant distance to residential properties.	Very low
Statutory Sites within 1KM of site as identified in Table 3.2	Vibration and noise	Nuisance, loss of amenity, loss of sleep.	Noise through the air and vibration through the ground.	Low	Low	**Low**	Local residents often sensitive to noise and vibration	Noise Management Plan in place including noise mitigation measures. However, noise is not considered likely to cause unacceptable harm as the site is not located near any business/residents, with nearby main road and significant distance to residential properties.	Very low
Local human population	Scavenging animals and scavenging birds	Harm to human health - from waste carried off site and faeces. Nuisance and loss of amenity	Air transport and over land	Low	Medium	**Low**	Permitted wastes unlikely to attract scavenging animals and birds but may	No mitigation required, wastes very unlikely to attract scavenging animals and birds.	Very low

							become nesting / breeding sites.	Significant distance to residential receptors. Nevertheless, should scavengers be identified, appropriate pest control specialists would be employed by the operator.	
Local human population	Pests (e.g. flies)	Harm to human health, nuisance, loss of amenity	Air transport and over land	Low	Medium	**Low**	Permitted waste types unlikely to attract pests.	As above	Very low
Local human population and local environment	Flooding of site dis	If waste is washed off site it may contaminate buildings / gardens / natural habitats downstream.	Flood waters	Low	Low	**Low**	Permitted waste types are inert and non- hazardous so any waste washed off site will add to the volume of the local post flood clean-up workload, rather than the hazard. Site is within flood zone 1	Site is within Flood Zone 1, no specific mitigation required. Site will have appropriate drainage system to cater for predicted rainfall events	Very low
Local human population and / or livestock after gaining unauthorised access to the waste	All on-site hazards: wastes; machinery and vehicles.	Bodily injury	Direct physical contact	Low	Low	**Low**	Permitted waste types are inert therefore only a low magnitude risk is estimated	EMS (as well as any HSE requirements) requirements are adhered to. Appropriate training and PPE is provided to all staff.	Low
Local human population and local environment	Arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness, and nuisance to local population. Injury to staff, fire fighters or arsonists/vandal s.	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains	Medium	Low	**Low**	Permitted waste types do not include any flammable materials so a low magnitude risk is estimated.	EMS adhered to. Site security is in place (site is fenced and gated with CCTV and Security).	Low

Local human population and local environment	Accidental fire causing the release of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness, and nuisance to local population. Injury to staff or fire fighters.	As above	Low	Low	**Low**	As above.	As above.	Low
All surface waters close to and downstream of site.	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste	Acute effects: oxygen depletion, fish kill and algal blooms	Direct run-off from site across ground surface, via surface water drains, ditches etc.	Low	Low	**Low**	Permitted waste types are inert and stored in sealed surfaces. Waste treatment will be undertaken on sealed surfaces.	All processing and waste storage takes place on sealed surface areas. Stockpiled final products stored on sealed surface after washing to prevent excessive suspended solids potentially running off from site.	Low
All surface waters close to and downstream of site.		Chronic effects: deterioration of water quality	As above. Indirect run-off via the soil layer	Low	Low	**Low**	Waste types are non-hazardous and inert so harm is likely to be temporary and reversible. Soil washing will be undertaken on sealed surface with sealed drainage system means contaminated water would be unlikely to reach groundwater	As above	Very low

Groundwater	As above	Chronic effects: contamination of groundwater, requiring treatment of water or closure of borehole	Transport through soil/ groundwater then extraction at borehole	Low	Low	**Low**	Permitted wastes unlikely to contaminate groundwater. Soil washing will be undertaken on sealed surface with sealed drainage system means contaminated water would be unlikely to reach groundwater	As above	Very low
Statutory Sites within 1KM of site as identified in Table 3.2	Leachable content within the wastes	Nutrient Enrichment/Eutrophication	Transport through soil/ groundwater	Low	Low	**Low**	The proposed waste types are inert and therefore non-hazardous. As such, any run-off that is generated on site will simply be rainwater which has passed through inert soils and therefore is not likely to be contaminated.	All soil washing activities will be undertaken on impermeable surfacing with sealed drainage	Very Low
Statutory Sites within 1KM of site as identified in Table 3.2	Suspended solids within run off water	Siltation	Transport through surface water	Low	Low	**Low**	The proposed waste types are inert and therefore non-hazardous. Soil washing will be undertaken on sealed surface with sealed drainage system means contaminated water would be unlikely to reach groundwater There	All soil washing activities will be undertaken on impermeable surfacing with sealed drainage	Very Low

							will be strict waste acceptance procedures in place at the site to prevent the acceptance of non-conforming waste types. General site housekeeping will ensure that dust does not build up on site and all dust generating activities will be monitored closely and site operatives will be vigilant and report any excessive dust issues to the Site Manager to be dealt with at the next available notice. Fuel storage will be provided, and storage will be in line with latest legislation. All deliveries of fuel will be supervised to ensure no spillages occur. Weekly check sheets include a		

							requirement for site staff to undertake visual inspections of the status of the drainage.		

5. Conclusion

This ERA has been undertaken in accordance with EA guidance.

The qualitative risk assessment has considered odour, noise, fugitive emissions, dust, releases to water, litter and potential for accidents and incidents.

The assessment concluded that with the implementation of the risk management measures described above, potential hazards, apart from dust, from the waste activities are not likely to be significant and no further assessment or management plan is required.