



Saxon Pit Southern Buttress Environmental Permit Application

Environmental Risk Assessment

East Midlands Waste Management Ltd

Saxon Works, Peterborough Road, Whittlesey, PE7 1PJ

Prepared by:

SLR Consulting Limited

3rd Floor, Brew House, Jacob Street, Tower Hill,
Bristol, BS2 0EQ

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Basis of Report

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1.0 Introduction

SLR Consulting Ltd (SLR) has been instructed by East Midlands Waste Management Limited (EMWM) to prepare an application for a deposit of waste for recovery Environmental Permit for the construction of a buttress to stabilise the southern face of Saxon Pit, located at Peterborough Road, Whittlesey, PE7 1PJ (the Site).

This Environmental Risk Assessment (ERA) provides an assessment of the risks to the environment and human health from emissions that may be associated with waste operations at the facility. It has been completed in accordance with the Environment Agency (EA) Guidance: *Risk assessments for your environmental permit*¹. 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 the risks.

EA guidance requires that all receptors that are near the Site and could reasonably be affected by the activities are identified and considered as part of the assessment.

For the purposes of this risk assessment, a 2km radius from the Site's Environmental Permit (EP) boundary has been adopted to identify any Sites of Special Scientific Interest (SSSIs), and a 1km radius for other potentially sensitive receptors of ecological importance along with features such as sites of cultural and natural heritage. A radius of 500m from the EP boundary has been adopted for all other potentially sensitive receptors (for example, residential, commercial, industrial, agricultural and surface water receptors). The EP boundary is shown Drawing 002, Environmental Permit Boundary and Site Layout Plan.

1.1 The Proposed Development

The exhausted clay pit has historically suffered from several minor failures of the quarry face along its eastern and southern boundaries. The eastern slope of the wider site has been stabilised by regrading works under a separate deposit for recovery EP (EPR/FB3406KC) which involved cutting back the slope crest combined with limited buttressing installed to the lower parts, using imported waste materials. The EP EPR/FB3406KC is operated by EMWM and was originally issued on 30 January 2012.

Multiple shallow failures have been subsequently observed in the south/south-western slope adjacent to the Peterborough to March railway line. As a consequence, essential works are required to stabilise the unrestored southern face of the quarry. The stabilisation will involve the placement of suitable imported waste material to construct an engineered buttress against the southern face of the quarry.

It is anticipated that approximately 216,700 m³ (between 325,500 and 390,600 tonnes assuming a density between 1.5 and 1.8 tonnes/m³) of suitable waste will need to be imported to construct the buttress. The Site will be regulated as a deposit for recovery waste operation, with front-end screening of incoming materials, under the following specified waste management activities:

- **R3:** Recycling or reclamation of organic substances which are not used as solvents.
- **R5:** Recycling / reclamation of inorganic compounds – use of waste for the purpose of restoration of land.
- **R13:** Storage of wastes pending any of the operations numbered R3 and R5.

¹ Environment Agency Guidance Risk Assessments for your environmental permit, last updated 25 March 2021



1.2 Site Setting

The Site is located within the inactive Saxon Pit quarry. Saxon Pit is located immediately to the west of the town of Whittlesey in Cambridgeshire at National Grid Reference TL 25759 96862. Saxon Pit comprises an excavation in the Oxford Clay which is between 18 and 27 metres deep and lies between the A605 Peterborough Road to the north and the Peterborough to March railway line to the south. The proposed EP is located in just part of the wider Saxon Pit site. The location of the proposed Site within Saxon Pit is shown in Drawing 001 and the Environmental Site Setting is shown in Drawing 003.

The eastern boundary of the wider Saxon Pit site is adjacent to a housing estate. To the southeast the canalised Kings Dyke flows beneath the Peterborough to March railway line. The original Saxon Brickworks and associated infrastructure which were located in the pit have now been demolished and/or repurposed/de-commissioned and the general site is now operated as a waste management facility by EMWM.

A summary of the immediate surrounding land use is provided in Table 1-1 below.

Table 1-1 Immediate Surrounding Land Uses

Boundary	Description
North	Open land within the wider Saxon Pit site. Commercial and industrial premises including waste operations undertaken by Johnsons Aggregates and Recycling and plant hire facilities among others. The A605/Peterborough Road lies approximately 465m to the north of the proposed EP boundary.
East	Open land including the existing deposit for recovery EP operated by EMWM for the stabilisation the eastern face of Saxon Pit, beyond which lies a large residential area within the town of Whittlesey, the centre of which is located circa 1km from the Site.
South	Peterborough to March railway line runs parallel to the southern boundary of the Site, beyond which lies Kings Dyke. Open / agricultural land is located further to the south.
West	Commercial and industrial land and open land within the wider Saxon Pit site.



2.0 Environmental Risk Assessment

2.1 Overview of approach

This ERA has been carried out in accordance with the EA's guidance: *Risk assessments for your environmental permit* published on Gov.uk and updated 21st November 2023 which uses the following approach for identifying and assessing the risks in six steps:

- **Step 1:** Identify and consider risks for the Site, and the sources of the risks;
- **Step 2:** Identify the receptors (people, animals, property and anything else that could be affected by the hazard) at risk from the Site;
- **Step 3:** Identify the possible pathways from the sources of the risks to the receptors;
- **Step 4:** Assess risks relevant to the Site and check they are acceptable and can be screened out;
- **Step 5:** State what will be done to control risks if they are too high; and
- **Step 6:** Present the assessment as part of the permit application.

2.2 Consideration of risks

2.2.1 Potential Risks

Step 1 considers the potential risks to the environment from the proposed development. The risk assessment must identify whether any of the following risks could occur and what the environmental impact could be:

- any discharge, for example sewage or trade effluent to surface or groundwater;
- accidents;
- odour (not for standalone water discharge and groundwater activities);
- noise and vibration (not for standalone water discharge and groundwater activities);
- uncontrolled or unintended ('fugitive') emissions, for which risks include dust, litter, pests and pollutants that shouldn't be in the discharge;
- visible emissions, e.g. smoke or visible plumes;
- release of bioaerosols, for example from shredding, screening and turning, or from stack or open point source release such as a biofilter.

Potential risks can be screened out if they are not relevant for the Site or by carrying out tests to check whether they are within acceptable limits or environmental standards. If they are screened out, any further assessment of the pollutant is not necessary because the risk to the environment is insignificant.

2.2.2 Risks relevant to the site

There are no direct discharges to air, groundwater, sewer, visible emissions or releases of bioaerosols resulting from the proposed activities.

Surface water run-off from the EP area is proposed to drain from the Site into a lagoon located to the north of the EP boundary. This lagoon collects water from the wider Saxon Pit site, including surface water run-off from the neighbouring deposit for recovery EP to the east. Water from this lagoon is ultimately discharged via outfall to the Kings Dyke to the south of the Site. A discharge consent application has been submitted by EMWM and is currently undergoing determination by the EA. It is anticipated that this consent would



provide the appropriate safeguards to protect the receiving water course, inclusive of the contribution from rainfall derived run-off from the proposed activities within this application. Only inert waste will be accepted to the Site, under strict waste acceptance procedures and therefore surface water runoff will not be contaminated with any hazardous pollutants.

The following risks are assessed for the proposed operation:

- Surface water discharge to lagoon;
- Odour;
- Noise and Vibration;
- Fugitive Emissions (including dust, mud, litter and pests); and
- Accidents.

2.3 Receptors

Step Two identifies people or parts of the environment that could be harmed (at potentially significant risk) by the activities. This section details the Site setting and potentially sensitive receptors near the Site.

Local receptors within 500m of the Site’s proposed EP boundary are identified in Table 2-1, along with cultural and ecological receptors within 2km.

The Site’s Environmental Setting and the location of designated habitat and cultural features are presented on Drawing No. 003.

Table 2-1 Receptors

Receptor Name	Receptor Type	Direction	Approximate Distance from proposed EP Boundary
Local receptors within 500m of the EP Boundary			
Open Land (quarry buttress)	Open Land	East	Adjacent
Peterborough to March railway line	Local Transport Network	South	50m
King’s Dyke	Surface Water Feature	South	70m
Eco Plant Hire And Sales Ltd	Commercial/ Industrial Premises	Northwest	50m
Deciduous woodland	Habitat	South	80m
Deciduous woodland	Habitat	South	140m
Surface Water Feature	Surface Water Feature	South	125m
Residential	Residential	Northeast	210m
Johnsons Aggregates & Recycling Ltd	Commercial/ Industrial Premises	North	235m
Aster Cars	Commercial/ Industrial Premises	North	435m



Receptor Name	Receptor Type	Direction	Approximate Distance from proposed EP Boundary
A605 / Peterborough Road	Local Transport Network	North	465m
Residential	Residential	North	480m
Cultural and ecological receptors within 2km of the Environmental Permit Boundary			
Listed Building*	Grade II Listed Building	Northeast	570m
Kings Dyke Nature Reserve	Nature Reserve	Northwest	600m
Bassenhally Pit	SSSI	North	980m
Whittlesey Butter Cross	Scheduled Monument	East	1km
Nene Washes	SSSI, SPA, Ramsar, SAC	North	1.2km

2.3.1 Residential

The town of Whittlesey lies to the east of the Site. The closest residential properties within Whittlesey are located 210m from the northeastern boundary of the Site. Additional residential properties are located 280m southeast and circa 480m to the north of the Site along the A605 / Peterborough Road.

2.3.2 Agricultural/ Open Land

There is an area of open land adjoining the proposed Site to the east, comprising the existing stabilisation buttress for the eastern quarry wall carried out under a separate EP. Beyond the wider Saxon Pit boundary there are several agricultural fields and areas of open land to the south and west of the Site.

2.3.3 Commercial and Industrial

There is an area of commercial and industrial receptors to the immediate north of the EP boundary, comprising Eco Plant Hire and Sales Ltd, and Johnsons Aggregates & Recycling Ltd amongst other industries. Further sites associated with the Site's history as clay pit and brickworks are found further west.

2.3.4 Local Transport Network

There are several roads within a 500m radius of the Site, the closest of which is the A605 Peterborough Road 465m to the north of the Site. The Peterborough to March railway line runs parallel to the southern boundary of the Site, approximately 50m from the proposed EP boundary.

2.3.5 Geology

A review of the British Geological Survey (BGS)² map reveals that the majority of the Site is underlain by a bedrock of Mudstone from the Oxford Clay Formation - Sedimentary bedrock formed between 166.1 and 157.3 million years ago during the Jurassic period. The geology

² British Geological Survey (BGS), available at www.bgs.ac.uk, accessed in October 2024



of the Site is discussed in further details within the Environmental Setting and Site Design (ESSD) report prepared as part of the EP application.

2.3.6 Hydrogeology

The DEFRA online mapping service 'Magic Map'³ classifies the Oxford Clay as an Unproductive Aquifer, described as:

'rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow'.

The underlying Kellaways Formation is classified as a 'Secondary A Aquifer' described as:

'Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers'

2.3.6.1 Groundwater Vulnerability

MAGIC map shows that the Site lies in an area of unproductive groundwater vulnerability.

2.3.6.2 Source Protection Zones

The Site is not located within a source protection zone for drinking water. The closest source protection zone, Zone II- Outer Protection Zone, is located approximately 12km northwest of the Site.

2.3.7 Hydrology

The Flood Map for Planning⁴ identifies parts of the site as lying within a Flood Zone 3 for surface water and small watercourses, defined as having "high probability of flooding from rivers and the sea".

The Site falls within the catchment of the Kings Dyke to the east of the Site, a tributary of the River Nene. The Kings Dyke is culverted beneath the railway line to the south of the Site flowing in a north-easterly direction. At its closest point, the channel is located c.40m south east of the Site and drains an upstream catchment area⁵ of 23.75km². Kings Dyke flows ultimately into the old course of the River Nene c.10km downstream of the site, via Briggate River, Twenty Foot River and Whittlesey Dyke. A significant length of these watercourses are canalised along their reaches. The Kings Dyke is formed via an offtake from the River Nene (Stanground Lock). Water levels are controlled by the St Germans Pumping Station and the lock gates at Stanground Lock, to sustain a level of c.1.5m aOD which can be managed as required.

The new course of the River Nene is designated as Environment Agency Main River⁶ which, at its closest point, flow eastwards 1km north of the Site draining an approximate upstream catchment area⁵ of 1,642km². The River Nene rises to the north of Northampton and flows towards Peterborough. The Dog-in-a-Double sluice is located approximately 8km downstream of Peterborough, to the north of Whittlesey, at which point the fluvial Nene meets the tidal reaches of the River Nene. Approximately 40km downstream of the sluice, the River outfalls into the Wash. The tidal reaches of the River Nene are defended by a series of raised earth embankments, with the exception of Wisbech Reach.

³ <https://magic.defra.gov.uk/MagicMap.html>

⁴ <https://flood-map-for-planning.service.gov.uk/>



The current drainage strategy for the wider Saxon Pit site directs surface water run-off towards a lagoon at the base of the pit, located to the north of the proposed EP boundary. Surface water run-off will be managed via a swale at the base of the buttress which will direct flow to the existing on-site drainage scheme and attenuation lagoon. Surface water from the wider Saxon Pit site is discharged via an outflow into a reed bed connected to the Kings Dyke, as shown on the Environmental Permit Boundary and Site Layout Plan, Drawing No. 002.

2.3.8 Designated Habitat Sites

A 2km radius was used for identifying European and International Designated Habitat Sites and for other designated habitat sites using Defra's MAGIC map application.

The following European and Internationally Designated Habitat Sites are situated within 2km of the Site:

- Nene Washes (Special Areas of Conservation (SAC) and Ramsar)– 1.2km north;

None of the following types of designated habitat sites were identified as situated within 2km of the Site:

- National Nature Reserve (NNR);
- Ancient Woodland; and
- Areas of Outstanding Natural Beauty (AONB).

2.3.8.1 Site of Special Scientific Interest (SSSI)

The following Sites of Special Scientific Interest are situated within 2km of the Site:

- Bassenhally Pit – 980m north
- Nene Washes–1.2km north

2.3.8.2 Special Protection Areas (SPAs)

Nene Washes SPA is located 1.2km north of the Site.

2.3.8.3 Protected Species

A Nature and Heritage Conservation (N&H) Screen was requested for the Site to determine whether there were any other protected habitats or protected species within 500m of the proposed EP boundary.

The screen identified the following protected species within 500m of the Site:

- European Eel
- European Eel migratory route
- European Water Vole

The mapping within the N&H screen suggests that these receptors are associated with the Kings Dyke located to the south of the proposed EP boundary.

The N&H screen also confirmed that the following were not found to be located within 500m of the Site: “*Special Areas of Conservation (cSAC or SAC), Special Protection Area (pSPA or SPA), Marine Conservation Zone (MCZ), Ramsar, Sites of Special Scientific Interest (SSSI), National Nature Reserve (NNR), Local Nature Reserve (LNR), Local Wildlife Sites (LWS), Ancient Woodland, relevant species and habitats*”.



The measures set out in this ERA and in the additional documents completed as part of the EP application are considered sufficient in reducing impact to protected species (and receptors) in the vicinity of the Site.

2.4 Cultural Heritage

2.4.1.1 Listed Buildings

There are several listed buildings within 2km of the Site, the closest of which is located approximately 570m northeast of the site. The locations of other listed buildings are shown on the Site Setting Plan, Drawing No. 003.

2.4.1.2 Scheduled Monuments

The Scheduled Monument “Whittlesey Butter Cross” is located 1km east of the Site. There are no other Scheduled Monuments identified within 2km of the Site.

2.5 Wind Rose

Wind speed and direction data from the meteorological observation station at Wittering located 22km west of the Site, is considered to be broadly representative of the local Site conditions. A wind rose for Wittering is presented in Figure 1.

Figure 2-1 indicates that the prevailing wind direction is from the south-west, with almost 50% of the winds observed from this direction. Approximately only 30% of the wind occurs from the north, east and south collectively. Approximately 25% of the winds were observed from the north-west.

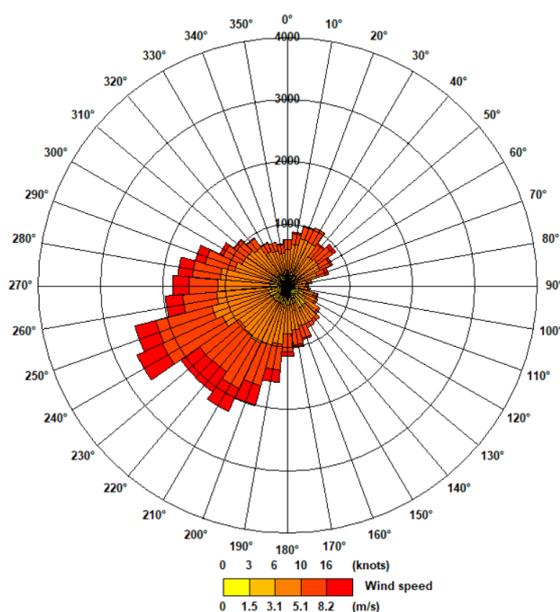


Figure 2-1 Windrose form Wittering Meteorological Station (2015-2019)

2.6 Pathways, Control Measures and Risk Assessment

This section considers the potential pathways between source and receptor and where appropriate, the assessment demonstrates how the risk of pollution or harm can be mitigated by measures to manage these risks and/or block the pathways. An assessment in terms of



hazards posed, receptors and pathways, along with management and residual risks for the following hazards is presented for each of the four proposed changes to the activities, in accordance with the risks identified in Section 2.2.2 of this report.

The following impacts have been identified as requiring assessment (see section 2.2.2):

- Surface water discharge to lagoon
- Odour;
- Noise and Vibration;
- Discharge and Fugitive Emissions (including dust, mud, litter and pests); and
- Accidents.

Qualitative assessments of odour, fugitive emissions and accident risks have been carried out and a quantitative risk assessment using background survey and modelling has been carried out for noise and vibration.

Surface water run-off from the Site will be routed to the existing silt lagoon located to the north of the EP boundary and discharged alongside other inputs from the wider site.

Discharges of water from the silt lagoon, to the Kings Dyke, will be controlled by a discharge permit that is pending issue from the Environment Agency to EMWM. It is anticipated that this consent would provide the appropriate safeguards to protect the receiving water course, inclusive of the contribution from rainfall derived run-off from the proposed activities within this application

2.6.1 Odour

A qualitative assessment of odour has been carried out which assesses the probability of exposure in terms of the likelihood of the receptors being exposed to the hazard. This is defined as low, medium or high as set out below:

- 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 risk assessment is provided in Table 2-2.

2.6.2 Noise and Vibration

A Noise Assessment and Noise Monitoring Plan has been prepared in order to support the EP application. The Noise Assessment concluded that *“assessment of the likely noise levels associated with the operation of the site indicates that the site operations would generate noise levels below appropriate noise limits and would therefore remain acceptable to ensure any potential adverse impacts to the occupants of surrounding properties are minimised”*.

A high-level qualitative risk assessment for noise and vibration is provided in Table 2-3. The Noise Assessment and Noise Monitoring Plan are provided as **Section 11** of the EP application.

2.6.3 Fugitive Emissions

A qualitative assessment of fugitive emissions has been carried out which assesses the probability of exposure in terms of the likelihood of the receptors being exposed to the hazard. This is defined as low, medium or high as set out below:

- 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 key hazards assessed are:

- Dust
- Pests
- Mud & Litter

The risk assessment is provided in Table 2-4.

2.6.4 Accidents

Accident hazards and mitigation techniques are described within the OT submitted as **Section 5** of the EP application. The key potential hazards have been identified as follows:

- Spillages;
- Fire;
- Flooding;
- Unauthorised Waste;
- Security & Vandalism.

The assessment in Table 2-5 summarises the risks and mitigation measures proposed for accident prevention and management.



Table 2-2 Odour Risk Assessment and Mitigation Plan

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequences	What is the overall risk
What has the potential to cause harm?	What is at risk/What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is the contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Odour from deposit of non-conforming waste	Sensitive receptors listed in Table 2 including residential, commercial, agricultural.	Air	<p>Only uncontaminated inert materials will be used for recovery. The permitted waste types are not odorous.</p> <p>Strict waste acceptance procedures will ensure that no unauthorised materials are accepted at the Site, including but not limited to basic characterisation and visual inspection.</p> <p>Site operatives will conduct daily inspection of the perimeter to identify any unacceptable odours. Site personnel will also conduct informal olfactory monitoring throughout the working day and are encouraged to report any odours they notice.</p> <p>If any odours are identified the cause will be investigated and odorous materials will be removed offsite to a suitably licenced treatment facility.</p> <p>The results of all inspections or investigations in response to complaints will be recorded in the Site Diary.</p> <p>The Site Manager will be responsible for implementing measures in accordance with operational and management procedures.</p>	Very Low	Odour nuisance and loss of amenity.	Very Low

Table 2-3 Noise Risk Assessment and Mitigation Plan

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequences	What is the overall risk
What has the potential to cause harm?	What is at risk/What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is the contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Noise and vibration	Sensitive receptors listed in Table 2 including residential, commercial, agricultural and ecological receptors.	Noise through the air and vibration through the ground	<p>Emissions from activities shall be free from noise and vibration at levels likely to cause pollution outside the Site. The site is located within the quarry void at levels lower than the surrounding environment. The closest residential receptors are dwellings located on Priors Road and Snoots Road circa 210m from the proposed EP boundary.</p> <p>A Noise Impact Assessment has been prepared to support the EP application and demonstrates the noise from the proposed operations is unlikely to impact surrounding receptors.</p> <p>Risk management techniques that will be implemented at the Site to minimise the impact of noise emissions from activities include, but are not limited to, the following:</p> <ul style="list-style-type: none"> All plant and equipment will be maintained to a high standard; Drop heights will be minimised when depositing inert material; The site speed limit of 10mph will be followed by all site staff and visitors Operation of machinery will be restricted to operational hours stated within planning permission Plant will not be left idling when not in use. 	Low	Nuisance, loss of amenity, loss of sleep	Low



Table 2-4 Fugitive Emissions Risk Assessment

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequences	What is the overall risk
What has the potential to cause harm?	What is at risk/What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is the contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
To Air:						
Dust from emplacement of materials	Sensitive receptors listed in Table 2.1 including residential, commercial, agricultural and ecological receptors.	Air	<p>The Site will be operated in accordance with a Dust & Emissions Management Plan prepared as part of the EP application</p> <p>The following measures will be used to prevent mobilisation of dust from the emplacement of materials:</p> <ul style="list-style-type: none"> • Cessation of deposition of dusty waste during particularly dry or windy weather conditions; • Adequate water supply will be provided for effective dust mitigation; • Screening of dusty material will be avoided during particularly dry and windy conditions; • The quarry walls provide dust attenuation for receptors outside Saxon Pit; • Temporary waste stockpiles will be located in a clearly designated area within the permitted site boundary (i.e. within the base of the disused quarry); • All plant and equipment will be maintained to a high standard; • Drop heights will be minimised when depositing inert material; • Monitoring of weather forecasts to choose appropriate mitigation measures. <p>The full list of measures is included within the Dust & Emissions Management Plan.</p> <p>Visual inspections will be carried out daily and in response to complaints. The result of any inspections or investigations will be recorded in the Site Diary.</p> <p>The Site Manager will be responsible for implementing risk management measures in accordance with operational and management procedures.</p>	Low	Nuisance and harm to human health	Low
Dust from vehicle movements	Sensitive receptors listed in Table 2.1 including residential, commercial, agricultural and ecological receptors.	Air	<p>The following measures will be used to prevent mobilisation of dust from vehicle movements:</p> <ul style="list-style-type: none"> • Vehicle exhausts to be angled upwards. • Vehicles will be evenly loaded to avoid spillages; • Vehicles entering and leaving the site will be covered to prevent escape of materials during transport. • All vehicles will adhere to the site speed limit of 10mph. • Temporary haul roads will benefit from regular maintenance. Necessary repairs to the surface will be carried out as soon as reasonably practicable. • Good housekeeping of roads and surfaces; • Enforcement of a speed limit to prevent mobilisation of dust; • Monitoring of weather forecasts; • Haul roads will be swept and sprayed with water regularly to prevent the build of dust generating material • A wheel wash is implemented near the Site access and all vehicles leaving the site will do so via the wheel wash 	Low	Nuisance and harm to human health	Low



			<ul style="list-style-type: none"> • Cessation of deposition of dusty waste during particularly dry or windy weather conditions; and • Use of bowsers or sprays in dry conditions. <p>The full list of measures is included within the Dust Management Plan. Visual inspections will be carried out daily and in response to complaints. The result of any inspections or investigations as a result of complaints will be recorded in the Site Diary.</p> <p>The Site Manager will be responsible for implementing risk management measures in accordance with operational and management procedures.</p>			
To Water:						
Contaminants in surface water run-off	Kings Dyke	Surface water run-off into lagoon	<p>The Site has a Surface Water Drainage Strategy which directs run-off from the buttrass into a swale and then towards the lagoon located to the north of the EP boundary. Risk of surface water run-off being contaminated is considered to be low as only inert waste being proposed to be used in the construction of the buttrass. Surface water could also be contaminated by spills and leaks. These risks are considered under the 'Accidents' section of this risk assessment.</p> <p>The following measures will be used to prevent contamination of surface water run off:</p> <ul style="list-style-type: none"> • Strict waste acceptance procedures will ensure that no unauthorised materials are accepted at the Site. • Only uncontaminated inert materials from the local area will be deposited which will not generate contaminated leachate; • No fuels or chemicals will be stored on Site; • Daily inspection of the swale and drainage system will be carried out to check for visible signs of contamination; and • Periodic monitoring of surface water as it enters the lagoon. • The result of any inspections or investigations as a result of complaints will be recorded in the Site Diary. <p>The Site Manager will be responsible for implementing risk management measures in accordance with operational and management procedures. In the case that evidence of contamination is found, the Site Manager will take appropriate action to address the source of pollution.</p>	Low	Contamination	Low
Percolation of contaminated surface water into groundwater	Groundwater	Land	<p>The Site has a Surface Water Drainage Strategy which directs run-off from the buttrass into a swale and then towards the lagoon located to the north of the EP boundary. However, the permitted area is not protected by impermeable surfacing so there is a potential pathway for contamination of land.</p> <p>The risk of surface water run-off being contaminated is considered low as only inert waste being proposed to be used in the construction of the buttrass and a number of control measures are in place to prevent contamination (see above and in accidents section).</p> <p>In the case that contaminated surface water run-off did occur, the presence of a significant depth of Oxford Clay beneath the Site provides a natural geological barrier such that there is no pathway and groundwater is protected.</p> <p>The Site Manager will be responsible for implementing risk management measures in accordance with operational and management procedures.</p>	None	Contamination	None
Pests						



Birds, pests and insects attracted to the Site	Sensitive receptors listed in Table 2 including residential, commercial, agricultural and ecological receptors.	Land, Water and Air	The inert waste types accepted at the Site are unlikely to attract birds, pests and insects. The Site would be inspected by both management and operatives for infestations of pests on a routine basis. In the event that specific waste is found to be responsible for attracting scavengers or pests or infestation, this waste would be removed from the proposed waste facility as soon as practicable. A specialist pest control contractor would be deployed if required.	Low	Harm to human health from waste carried off site and faeces. Nuisance and loss of amenity .	Low
Mud and Litter						
Litter from waste	Sensitive receptors listed in Table 2 including road network, residential, commercial, agricultural and ecological receptors.	Air	Waste acceptance procedures will ensure that only authorised wastes are accepted. The waste type accepted at the Site are unlikely to generate litter. The Site will benefit from good housekeeping and daily sweeping or cleaning of operational areas/the Site perimeter. The Site and its immediate surrounding will be inspected on a daily basis and action will be taken to maintain the area free of significant accumulations of litter and debris. Any windblown litter collected and disposed of appropriately. Daily inspections will be recorded in Site Diary. The result of any inspections or investigations as a result of complaints will be recorded in the Site Diary. The Site Manager will be responsible for implementing risk management measures in accordance with operational and management procedures.	Low	Nuisance from litter. Dangerous conditions on roads.	Low
Mud on roads	Local road network	Transferral of mud on vehicles wheels	Site surfaces and haul roads will benefit from good housekeeping and maintenance to maintain the integrity of the surfacing. A road brush will be used when necessary to sweep the main access road to the Site. A wheel wash to the north of the EP boundary in the wider Saxon Pit site will be utilised by vehicles. In the event that mud, debris or waste arising from the Site is deposited outside the Site, the affected area will be cleaned, and traffic will be isolated from sources of mud and debris within the Site. The Site and its immediate surrounding will be inspected on a daily basis and action will be taken to maintain the area free of significant accumulations of mud. The result of any inspections or investigations as a result of complaints will be recorded in the Site Diary. The Site Manager will be responsible for implementing risk management measures in accordance with operational and management procedures.	Low	Nuisance from mud. Dangerous conditions on roads.	Low

Table 2-5 Accident Risk Assessment

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequences	What is the overall risk
What has the potential to cause harm?	What is at risk/What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is the contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Acceptance of unauthorised waste leading to odour and surface water contamination hazards.	Potentially sensitive receptors listed in Table 2 including residential receptors, surface waters..	Land	The acceptance of unauthorised waste materials could lead to risks associated with odour and the contamination of land and water. All wastes will be subject to inspection and checking against the declaration on the accompanying waste transfer note. Documentation will accompany all waste material accepted. In the event that unauthorised waste is delivered to the	Low	If waste contaminated water is washed off site it may contaminate watercourses and natural habitats leading to chronic effects: and	Low



			<p>Site, the waste will be segregated and stored in a designated quarantine/isolation area prior to export from the Site.</p> <p>Detailed Waste Acceptance Procedures are included as part of the OT document.</p> <p>To prevent impacts associated with the acceptance of unauthorised waste, EMWM will:</p> <ul style="list-style-type: none"> • only accept waste types as detailed in the EP (i.e. inert only); • accept only wastes that conform to the waste acceptance criteria; • employ strict waste acceptance procedures to identify, reject and/or segregate potentially non-conforming waste; • inspect and check waste against the declaration on the waste transfer note; and • segregate unauthorised waste delivered to the site in a quarantine area prior to export from the Site. 		<p>deterioration of water quality.</p> <p>Nuisance from odour.</p>	
<p>Plant or equipment failure – leaks and spillages, increased dust and noise emissions etc,</p>	<p>Potentially sensitive receptors listed in Table 2 including residential, commercial, agricultural, residential receptors.</p> <p>Site personnel.</p>	<p>Land</p>	<p>Plant and equipment are visually inspected prior to every use to ensure they are fit for purpose.</p> <p>In the event of breakdown of vehicles or plant repairs will be actioned as a matter of urgency. If repairs cannot be resolved quickly an alternative vehicle or plant will be sourced from the supplier until the defect can be repaired.</p> <p>If the machine used for levelling and compacting the waste breaks down, the Site Manager will, as a matter of urgency, make arrangements for its repair or replacement and note the details in the site diary. Should the repair or replacement of the machine not be achieved by the end of the day on which the breakdown occurs, a tracked excavator or tracked loading shovel shall be used to compact and level the waste until the compactor has been repaired or replaced.</p> <p>All plant is included on an inspection and service schedule. Operatives are required to complete inspection records for all plant on a regular basis. All plant is serviced in line with manufacturer's recommendations and instructions. A service schedule is displayed in the site office and records of all servicing and maintenance is stored within the site office.</p>	<p>Low</p>	<p>Nuisance, prevention of site operations continuity of operations.</p>	<p>Low</p>
<p>Fire</p>	<p>Potentially sensitive receptors listed in Table 2 including residential, commercial, agricultural, residential, and receptors.</p> <p>Site personnel.</p>	<p>Air (smoke) and Land (spillages and firewater).</p>	<p>To prevent and minimise the potential impact of fire, the following action will be taken:</p> <ul style="list-style-type: none"> • flammable wastes and incompatible materials will not be accepted at the site; • no fuels or combustible raw materials will be stored on site; • the plant inspection schedule will include checks of electrical equipment within the site to ensure that any faults are identified and repaired; • fire extinguishers will be provided at designated locations including on mobile plant; • smoking will not be permitted in the operational areas of the site; • working practices will ensure the assessment of fire hazards and annual training of employees in fire prevention, e.g. identification of fires, the use of fire extinguishers and emergency procedures; • no wastes will be burned on the Site; • any fire at the site will be treated as an emergency; and • in the unlikely event of a fire, water bowsers will be used to dampen material and prevent fire spreading. <p>In the unlikely event of a fire, the following actions will be taken:</p> <ul style="list-style-type: none"> • the Site Manager will be informed immediately; 	<p>Low</p>	<p>Harm to human health, harm to operations, pollution of surroundings.</p>	<p>Low</p>



			<ul style="list-style-type: none"> the fire brigade will be notified immediately and the EA as soon as practicable; the burning area will be isolated and attempts to extinguish the fire utilising the on-site fire extinguishers will be made if safe to do so; and the Site will be evacuated if the fire is not containable. 			
Security and Vandalism	Potentially sensitive receptors listed in Table 2 Site personnel.	Air, Land and Water	<p>The Site will have the following security measures in place to prevent unauthorised access and vandalism:</p> <ul style="list-style-type: none"> The Site access gate will be locked when the site is not in use; The entrance has an intercom and password operated gate, to minimise unauthorised entrance; CCTV cameras will be located at the entrance and will be accessed remotely whilst the site is closed and will be monitored by the Site Manager out of hours; A night security officer is employed at the Site; The gate and fencing extending around the Site will be inspected regularly by the operations staff to identify deterioration, damage or the need for any repairs; Fencing and the gate will be maintained and repaired to ensure their continued integrity. In the event that damage is sustained, repairs will be made by the end of the working day. If this is not possible, suitable measures will be taken to prevent any unauthorised access to the Site and permanent repairs will be affected as soon as practicable and within 5 days; All gates and fencing are inspected at the commencement of each working day. All inspections, defects, damage and repairs would be recorded in the Site Diary; Keys to property will only be kept by authorised persons; door keys shall not be left on top of the lintel, under stones or in other 'concealed' places; a key register should be compiled and maintained; key holders will be notified to the Local Police Station and this information kept up to date; wherever possible one person should be made responsible for locking up; All visitors to the Site will be required to register in the visitor's book and sign out again on exit to minimise the risk of unauthorised visitors being present on-site; and Operational procedures, including regular inspections, will ensure continual monitoring of security provision at the site. <p>Operational procedures, including regular inspections, ensure continual monitoring of security provision at the site. In the event of a breach of security at the site, the cause will be investigated, and appropriate mitigation measures implemented. Records to be maintained include inspections and maintenance of security fencing and the gate, breaches of security, investigations and actions taken.</p>	Low	Nuisance, contamination, and harm to human health.	Low
Flooding	Potentially sensitive receptors listed in Table 2. Site personnel.	Runoff and percolation through ground. Land	<p>The Site is located within Flood Risk Zone 3; i.e. land assessed as being at 'high' of risk of river or sea flooding.</p> <p>The wastes accepted at the Site for deposit in the buttress will be inert in nature, as such flooding of the Site is not considered to pose a greater risk to surrounding areas. It is noted that the works are taking place within an inactive quarry which is located at a lower elevation than surrounding areas, as such waste would likely remain within the Site boundary than escape to nearby receptors.</p>	Low	Harm to human health, contamination of groundwater and surface water.	Low



			In the event that flooding does occur at the Site, the Site Manager will be responsible for implementing the risk management measures in accordance with operational and management procedures.			
Loss of containment: Spillage and leakages	Local land quality. Groundwater and surface water.	Runoff and percolation through ground.	<p>Loss of containment could lead to spillage and leakage of potentially contaminating liquids. There are no fuels or other liquid raw materials stored on the Site, however spillages could occur from plant/vehicles. To prevent spillages and minimise the risk and impact of releases the following measures will be implemented:</p> <ul style="list-style-type: none"> • Spill kits: materials suitable for absorbing and containing minor spillages will be maintained on-site; • Plant will be inspected and maintained in accordance with manufacturer recommendations; and • Monitoring techniques: the site staff will undertake daily visual monitoring for evidence of spillage and leakage. <p>Minor spillages will be cleaned up immediately, using sand or proprietary absorbent. The resultant materials will be placed into containers and will then be removed from site and disposed of at a suitably permitted facility. The incident will be logged in the site diary. Any dry wastes spilled on-site will be collected and transported to the appropriate area of the site.</p> <p>Any dry wastes spilled on-site will be collected and transported to the appropriate area of the site.</p> <p>In the event of a major spillage, which is causing or is likely to cause polluting emissions to the environment, immediate action will be taken to contain the spillage and prevent liquid from entering surface water or drains. The spillage will be cleared immediately and placed in containers for off-site disposal. The EA will be informed.</p>	Low	Contamination of surroundings including local land, groundwater and surface waters.	Low

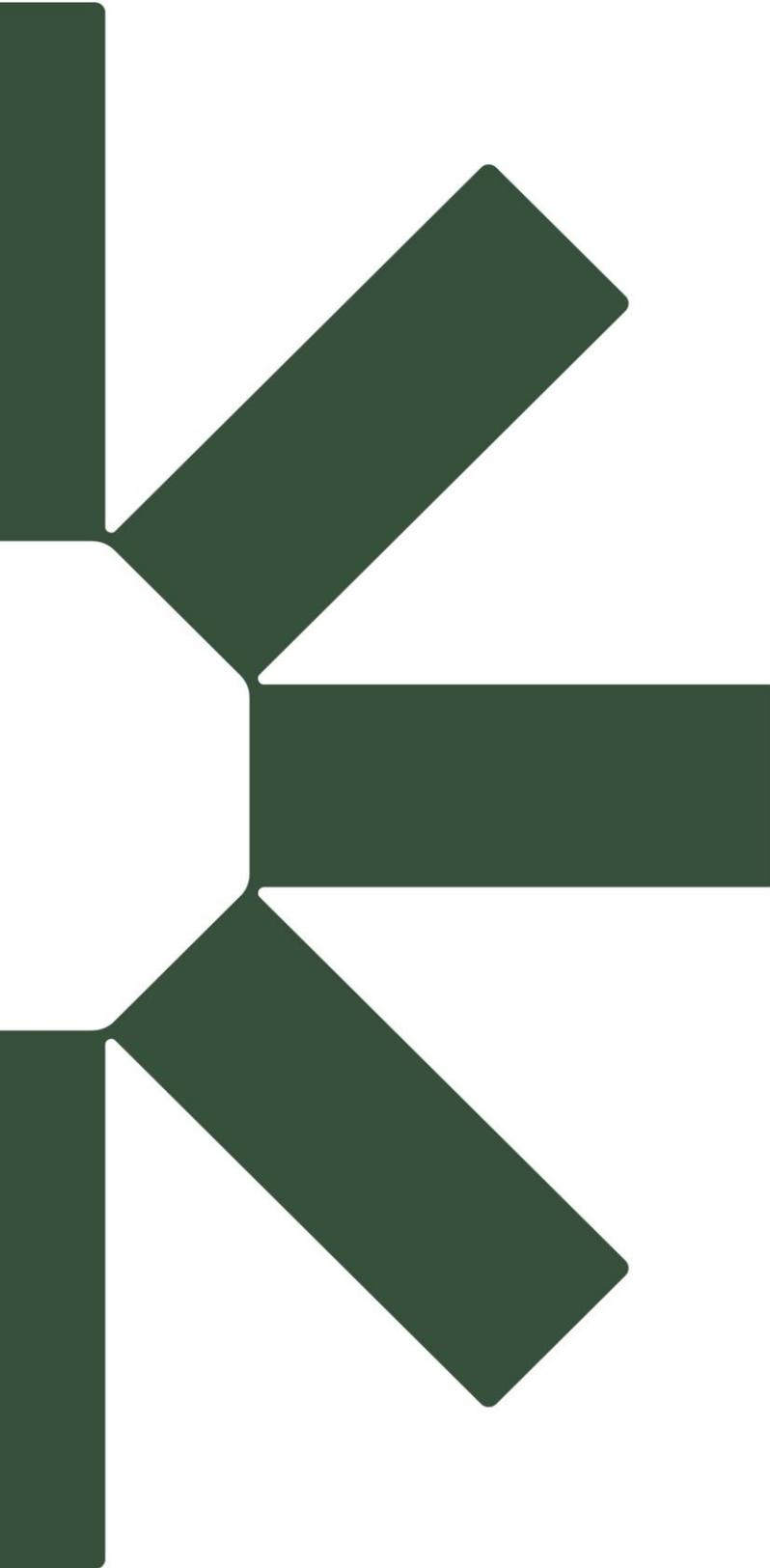


3.0 Conclusion

The overall conclusion from the technical and environmental risk assessments undertaken as part of the EP application is that there is unlikely to be a significant environmental impact as a result of the proposed EP activities.

The Site will operate in accordance with an environmental management system (EMS) which will continue to ensure that risks are assessed and appropriate control measures are in place during the lifetime of the EP.





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