Environment Risk Assessment

Prepared for Mansfield Sand Company Ltd

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CONFIDENTIAL

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Quality Control Sheet

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Authors

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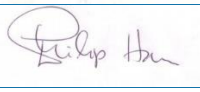
Approved by	Phil Ham	

Revision History

Revision	Details	Prepared by	Checked by	Approved by	Issue Date
REV01	Draft for external review	CDW/DT	CDW	PH	05/03/2024
REV02	Updated draft	CDW/DT/JFR	CDW	PH	22/03/2024
REV03	Final report	CDW/DT/JFR	CDW	PH	04/04/2024

Contents

Figures

Tables

Appendices

1 INTRODUCTION

1.1 Background

Envireau Water has been commissioned by Mansfield Sand Company Limited (Mansfield Sand) to produce an Environmental Risk Assessment (ERA) to support the Environmental Waste Recovery Permit application at Two Oaks Quarry (the Site). The ERA has been produced as part of a package of supporting documentation for the application for the Bespoke Environmental Permit for the Site which will be used for the importation of inert and non-hazardous waste restoration materials to restore the land following mineral excavation.

A planning application (ref: LT/2023/128154/01-L01) has been submitted to Nottinghamshire County Council for the use of suitable imported waste material (inert and non-hazardous wastes) to enable the restoration of Lagoons 7, 8, 9 and 10. Mansfield Sand has engaged Envireau Water to prepare an ERA to support the Environmental Permit application (this report).

Figure 1 shows the Site location and surrounding area. Mansfield Sand has planning permission to extract silica sand of the Chester Formation in a number of phases, with the next stage of mineral extraction not permitted to start until the preceding phase is complete. Mansfield Sand plans to extract mineral and restore the Site in four main phases. Working of Phase 1 began in 2015 and is being undertaken in 11 sub-phases.

Mansfield Sand proposes to restore Lagoons 7, 8, 9 and 10 (collectively shown as the Waste Recovery Boundary on Figure 1) located in Phase 1 to no more than original ground levels by using Site-derived soils/soil forming materials (1,474,362 tonnes of silt and 11,600 tonnes of sand) and importing chemically inert restoration materials. Mansfield Sand estimates that up to 296,000 tonnes of imported material will be needed to complete the Site restoration requirements.

The proposal is to restore lagoons 7, 8, 9 and 10 created by excavation of the silica sand deposit by:

1. infilling with settled silt (waste product from approved quarrying processes at the Site) to an elevation of 146.5 m AOD; and
2. filling with imported chemically inert restoration materials to an elevation of 150 m AOD.

Further detail on the proposed infilling is given in the ESSD that supports the application (Envireau Water, 2024a).

This ERA has been prepared in response to Question 6 of the Environmental Permit Application Form Part B2. The ERA provides a simple assessment of the risks to the environment and human health from: odour; noise; fugitive emissions (including dust and contaminated land); and accidents that could be associated with the proposed activity.

This report should be read in conjunction with the following reports that have been submitted in support of the application:

- Environmental Site Setting and Design (ESSD) (Envireau Water, 2024a);
- Hydrogeological Risk Assessment (HRA) (Envireau Water, 2024b);

- Stability Risk Assessment (SRA) (Envireau Water, 2024c);
- Site Monitoring Report (SMP) (Envireau Water, 2024d); and
- Waste Acceptance Procedures (RSK Geosciences, 2024a).

1.2 Scope of Work

The purpose of this report is to identify potential receptors which could be affected by the proposed operations at the Site and demonstrate that appropriate measures are in place to ensure that the scheme does not present an unacceptable environmental risk to them. This document includes the following:

- Review of site setting and adjacent receptors (Section 2);
- Review of potential hazards associated with the proposed operations (Section 3);
- Environmental Risk Assessment of the risk of the hazards affecting the identified receptors and details of any mitigation measures required to reduce risks to acceptable levels (Section 4); and
- A summary of the key findings (Section 5).

1.3 Risk Assessment Process

This ERA has been conducted in accordance with Environment Agency guidance (Environment Agency, 2023a) . It details six key steps to the ERA process prior to its submission with a permit application. These are:

1. Identify risks to the environment (those activities which present different types of risk to the environment associated with the proposed operation), these are namely:
    - Accidental/uncontrolled emissions including those arising from spills, vandalism, flooding, and fire, and unauthorised waste;
    - Noise and vibration;
    - Fugitive emissions including dust, and vehicle emissions;
    - Mud on roads;
    - Odour; and
    - Litter.
2. **Identify the relevant receptors** (these include all relevant environmental aspects such as people, vegetation, animals, properties, and water bodies).
3. **Identify pathways** (any medium by which a pollutant could travel to one of the identified receptors. It is possible for a particular feature to be both a receptor and a pathway).
4. **Assess the risks** (acceptable risks within environmental limits may be screened out. The level of risk presented can be qualitatively assessed using a scoring matrix to identify which risks, if any, are significant, and require additional consideration in a more detailed assessment).
5. **State methods of risk control** (for any risks which are identified as being significant and require additional controls via management and mitigation to be reduced to acceptable limits).

6. **Present the assessment** (the risk assessment is presented in Section 5 of this report).

Further information on each stage of the risk assessment is set out in the following sections.

Note that hydrogeological risks and ecological risks are considered separately (Envireau Water, 2024b) (Eco Tech , 2023) and do not form part of the ERA.

1.4 Data Sources

The information and assessments in this report are based on:

- Proposed development plans provided by Mansfield Sand;
- Previous reports for the Site prepared in support of the planning application:
  - Noise assessment (LF Acoustics, 2023);
  - Fugitive dust (SOCOTEC, 2023);
  - Air quality assessment (Smith Grant LLP, 2019);
  - Flood risk assessment (Envireau Water, 2023);
  - Waste acceptance procedures (RSK Geosciences, 2024a);
- British Geological Survey (BGS) mapping;
- Ordnance Survey mapping;
- Site visits undertaken by Envireau Water;
- Data on designated sites from Natural England; and
- Data from the Environment Agency including abstraction licences and discharge activity permits.

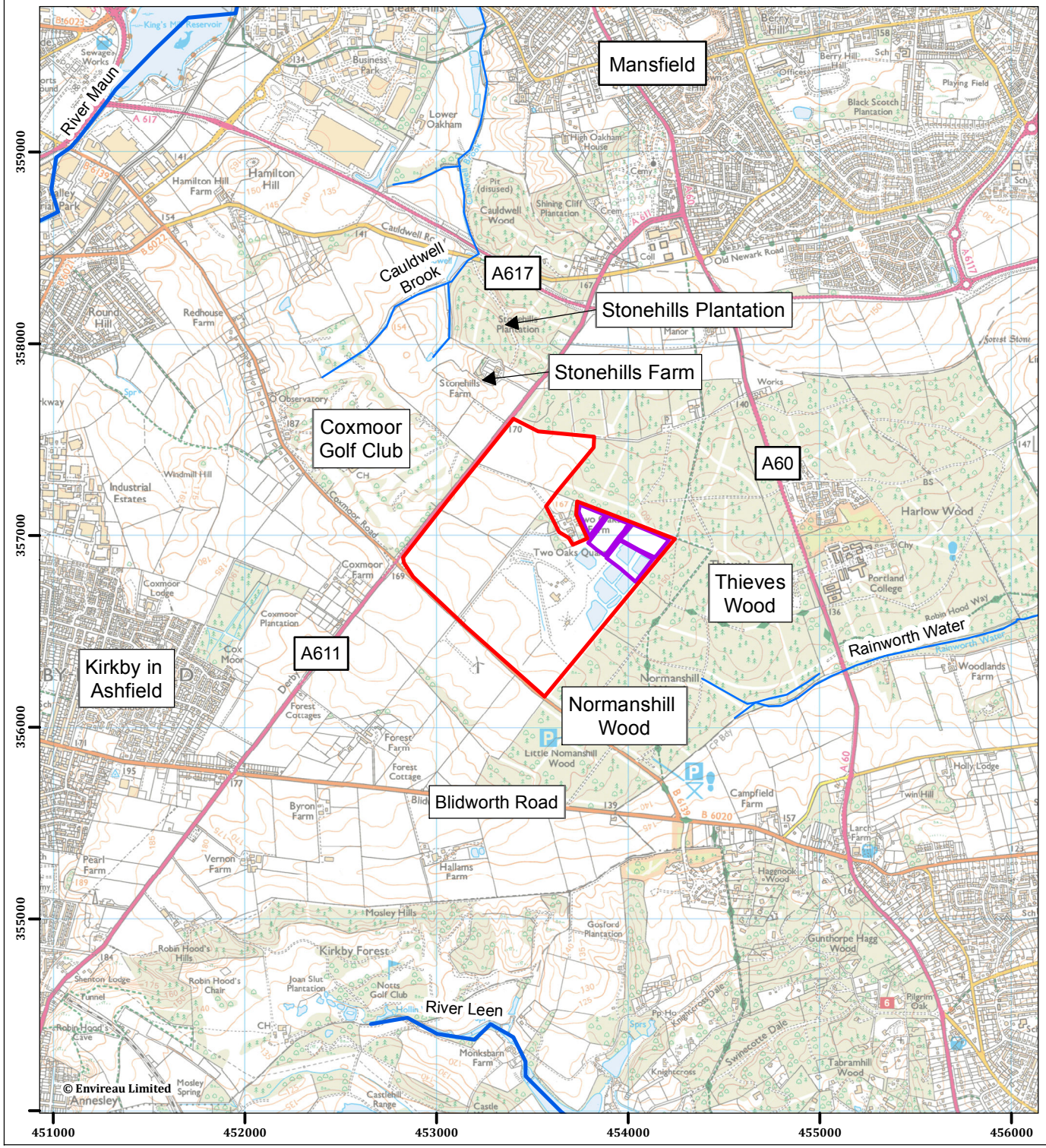


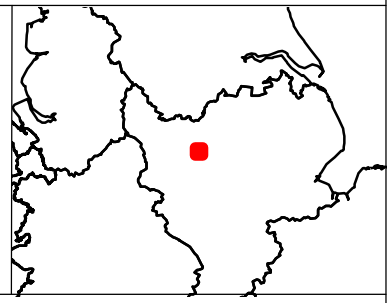
Figure 1: Site Location and Setting

Mansfield, Nottinghamshire

Site Boundary

Waste Recovery Boundary

Notes:



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22 March 2024

NGR: 453,536 E / 356,874 N

Project No.	3490476
Client:	Mansfield Sand Company Ltd
Drawn by:	JH
Ref:	FIG Site Location

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2 SITE SETTING AND RECEPTORS

2.1 Site Setting

The Site is located approximately 2.5 km south of Mansfield and 1.2 km east of Kirkby in Ashfield, at NGR SK 453699 356842 (approximate Site centre), in Nottinghamshire. The Site covers an area of 1 km^2 and is currently an active silica sand quarry.

Normanshill Wood and Thieves Wood bound the Site to the east, with public footpaths, bridleways and car parks located within the surrounding woodland. Approximately 210 m north of the Site is Stonehills Farm and agricultural land, with Stonehills Plantation located north of the farm and 230 m north of the Site. To the northwest is the Coxmoor Golf Club.

The surrounding land uses are summarised in Table 1.

Table 1 Surrounding Land Uses

Direction	Surrounding Land Use
Northeast	The Site is bound to the northeast by the northern section of Thieves Wood. There are public right of way and buildings within Thieves Wood. The A617 is 730 m north of the Site and runs west to east. The A60 is 590 m east of the Site and runs north to south.
Southeast	The Site is immediately bound to the southeast by Normanshill Wood. Within the woodland there are public footpaths, bridleways, and car parks. Portland College is located 770 m east of the Site. The source of Rainworth Water is in the woodland, 550 m southeast of the Site. Approximately 2 km southeast of the Site is Ravenshead village.
Southwest	To the southwest, the Site is immediately bound by Coxmoor Road and agricultural land. Forest Farm and Forest Cottages are located 730 m south of the Site. There is a single wind turbine on agricultural land 120 m south of the Site. Kirkby in Ashfield is located ~1.2 km west of the Site and ~900 m southwest is Blidworth Road that connects Kirkby in Ashfield to Ravenshead.
Northwest	The Site is immediately bound to the northwest by the A611, which runs northeast to southwest. Coxmoor Golf Club is located next to the A611. The northern section of the northwest of the Site is bound by agricultural land associated with Stonehills Farm.

The natural topography of the Site slopes broadly south-eastwards. The highest ground is in the northern and western corners of the Site, which are at around 170 m AOD, and the elevation drops to ~145m AOD on the south-eastern boundary of the Site.

Surrounding the Site, the highest ground lies to the north and west of the Site, rising to an elevation of 195 m AOD. The elevation drops towards the east, with a series of small valleys forming near Kirkby Road and Rainworth Water (550 m east of the Site).

Further detail on the Site setting is set out in the ESSD (Envireau Water, 2024a).

2.2 Receptors

An assessment of potential receptors (including residential and commercial properties and businesses; public amenities; controlled waters; ecological; protected species; and cultural heritage) which are located in the vicinity of the Site and could be impacted by the proposed operations has been undertaken.

The identified receptors are shown on Figure 2, and summarised in Table 2.

Table 2 Potentially Sensitive Receptors

ID	Name	Type	Distance (m)	Direction
R1	Agricultural Land	Agriculture	10	South
R2	Two Oaks Farm	Farm	10	North
R3	Derby Road	Public highway and associated residential dwellings	10	West
R4	Coxmoor Road	Public highway and associated residential dwellings	10	South
R5	Public Footpaths	Recreation	10	East
R6	Coxmoor Golf Club	Recreation	10	West
R7	Thieves Wood	Woodland	10	North & East
R8	Normanshill Wood	Woodland	10	East
R9	Little Normanhill Wood	Woodland	10	Southeast
R10	Wind Turbine	Energy generation	120	South
R11	Robin Hood Way	Recreation	200	East
R12	Stonehills Farm	Farm	210	Northwest
R13	Stonehills Plantation	Woodland	230	North
R14	Agricultural Land	Agriculture	250	North
R15	Coxmoor Farm	Farm	280	Southwest
R16	Coxmoor Plantation	Woodland	310	West
R17	Fountaindale School	Educational Institute	520	East
R18	Thieves Wood Lane	Residential	370	North
R19	Cauldwell Brook	Surface Water	540	Northwest
R20	Blidworth Road	Public highway (road)	550	South
R21	Rainworth Water	Surface Water	550	East
R22	A60	Public highway (road)	590	East

ID	Name	Type	Distance (m)	Direction
R23	Normanshill Wood Picnic Area	Recreation	620	Southeast
R24	Harlow Wood Development	Residential	620	East
R25	Rushley Manor	Residential	630	North
R26	Coxmoor Road Properties	Residential	670	West
R27	Harlow Wood	Woodland	670	East
R28	Forest Farm & Cottages	Farm	730	South
R29	A617	Public highway (road)	730	North
R30	Portland College	Educational Institute	770	East
R31	Cauldwell Dam	Surface Water	815	North
R32	Rushley Waterworks	Water Pumping Station	880	Northeast
R33	Cauldwell Wood	Forestry	900	North
R34	Cauldwell Road	Public highway (road)	900	North
R35	Hallams Farm	Farm	950	South
R36	Mansfield Outskirts	Residential	950	North

Other sites not listed within Table 2, but assessed within other relevant reports:

- The Sherwood Sandstone aquifer within the Chester Formation which is designated as a Principal Aquifer (Envireau Water, 2024a).
- Groundwater abstractions located in the vicinity of the Site, with the closest off-site abstraction (not operated by Mansfield Sand) being 500 m northwest of the Site (held by Campfield Farms Ltd (Envireau Water, 2024a).

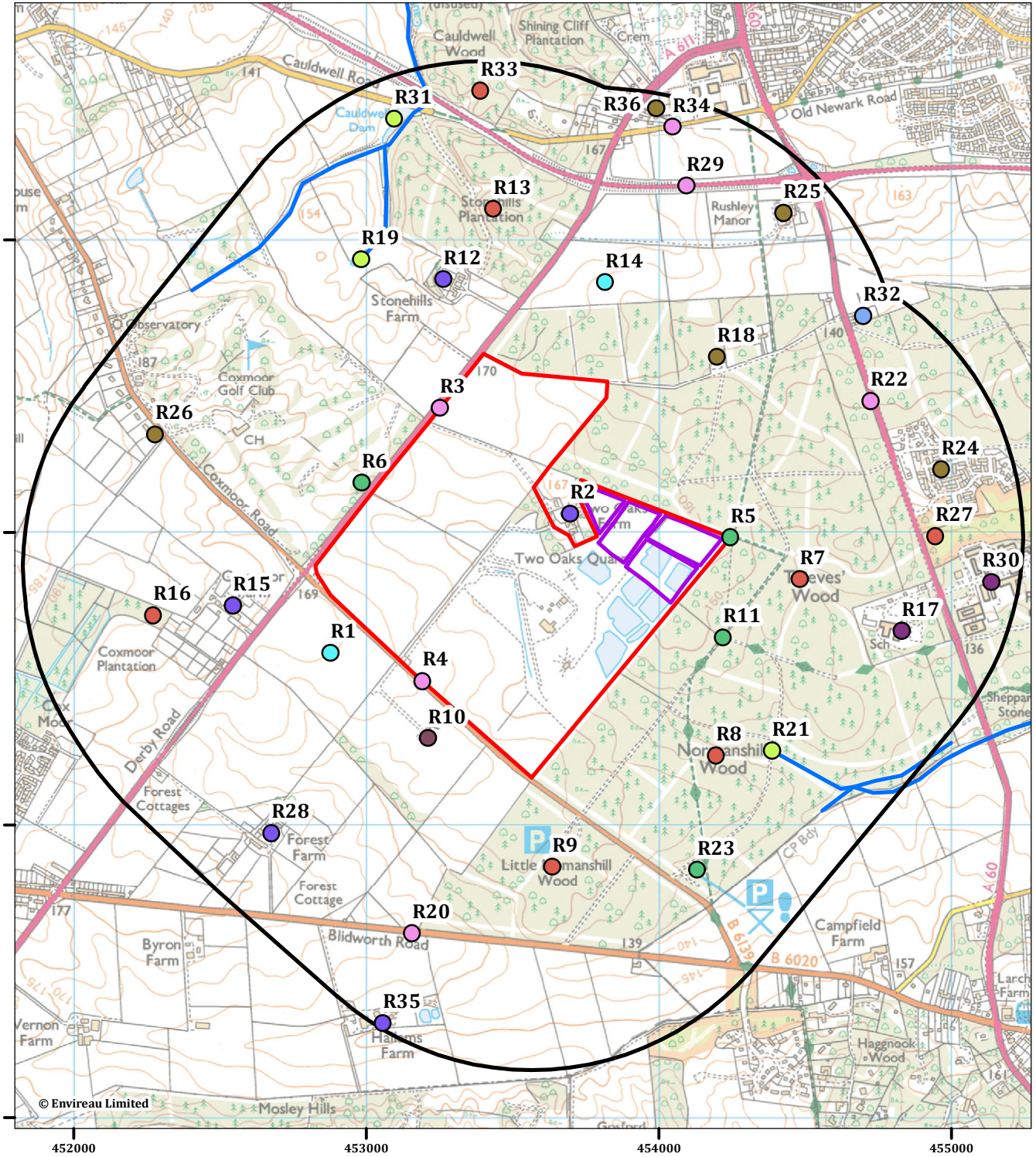


Figure 2: Receptors

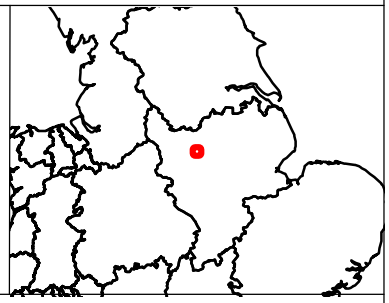
Mansfield, Nottinghamshire

- Site Boundary
- Waste Recovery Boundary
- 1km buffer

Receptor

- Agriculture
- Farm
- Public Amenity
- Public highway and dwellings
- Residential
- Educational Institute
- Surface Water
- Technology
- Water Pumping Station
- Woodland

Notes:



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22 March 2024

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Drawn by:	SS
Ref:	FIG ERA Receptors

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3 HAZARD ASSESSMENT

3.1 Accidental /uncontrolled emissions

Spills

Although considered unlikely, there is a low risk of an accidental release of contamination (fuel, oils, or lubricants) during operations of the Site including ground (and surface water runoff) and groundwater impacts as a result of equipment or machine/vehicle malfunction or human error.

Mansfield Sand will operate an Environmental Management System (EMS) that will detail operating procedures to minimise the risk of spills (e.g., during vehicle refuelling, chemical storage, and handling on the Site. However, due to the high possible consequence from a spill hazard, it is **considered in the risk assessment**.

Vandalism

There is a low risk of vandalism as the waste recovery area is located within the Site boundary, which is fenced and secured. The Site is actively manned during working hours and outside of these hours, the Site is secured to prevent unauthorised access. All plant remaining on-site outside of working hours will be left in a safe and secure state; therefore, the vandalism hazard is not considered in the risk assessment.

Flooding

The Site is not located within a Flood Zone and a Flood Risk Assessment has been prepared for the Site (Envireau Water, 2023), which demonstrated that the Site is not at risk of flooding, and that the proposed restoration will not increase the risk of flooding in the surroundings. Thus, the flooding hazard is not considered in the risk assessment.

Fire

The risk from fire is considered to be very low and limited to malfunction of machinery on-Site. No hot works are carried out on-Site, furthermore, the EMS will detail information on fire prevention procedures. Therefore, the fire hazard is not considered in the risk assessment.

Unauthorised waste

This includes the accidental acceptance of non-permitted waste (rogue loads) which results in the emission of potentially harmful substances to the surrounding environment. The Waste Acceptance Plan details procedures for materials compliance, and on-site management, checking and training for waste handling and acceptance (RSK Geosciences, 2024a). Due to the high consequence that a non-permitted waste can have on a principal aquifer, the unauthorised waste hazard is **considered in the risk assessment**.

3.2 Noise and Vibration

As a result of the operation of heavy machinery at the Site during earth working operations and vehicle movement to and from the Site, there is a risk of noise and vibration disturbance. However, the Site is, and will continue to be, operated in accordance with planning conditions 23, 24, 26 and 27 (see Appendix A). These require that:

1. All operational plant are fitted with silencers maintained in accordance with the manufacturer's recommendations to minimise disturbance.
2. Free field noise levels at neighbouring noise sensitive properties will not exceed the limits set out in Condition 24 (maximum of 55 dB LAeq for one hour).
3. For any temporary works undertaken on-site, the free field noise level share not exceed 70 dB(A) at any neighbouring noise sensitive property.
4. Continuous sound levels from the Site will not exceed 55 dB LAeq and the peak sound level will not exceed 80 dB LA(max) at any point on land surrounding the Site that has the potential to support breeding nightjar and woodlark.

A Noise Assessment has been carried out to support the planning application to import inert waste (LF Acoustics, 2023) (see Appendix B). During operations, noise levels will be maintained at acceptable levels for the noise sensitive receptors surrounding the Site, as set out above in compliance with these planning conditions. Due to the probability of high noise levels from machinery and the consequence on neighbouring receptors, noise and vibration hazard is **considered in the risk assessment**.

3.3 Fugitive emissions including dust and vehicle emissions

Dust

The impact of fugitive dust at a receptor will depend on the inherent sensitivity of the receptor and the perception of the acceptability of the effects of dust. Receptors may vary in their sensitivity due to nuisance dust. For instance, farming industries would be classed as having a low sensitivity, whilst hospitals, food processing and retirement homes would be considered high sensitivity.

Nuisance dust and fine particulate matter (PM 10) arising during proposed restoration activities and transported by wind could occur as a result of the following.

- The stockpiling of material;
- The use of dry material for capping;
- Placement/infill at the Waste Recovery Boundary (loading, tipping, and pushing capping and restoration material); and
- Road transport / site haulage.

The risk is heightened during particular weather conditions i.e., a period of dry weather followed by wind/breeze.

The Site will continue to be operated in accordance with planning conditions 28 and 29 of the planning permission (Appendix A). These state that:

1. The Site's dust management plan will be implemented to minimise the generation of dust and impacts on adjacent receptors.
2. All HGVs entering and leaving the Site shall be fully sheeted.

The control of dust is also covered in the Dust and Emission Plan that has been prepared to support this application (RSK Geosciences, 2024b) and further assessment is provided in Appendix C. However, due to the high likelihood of dust emissions, the dust hazard is **considered in the risk assessment**.

Air Pollution

The principal pollutants of concern with quarry-related exhaust emissions are NO_2 and NO_x.

The development is to be served by a single access/egress point from off the B6139 and assessments demonstrate that vehicle emissions associated with the Site operation will not have a significant adverse impact on the local air quality (Smith Grant LLP, 2019). Therefore, the air pollution hazard has not been considered in the risk assessment.

3.4 Mud on Roads

This risk will be particularly apparent following wet weather conditions. It is proposed that vehicles will enter and exit the site via the Site access road off the B6139 to the south-west of the Site. The quarry is operated in accordance with condition 10 of the planning permission (Appendix A), this requires that:

> *Measures shall be employed throughout the life of the development to prevent the deposit of mud, clay and other deleterious materials upon the public highway*

The Site has a wheel wash to clean the under-carriage and wheels of vehicles before they leave Site. These measures require that all vehicles exiting the Site are checked for mud of the wheels an undercarriage of the vehicles, and this will be cleaned manually as required by site staff. Should any mud appear on the roads as a result of the work, a road sweeper will be deployed. The mud hazard is therefore not considered in the risk assessment.

3.5 Odour

There should be no odour associated with the incoming material as this will be chemically inert and odourless (RSK Geosciences, 2024a). Such emissions will be considered as accidental and appropriately managed under the EMS for the Site. Given the procedures that will be in place, an Odour Management Plan is not required for the Site and only minimal odours may arise from the storage of chemicals, vehicle and large machines exhausts used on Site. Therefore, the odour hazard is not considered in the risk assessment.

3.6 Litter

From the proposed operations on Site, litter generation would be limited to site personnel only. Litter generation can therefore be controlled under adequate training and enforcement by managing personnel and suitable on Site waste collection facilities. Therefore, the litter hazard is not considered in the risk assessment.

3.7 Climate Change

Climate change poses the following potential hazards that could affect operations at the Site (Environment Agency, 2023b):

1. Increase in summer temperatures;
2. Increase win winter temperatures;
3. Drier summers;
4. Increase in daily rainfall intensities; and
5. Increase in mean winter rainfall.

The Site is not located in a fluvial flood zone and is not proximal to the coast and, therefore, risks associated with increased river flow and sea level rise have not been considered.

The first three hazards increase the potential for dust generation. Due to the inert nature of the material, there will be no increased risk of odour or prevalence of pests (see Section 3.5). The control of dust is covered by the Site's Dust and Emission Plan which will be subject to regular review and updated as needed in response to new information (RSK Geosciences, 2024b).

Hazards 4 and 5 could increase runoff generation, potentially leading to runoff contamination and flooding. The FRA prepared in support of the planning application demonstrates that the lagoons to be filled are at a topographically higher elevation than the surrounding land and, consequently, are not at risk of surface water (pluvial) flooding (Envireau Water, 2023). The HRA that supports the application includes a conservative upper bound of the rate of leachate generation that effectively accounts for any increases in rainfall rate (Envireau Water, 2024b).

Given the above, climate change has not been considered in the risk assessment.

4 ENVIRONMENTAL RISK ASSESSMENT

4.1 Hazards

From the potential hazards identified in Section 3, the following have been carried through to the risk assessment:

- Accidental / uncontrolled emissions – spills and leakages (Table 3).
- Noise and Vibration (Table 4)
- Dust emissions (Table 5).

4.2 Receptors

Receptors have been identified in Section 2.2 and are listed in Table 2.

4.3 Hazard Pathways

The risk assessment accounts for the mechanism of transport to the identified receptor.

4.4 Probability of Exposure

Probability of exposure is determined by the distance of the receptor to the Site and the likelihood of the hazard affecting the receptor (e.g. in the case of dust risks this would include consideration of the frequency of the prevailing wind in that direction).

4.5 Risk Assessments

The ERA is presented in Table 3 to Table 5.

Table 3 Accidental / uncontrolled emissions risk assessment

Hazard / Source	Pathway	Receptor	Probability of exposure	Consequence	Initial Risk	Risk Management	Overall Risk
Spills from fuel, oils, or lubricants **Leakages** from accidental acceptance of unauthorised waste (rogue loads)	Leaching of contaminants into groundwater Discharge of contaminants and / or suspended solids to surface water features	Receptors within 10 m of site (R1 – R9)	Low – lack of pathway	Low – human health, ecological detriment, harm to amenity	Low	All restoration materials will consist of inert materials as defined in the Waste Acceptance procedures which accompany the application (RSK Geosciences, 2024a). Strict waste acceptance procedures mitigate risk of 'rogue loads' being deposited. The presence of a basal settled silt layer and a sidewall attenuation layer at the Site will minimise the likelihood of impacts to groundwaters. The HRA for the Site concludes that there is not a significant risk to groundwater (Envireau Water, 2024b). All works will be undertaken to appropriate standards subject to planning conditions and Environmental Permit requirements by an experienced operator with competent staff working to the EMS. Fuels stored on Site will be subject to appropriate storage with adequate secondary containment and security measures to prevent unauthorised access/tampering in accordance with planning conditions. Spill kits to be kept on Site and operatives/staff to be aware of emergency actions under the Site EMS in the event of any spillage. All plant and vehicles to be properly maintained in -line with manufacturers specifications. Controlled water monitoring will be undertaken during the operation and post operation period as detailed in the accompanying Site Monitoring Plan (Envireau Water, 2024d). All incidents to be reported to the Environment Agency.	Low
		Surface Water (R19, R21, R31)	Medium/Low - surface water run-off to be controlled by surface water management scheme.	Medium – surface water pollution	Medium		Low
		Shallow Groundwater	Medium – infiltration/ subsurface pathways	High – groundwater pollution within principal aquifer and SPZ3	High		Low

Table 4 Noise and Vibration Risk Assessment

Hazard / Source	Pathway	Receptor	Probability of exposure	Consequence	Overall Risk	Risk Management	Overall Risk
Noise and Vibration *From Site operations and vehicle movements*	**Through the air/ground**	Agriculture and Farm buildings (adjacent to site)	Medium - Adjacent to Site	Medium - Potential annoyance to residents	Medium	Noise is controlled under planning conditions 23 - 27) informed by detailed noise assessment (LF Acoustics, 2023) (see Appendix B). The requirements of planning will provide adequate measures for controlling and monitoring of noise and vibration. In addition: • Temporary topsoil bunds will also provide partial noise screening for nearby receptors; • All vehicles and plant will be well maintained with silencers; • Ongoing noise monitoring will be carried out to determine any significant impact to nearby receptors; and • All events or complaints received associated with noise/vibration will be documented under the Site EMS and the requirements of the planning permission.	Low
		Public Highways (adjacent to site)	Medium – Adjacent to Site (transient receptor)	Low - Highway and transient receptor (public highway users)	Low-Medium		Low
		Public Amenity (adjacent to site) – *Golf Club & Public Footpaths*	Medium - Adjacent to Site	Medium - Potential annoyance to public	Medium		Low
		Woodland (adjacent to site)	Medium - Adjacent to Site	Medium - Potential annoyance to wildlife	Medium		Low
		Wind Turbine	Medium/Low – Vicinity to Site	Low - receptor not sensitive to noise	Medium		Low
		Public amenity – *Public Footpaths, Picnic Area*	Medium/Low – Vicinity to Site	Medium - Potential annoyance to public	Medium		Low
		Agriculture and farm buildings	Medium/Low – Vicinity to Site	Medium - Potential annoyance to residents	Medium		Low

Hazard / Source	Pathway	Receptor	Probability of exposure	Consequence	Overall Risk	Risk Management	Overall Risk
		Woodland	Medium/Low – Vicinity to Site	Medium - Potential annoyance to wildlife	Medium		Low
		Schools	Medium/Low – Vicinity to Site	Medium - Potential annoyance to students	Medium		Low
		Residential Properties	Medium/Low – Vicinity to Site	Medium - Potential annoyance to residents	Medium		Low
		Surface Water	Low – Distance from Site	Low - receptor not sensitive to noise	Low		Low
		Public Highways	Low – Distance from Site	Low - Highway and transient receptor (public highway users)	Low		Low
		Water Pumping Station	Low – Distance from Site	Low - Potential annoyance to employees	Low		Low

Table 5 Dust Risk Assessment

Hazard / Source	Pathway	Receptor	Probability of exposure	Consequence	Initial Risk	Risk Management	Overall Risk
Dust Created during mineral and restoration operations, material handling, material processing, windblow, general site operations and vehicle movements	**Through the air**	Agriculture and Farm buildings (adjacent to site)	Medium - Adjacent to Site	Medium / Low - Low sensitivity receptor, however dust accumulation on agricultural land is possible	Medium	Dust is controlled under the planning permission (Condition 28 & 29). The requirements of planning will provide adequate measures for controlling and monitoring of dust. The Dust & Emissions Management Plan includes mitigation measures to be implemented on the Site to minimise the risk of dust leaving the Site (RSK Geosciences, 2024b). In addition: • All HGV vehicles to be sheeted when arriving and leaving Site. • Site preparation (soil stripping) to be undertaken in small quantities at a time allowing stockpiling and compaction to minimise drying and the risk of dust generation. • Restoration materials will consist primarily of inert soils and soils forming materials, which are unlikely to generate dust. • Site to be well maintained, with use of road sweeper if required either on the on-Site access routes or local roads. • Spraying will be used to control dust generation from Site surfaces.	Low
		Public Highways (adjacent to site)	Medium - Adjacent to Site	Medium / Low - although receptor may not be significantly affected, dust deposition may cause detriment to highway infrastructure	Medium		Low
		Public Amenity (adjacent to site) – *Golf Club & Public Footpaths*	Medium - Adjacent to Site	Medium - detrimental to visual amenity and dust exposure (annoyance)	Medium		Low
		Woodland (adjacent to site)	Medium - Adjacent to Site	Medium - detrimental to visual amenity and dust exposure (annoyance)	Medium		Low
		Wind Turbine	Medium/Low – Vicinity to Site	Low - receptor not sensitive to dust	Low - Medium		Low
		Public amenity – *Public Footpaths, Picnic Area*	Medium/Low – Vicinity to Site	Medium - detrimental to visual amenity and dust exposure (annoyance)	Medium		Low
		Agriculture and farm buildings	Medium/Low – Vicinity to Site	Medium / Low - Low sensitivity receptor, however dust accumulation on agricultural land is possible	Medium		Low
		Woodland	Medium/Low – Vicinity to Site	Medium - detrimental to visual amenity and dust exposure (annoyance)	Medium		Low

Hazard / Source	Pathway	Receptor	Probability of exposure	Consequence	Initial Risk	Risk Management	Overall Risk
		Schools	Medium/Low – Vicinity to Site	Medium - detrimental to visual amenity and dust exposure (annoyance)	Medium		Low
		Residential Properties	Low – Distance from Site	Medium/Low – Annoyance to residents	Low - Medium		Low
		Surface Water	Low – Distance from Site	Low – dust accumulation and impact on water ecological habitats	Low		Low
		Public Highways	Low – Distance from Site	Medium / Low - although receptor may not be significantly affected, dust deposition may cause detriment to highway infrastructure	Low - Medium		Low
		Water Pumping Station	Low – Distance from Site	Low – dust exposure (annoyance)	Low		Low

5 CONCLUSIONS

The Environmental Risk Assessment demonstrates that the proposed operations are unlikely to significantly impact any of identified environmental receptors. Risks are reduced to acceptable levels through an appropriate level of operational control measures and environmental mitigation.

Various residential properties (predominantly farms) are positioned in close proximity to the Site; however, the proposed (and existing) operational management controls are adequate to reduce any potential impacts relating to odour, noise, vibration, dust, mud, litter, pests, and vermin and climate change.

The risks of groundwater contamination has been addressed in detail in the HRA, which concludes that there is no significant risk posed to the principal aquifer and the Source Protection Zone 3 from the proposed recovery activity.

Accidents such as spills or leakages pose a potential risk to the local environment and associated sensitive receptors. However, safe working practices, appropriate control measures and limited on-Site plant make the occurrence of such incidents unlikely.

Following restoration, monitoring will continue for five years in order to confirm that the restoration is performing as predicted and that it does not pose a threat to the environment.

REFERENCES

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APPENDICES

Appendix A Planning Permission

Nottinghamshire County Council

Notice of Planning Decision
Town and Country Planning Act 1990

TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) (ENGLAND) ORDER 2015

APPLICATION REF. NO.:	4/V/2021/0397
APPLICANT:	The Mansfield Sand Company Limited
DEVELOPMENT:	Variation to hours of working and lighting (conditions 21 and 15 of planning permission 4/V/2019/0300). Mineral conveying, processing/treatment, & servicing, testing, maintenance of plant/machinery to 24 hours per day Mondays to Saturdays inclusive. (No working on Sundays or Bank/Public Holidays). No changes to the times for mineral extraction, soils or overburden stripping, or the hours that vehicles may enter or leave the site. Variation to allow for floodlighting during extended working hours
LOCATION:	Two Oaks Quarry, Coxmoor Road, Sutton In Ashfield, NG17 5LZ

Following consideration of an application for the above development as shown on the submitted plans, NOTTINGHAMSHIRE COUNTY COUNCIL, in pursuance of their powers under the above Act, hereby

GRANT PLANNING PERMISSION

for the development in accordance with the application, subject to compliance with the attached conditions and for the following reasons.

Failure to comply with the terms of this permission may render the development unlawful.

Date of decision 16/09/2021

Jonathan Smith

Authorised to sign on behalf of the County Council

DN1 (FULL P.P.)

Appeals to the Secretary of State

If you are aggrieved by the decision of the local planning authority to refuse permission for the proposed development or to grant it subject to conditions, then you can appeal to the Secretary of State under section 78 of the Town and Country Planning Act 1990.

If you want to appeal against the local planning authority's decision then you must do so within six months of the date of this notice

Appeals can be made online at: https://www.gov.uk/planning-inspectorate. If you are unable to access the online appeal form, please contact the Planning Inspectorate to obtain a paper copy of the appeal form on tel: 0303 444 5000.

The Secretary of State can allow a longer period for giving notice of an appeal but will not normally be prepared to use this power unless there are special circumstances which excuse the delay in giving notice of appeal.

The Secretary of State need not consider an appeal if it seems to the Secretary of State that the local planning authority could not have granted planning permission for the proposed development or could not have granted it without the conditions they imposed, having regard to the statutory requirements, to the provisions of any development order, and to any directions given under a development order.

NOTE: THIS PERMISSION REFERS ONLY TO THAT REQUIRED UNDER THE TOWN AND COUNTRY PLANNING ACTS AND DOES NOT INCLUDE ANY CONSENT OR APPROVAL UNDER ANY OTHER ENACTMENT, BYLAW, ORDER OR REGULATION.

APPLICATION REF NO. 4/V/2021/0397

STATEMENT OF POSITIVE AND PROACTIVE ENGAGEMENT

In determining this application the Minerals Planning Authority has worked positively and proactively with the applicant by assessing the proposals against relevant Development Plan policies, all material considerations, consultation responses and any valid representations that may have been received. Issues of concern have been raised with the applicant and addressed through negotiation and acceptable amendments to the proposals. This approach has been in accordance with the requirement set out in the National Planning Policy Framework.

SCHEDULE OF CONDITIONS AND REASONS

Commencement and duration of the permission

1. This permission is for the continuation of the extraction and processing of silica sand, including the provision of a site access road, landscaping and screening bunds. Sand and soil processing plants and other associated infrastructure. Restoration to agriculture and nature conservation. Quarry offices, quarry processing plant, sand drying, sand bagging plant and quarry lagoons subject to not complying with the hours of operation under conditions 21 and 15 as previously approved, but for the avoidance of doubt does not change the authorised hours for undertaking mineral extraction.

   Reason: For the avoidance of doubt and to define the permission and to comply with the requirements of Section 91 (as amended) of the Town and Country Planning Act 1990.

2. The Minerals Planning Authority (MPA) shall be notified in writing of the date of commencement at least 7 days, but not more than 14 days, prior to the commencement of this permission.

   Reason: To assist with the monitoring of the conditions attached to the planning permission and for the avoidance of doubt.

3. The extraction of minerals from the application site shall be completed no later than 13th October 2064.

   Reason: To ensure that mineral extraction is completed within an acceptable timeframe.

Approved plans

4. From the commencement of the development to its completion, a copy of this permission including all plans and documents hereby approved, and any other plans and documents subsequently approved in accordance with this permission, shall always be available at the site offices for inspection by the MPA during normal working hours.

   Reason: To enable the MPA to monitor compliance with the conditions of the planning permission.

5. The development hereby permitted shall only be carried out in accordance with the details contained within the planning application forms, Planning Application

Document and Environmental Statement (ES) received by the MPA on 30 March 2010, and the Regulation 22 Submissions received by the MPA on 30 March 2012, 19 September 2012 and 14 December 2012, including any subsequent approved modifications and in particular the plans and details identified below, unless amendments are made pursuant to the other conditions below:

(i) 'Plan PA2 – Planning Application Area' received by the MPA on 30 March 2010;

(ii) Dwg TW952-D1v2 Rev D and document entitled 'Notes to accompany TW952-D1D received by the MPA (in respect of Condition 6 of Planning Permission 4/2010/0178) on 15 May 2013 and approved in writing by the MPA on 28 May 2013;

(iii) 'Figure L5 – Mitigation Cross Sections' received by the MPA on 30 March 2010;

(iv) Drawings numbered '192-S-03 – Sheet 1 – Access Junction', '192-S-04 – General Arrangement Long Section Chainage 0.000 – 300.000', '192-S-06 – General Arrangement to Show Visibility Splay at Junction' and 192-S-21 – General Arrangement to Show Visibility Splay at Junction – Sheet 2', and the accompanying statement entitled 'Extracts from Richard Parker Consultancy (RPC) report issued in support of the planning application', all received by the MPA on 19 April 2013 and approved in writing by the MPA on 6 June 2013 pursuant to NMA/2810;

(v) Drawing Number PL13-1 Rev 6– Proposed Plant Layout and Elevations and Drawing Number PL13-2 Rev 6– Cross Sections Through Proposed Plant, both received by the MPA on 19 October 2015 and approved on 6 November 2015 in respect of NMA/3385 amending condition 14 of Planning Permission 4/2010/0178 and the subsequent amendments as listed under condition 14 below;

(vi) 'Plan PA10 – Cross-Sections Through Proposed Design' received by the MPA on 30 March 2010;

(vii) Dwg 'Working Method -Phase 1 Revised May 2019' received by the MPA on 3 September 2019 and 'Appendix A- High Level Lagoons' received by the MPA on 28/02/19 (in respect of application ref 4/V/2019/0614) and as further amended by dwg titled 'Quarry Site Plan- May 2020', dated 11/05/2020 and received by the MPA on 10/06/2020 (pursuant to NMA/4144 for a new fresh water storage lagoon in lieu of planned silt lagoon no. 11 within phase 1c).

(viii) Dwg 'Working Method- Phase 2a+2B Revised January 2014' received by the MPA on 11 February 2014 (pursuant to NMA/2994) and approved in writing by the MPA on 7 April 2014.

(ix) 'Plan R22-5 – Working Method – Phase 2c' received by the MPA on 30 March 2012;

(x) 'Plan R22-6 – Working Method – Phase 3' received by the MPA on 30 March 2012;

(xi) 'Plan R22-7 – Working Method – Phase 4a' received by the MPA on 30 March 2012;

(xii) 'Plan R22-8 – Working Method – Phase 4b' received by the MPA on 30 March 2012;

(xiii) 'Plan R22-9 – Final Site Soil Movements' received by the MPA on 30 March 2012;

(xiv) 'Plan PA3 – Proposed Restoration Scheme & Cross Section' received by the MPA on 28 February 2019 (in respect of application ref 4/V/2019/0614).

(xv) 'Plan R22-12 – Site Location and 400m Margin to Residential Properties' received by the MPA on 30 March 2012;

(xvi) Planning application forms and Supporting Statement received by the MPA on 28/02/19. Landscape and Visual Appraisal Statement received 03/09/19;

Reason: To enable the MPA to monitor compliance with the conditions of the planning permission.

Site screening, planting and security

6. Perimeter landscape protection and planting shall be maintained throughout the life of the development in accordance with the following details previously approved by the MPA:

i) Dwg TW952-D1v2 Rev D and document entitled 'Notes to accompany Tw952-D1D received by the MPA (in respect of Condition 6 of Planning Permission 4/2010/0178) on 15 May 2013 and approved in writing by the MPA on 28 May 2013, except where the approved details were subsequently amended by:

ii) Drawing Number PL13-1 Revision 4 – Proposed Plant Layout and Elevations; Drawing Number PL13-2 Revision 4 – Cross Sections Through Proposed Plant; Working Method – Phase 1 Revised January 2014; and Working Method – Phase 2a and 2b Revised January 2014 as approved under NMA/2994 on 7 April 2014 (which permitted the replacement of rabbit proof fencing with individual guards and an extension of the screening bund at the site entrance and incorporated a revised bund alongside Thieves Wood);

iii) Drawings PL13-1 Revision 6 – Proposed Plant Layout and Elevations; and PL13-2 Revision 6 – Cross Sections Through Proposed Plant received by the MPA on 19 October 2015 as approved under NMA/3385 on 6 November 2015.

Reason: In the interests of visual amenity and biodiversity in accordance with policies DM1 and DM4 of the Nottinghamshire Minerals Local Plan.

7. All security fencing erected around the perimeter of the site shall be maintained in accordance with the following details as previously approved by the MPA (in respect of Condition 7 of Planning Permission 4/2010/0178) so as to ensure the site's security throughout the life of the development.

(i) Document entitled 'Condition 7 – Fencing scheme 2, 28 Jan 2013' received on 28 January 2013 and approved in writing by the MPA on 13 March 2013;

(ii) Drawing entitled 'Peart Fencing – Masterview Profile Panel 2.0m x 3.0m' received on 3 January 2013 and approved in writing by the MPA on 13 March 2013;

(iii) Document entitled 'MasterView Profile' received on 3 January 2013 and approved in writing by the MPA on 13 March 2013;

(iv) Drawing Number 'TOF – SF1 – Proposed Security Fencing' received by the MPA on 3 January 2013 and approved in writing by the MPA on 13 March 2013;

(v) Plan PL13-1 Rev 6 – Proposed Plant Layout & Elevations received by the MPA on 19 October 2015 and approved 6 November 2015 pursuant to NMA/3385 (relating to amendments to post and wire fencing in phase 1).

Reason: To ensure the security of the site and also to minimise the opportunity for human disturbance from the site on adjacent habitats suitable for nightjar and woodlark.

Quarry access and protection of the public highway

8. Throughout the life of the development hereby permitted, all vehicles entering and leaving the site shall only use the access road as constructed in accordance with the following details previously approved by the MPA pursuant to NMA/2810 on 6 June 2013:

Drawings numbered '192-S-03 – Sheet 1 – Access Junction', '192-S-04 – General Arrangement Long Section Chainage 0.000 – 300.000', '192-S-06 – General Arrangement to Show Visibility Splay at Junction' and 192-S-21 – General Arrangement to Show Visibility Splay at Junction – Sheet 2', and the accompanying statement entitled 'Extracts from Richard Parker Consultancy (RPC) report issued in support of the planning application', all received by the MPA on 19 April 2013.

Reason: To ensure that all quarry traffic obtains access to the site along a permanently bound hard surfaced road thus ensuring that there is no damage to the public highway and to ensure compliance with Policy DM9 of the Nottinghamshire Minerals Local Plan.

9. The access road shall be maintained in a satisfactory condition at all times to ensure that vehicles travelling between the public highway and the plant site travel along a permanently bound surfaced road.

Reason: To ensure that all quarry traffic obtains access to the site along a permanently bound hard surfaced road thus ensuring that there is no damage to the public highway and to ensure compliance with Policy DM9 of the Nottinghamshire Minerals Local Plan.

10. Measures shall be employed throughout the life of the development to prevent the deposit of mud, clay and other deleterious materials upon the public highway in accordance with the document entitled 'Mansfield Sand, Two Oaks Quarry, Condition 10' received by the MPA on 7 June 2013 and approved in writing by the MPA on 17 June 2013.

Reason: To ensure that no vehicle shall leave the site in a condition whereby mud or other deleterious material is carried onto the public highway in accordance with Policy DM9 of the Nottinghamshire Minerals Local Plan.

11. In the event that the measures approved under Condition 10 above prove inadequate, then within one week of a written request from the MPA, a scheme including revised and additional measures to be taken in order to prevent the deposit of materials upon the public highway shall be submitted to the MPA for its approval in writing. The additional measures to protect the surrounding roads shall be implemented within one month of their approval and thereafter maintained and used at all times.

Reason: *To ensure that no vehicle shall leave the site in a condition whereby mud or other deleterious material is carried onto the public highway in accordance with Policy DM9 of the Nottinghamshire Minerals Local Plan.*

12. Signage erected on the site to notify HGV drivers of the lorry routeing agreement in place shall be maintained for the life of the development in accordance with the previously approved details 'Mansfield Sand, Two Oaks Quarry, Condition 12' received by the MPA on 13 May 2013 (in respect of Condition 12 of Planning Permission 4/2010/0178) and approved in writing by the MPA on 13 May 2013.

Reason: *In the interest of local amenity in accordance with Policy DM1 of the Nottinghamshire Minerals Local Plan.*

13. The number of HGVs entering and leaving the site shall not exceed the following:

a) Except for the period 1 April to 31 July inclusive there shall be no more than 320 HGV movements to and from the site in any one working day (160 in, 160 out) and no more than 1650 HGV movements to and from the site in any one week (675 in, 675 out).

b) For the period 1 April to 31 July inclusive there shall be no more than 380 HGV movements to and from the site in any one working day (190 in, 190 out) and no more than 1950 HGV movements to and from the site in any one week (825 in, 825 out).

Over the course of any calendar year, total HGV movements to and from the site shall not exceed 50,000 (25,000 in, 25,000 out).

Written records shall be maintained of all HGV movements into and out of the site, including HGVs taking sand and sand-based products off site, HGVs delivering soils, compost and other materials into the site, and HGVs delivering plant and machinery to the site for operations such as soil stripping, with the records kept for a minimum period of two years. Copies of the HGV vehicle movement records shall be made available to the MPA within 7 days of a written request being made by the MPA.

Reason: *To limit vehicle movements at the proposed quarry in accordance with Policy DM9 of the Nottinghamshire Minerals Local Plan.*

Quarry plant area

14. The quarry plant area, plant, equipment and supporting infrastructure shall be maintained in accordance with the following previously approved details:

(a) Dwgs PL13-1 Rev 6– Proposed Plant Layout and Elevations and PL13-2 Rev 6– Cross Sections Through Proposed Plant, (both received by the MPA on 19 October 2015 and approved by the MPA on 6 November 2015 in respect of NMA/3385 amending condition 14 of Planning Permission 4/2010/0178 and as further amended by:

(b) Dwg 'TO 18-1 V3 Proposed Site Offices' received by the MPA on 27/11/08 along with the accompanying photographs (additional photographs received on 20/11/18) pursuant to NMA3928 approving additional site offices etc on 04/12/18;

(c) Dwgs 'Gravel Plant Location & Lagoon 11 Design – Plant Area November 2019' dated 27/11/19, 'Gravel Plant Location & Lagoon 11 Design – Quarry Area November 2019' dated 09/08/19 and 'Indicative Gravel Plant Sections' dated 27/11/19 received by the MPA on 29/11/19 along with the accompanying overview document received by the MPA on 11/07/19, pursuant to NMA4018 approving a revised gravel washing plant on 29/11/19 and;

(d) Dwg titled 'Gravel Stocking Area Design' dated 15/10/2020, received by the MPA on 30/10/2020 (Revision to include cut 1 and cut 2) pursuant to NMA/4194 for an enlarged gravel stocking area.

Reason: In the interest of visual amenity to ensure compliance with Policy DM1 of the Nottinghamshire Minerals Local Plan and to protect the openness of the Green Belt in accordance with the National Planning Policy Framework.

15. Unless a new scheme is subsequently approved by the MPA pursuant to this condition, all floodlighting to be used at the site shall be maintained for the life of the development in accordance with Drawing Number D21071/PY/I, dated 22/04/21 and received by the MPA on 28/04/21 and the accompanying statement - Condition 15 Floodlighting Revised (appendix D) received by the MPA on 06/05/21.

Floodlighting shall be angled downwards and suitably shielded to ensure that it does not result in glare or dazzle to surrounding land, property and other users and shall ensure that no lighting levels over 1Lux occurs in habitat suitable for nightjar and woodlark during the bird breeding season (February to August).

The floodlighting shall not be used on Sundays, Bank or Public Holidays. Outside these hours any external lighting shall be individually operated through a movement sensor switch with a maximum lighting cycle not exceeding 5 minutes.

Reason: In the interest of visual amenity and to ensure compliance with Policy DM1 of the Nottinghamshire Minerals Local Plan.

16. Throughout the life of the development hereby permitted, the external appearance of all fixed plant, equipment and supporting infrastructure shall be maintained to the satisfaction of the MPA in order to preserve their original external appearance. Any works which the MPA considers are required to maintain the external appearance of all fixed plant, equipment and supporting infrastructure shall be carried out within one month of a written request being made by the MPA.

Reason: In the interest of visual amenity and to ensure compliance with Policy DM1 of the Nottinghamshire Minerals Local Plan.

17. Notwithstanding the provisions of the Town and Country Planning (General Permitted Development) (England) Order 2015, or any subsequent amended legislation, no buildings, fixed plant, or machinery, other than those approved under Condition 14 above, shall be erected or placed on the site without the prior written approval of the MPA.

Reason: To protect the openness of the Green Belt in accordance with the National Planning Policy Framework.

Phasing and cessation of mineral extraction

18. Mineral extraction shall only be carried out in accordance with the phasing plans listed in condition 5 above. Mineral extraction in any phase or sub-phase shall not commence until mineral extraction has been completed, or substantially completed, within the preceding phase or sub-phase to the satisfaction of the MPA. The MPA shall be notified in writing of the date of commencement of mineral extraction in any phase or sub-phase at least seven days, but not more than 14 days, prior to the commencement of mineral extraction in that phase or sub-phase.

Reason: To ensure the phased working and timely restoration of the site in accordance with Policy DM12 of the Nottinghamshire Minerals Local Plan.

19. The MPA shall be notified in writing of the date of the cessation of mineral extraction.

Reason: To enable the MPA to monitor compliance with the conditions of the planning permission.

20. All plant, equipment and supporting infrastructure shall be removed from the site and the site shall be entirely restored within 12 months of the cessation of mineral extraction, as notified under Condition 19 above.

Reason: To secure proper restoration of the site within an acceptable timescale and in accordance with Policy DM12 of the Nottinghamshire Minerals Local Plan.

Hours of working

21. Except in the case of an emergency when life, limb or property are in danger (with such instances being notified in writing to the MPA within 48 hours of their occurrence), or with the prior written approval of the MPA, the following shall not take place except within the hours specified below, except as provided for in Condition 22 below:

	Mondays to Fridays	Saturdays	Sundays Bank/ Public Holidays
Mineral Extraction	6am to 8pm	7am to 1pm	Not at all
Mineral conveying, processing or treatment	24 hours	24 hours	Not at all
Stripping, replacement, regrading or ripping of soils or overburden	7am to 7pm	7am to 1pm	Not at all
Servicing, testing, or maintenance of plant or machinery	24 hours (urgent or emergency situations only 8pm-6am)	24 hours (urgent or emergency situations only 8pm-6am)	Only with the prior written consent of the MPA
Vehicles entering and leaving the site for the purposes of collecting	6.30am to 7.30pm	7.30am to 12.30pm	Not at all

mineral or delivering soils, compost and synthetic fibres			

Reason: *To minimise the impact of the development on the amenity of the local area in accordance with Policy DM1 of the Nottinghamshire Minerals Local Plan, to minimise the impact of the development on the public highway network in accordance with Policy DM9 of the Nottinghamshire Minerals Local Plan, and to reduce the disturbance on nearby breeding birds in accordance with the Conservation of Habitats and Species Regulations 2010.*

22. Notwithstanding the hours of operation detailed in Condition 21 above, mineral extraction, including the use of two motorised scrapers, a dozer and the conveyor, shall not take place between 6am and 7am within the 400 metre buffer zones identified on 'Plan R22-12 – Site Location and 400m Margin to Residential Properties' received by the MPA on 30 March 2012. Where mineral extraction is taking place in close proximity to any of the 400 metre buffer zones, the extent of the buffer zones shall be clearly marked in accordance with details previously submitted to, and approved in writing by, the MPA.

Reason: *To minimise the noise impact of the development on the amenity of the local area, in accordance with Policy DM1 of the Nottinghamshire Minerals Local Plan.*

Noise

23. All mobile plant, machinery and vehicles (excluding delivery vehicles which are not owned or under the direct control of the operator) used on the site shall incorporate white noise reversing warning devices and be fitted with silencers maintained in accordance with the manufacturers' recommendations and specifications to minimise noise disturbance to the satisfaction of the MPA.

Reason: *To minimise the noise impact of the development on the amenity of the local area, in accordance with Policy DM1 of the Nottinghamshire Minerals Local Plan, and to ensure that breeding birds are not adversely affected.*

24. The free field noise levels associated with the development, when measured in the curtilage of any of the noise-sensitive properties listed below, shall not exceed the following limits measured as an Equivalent Continuous Noise Level for a 1 hour LAeq (free field):

Criterion Noise Levels LAeq, 1 hour			
Location	LAeq (7am – 7pm)	LAeq (7pm – 10pm)	LAeq (10pm– 7am)
Bright Sparks/ Stonehills House, Derby Road	55	52	42

Coxmoor House, Derby Road	55	52	42
Forest Farm, off Derby Road	55	52	42
Forest House, Thieves Wood Lane	55	52	42

Reason: *To minimise the noise impact of the development on the amenity of the local area, in accordance with Policy DM1 of the Nottinghamshire Minerals Local Plan.*

25. Prior to commencing mineral extraction in each of phases 3 and 4, where this would involve any new or relocated conveyor system, an updated Noise Impact Assessment shall be submitted to and approved in writing by the MPA. The assessment shall inform the methods of working and design/location of any conveyor system and shall demonstrate that the noise limits set out in conditions 24 and 27 can be complied with.

Reason: *To inform the future design and working arrangements for phases 3 and 4 should this involve conveying of minerals and to ensure that noise levels including from extended night time operations would be minimised and remain within the noise limits set to protect nearby residential and ecological receptors.*

26. Notwithstanding the requirements of Condition 24 above, for temporary operations such as soil stripping, replacement and bund formation, the LAeq 1 hour (free field) noise level in the curtilage of any noise sensitive property shall not exceed 70 dB(A). Temporary operations which exceed the normal day to day criterion shall be limited to a total of eight working weeks in a year at any individual noise sensitive property. The dates of these occurrences shall be recorded and available to the MPA in writing with one week of a written request from the MPA.

Reason: *To minimise the noise impact of the development on the amenity of the local area, in accordance with Policy DM1 of the Nottinghamshire Minerals Local Plan.*

27. Operational noise at the site shall be managed in accordance with the 'Protocol for Control of Noise to Protect Nightjar and Woodlark' – May 2013, received by the MPA on 10 May 2013 and approved in writing by the MPA on 30 May 2013 (in respect of Condition 26 of Planning Permission 4/2010/0178), whereby it shall be ensured that the continuous sound level from the site does not exceed 55 dB LAeq and the peak sound level does not exceed 80 dB LA(max) at any point on land surrounding the site that has the potential to support breeding nightjar and woodlark.

In accordance with the approved details, the following details shall be submitted to the MPA for its approval in writing throughout the life of the development (except where otherwise stated):

i) An annual review of potential new breeding areas for nightjar and woodlark created by forestry operations on adjacent land, to be carried out in advance of the breeding season;

ii) The results of noise monitoring carried out in January or February each year in positions adjacent to any potential nesting/breeding areas for nightjar and woodlark;

iii) The results of noise monitoring carried out periodically throughout the nightjar and woodlark breeding seasons adjacent to areas identified as potential nesting sites.

The approved noise management measures shall be implemented in accordance with the approved details throughout the life of the development.

Reason: To ensure that breeding birds are not adversely affected by the development in accordance with the National Planning Policy Framework and to also protect the amenity of nearby recreational users.

Dust

28. Measures shall be taken to minimise the generation of dust and reduce its impact on nearby dust sensitive receptors, including the Sherwood Observatory, nearby properties and habitats suitable for nightjar and woodlark, to acceptable levels and provide for dust monitoring.

The dust management plan ('Dust Management Plan V.1 – 9.01.2013' received by the Minerals Planning Authority on 22 March 2013 and approved on 3 June 2013 (in respect of Condition 27 of Planning Permission 4/2010/0178)) shall be implemented for the life of the development.

Reason: To ensure that dust impacts associated with the operation of the development are minimised, in accordance with Policy DM1 of the Nottinghamshire Minerals Local Plan.

29. All HGVs entering the site to deliver soil, compost, and synthetic fibres, and all HGVs leaving the site with sand and sand-based products, shall be fully sheeted.

Reason: To ensure that dust impacts associated with the operation of the development are minimised, in accordance with Policy DM1 of the Nottinghamshire Minerals Local Plan.

Archaeology

30. Development shall progress in accordance with the approved Archaeological Mitigation Strategy by Pre-Construct Archaeological Services Ltd, received by the MPA on 12 April 2013 and approved in writing by the MPA on 21 May 2013 (in respect of Condition 29 of Planning Permission 4/2010/0178), including the programme of further archaeological investigations required by this strategy which shall be completed and the findings submitted to the MPA for its approval in writing prior to any works commencing on phases 2 and 3.

Reason: *To ensure that that adequate archaeological investigation and recording is undertaken prior to the development taking place, in accordance with policies SP5 and DM6 of the Nottinghamshire Minerals Local Plan.*

Stockpile heights

31. Following the commencement of extraction from Phase 1b, stockpiles in the plant site area including stockpiles of excavated (as dug) minerals; site-sourced soils waiting to be processed; imported soils, compost and synthetic fibres waiting to be processed; and processed materials shall not exceed 10 metres above the ground levels of the plant site as set out in the details submitted and approved under Condition 14 above.

Reason: *In the interest of visual amenity to ensure compliance with Policy DM1 of the Nottinghamshire Minerals Local Plan and to protect the openness of the Green Belt in accordance with the National Planning Policy Framework.*

Mineral extraction

32. Mineral extraction shall only be carried out using two motorised scrapers, and a dozer. All excavated mineral shall be transported from the working phase to the processing plant area by field conveyor only. The conveyor shall be maintained throughout the life of the development hereby permitted to the satisfaction of the MPA.

Reason: *To minimise the impact of the development on the amenity of the local area, in accordance with Policy DM1 of the Nottinghamshire Minerals Local Plan.*

33. No blasting shall take place on the site in association with the mineral extraction hereby permitted.

Reason: *To minimise the impact of the development on the amenity of the local area in accordance with Policy DM1 of the Nottinghamshire Minerals Local Plan.*

34. Only sand and gravel extracted from within the site, as detailed on 'Plan PA2 – Planning Application Area' received by the MPA on 30 March 2010, shall be processed on the site. No sand and gravel shall be imported into the site for processing.

Reason: *To limit vehicle movements at the proposed quarry in accordance with Policy DM9 of the Nottinghamshire Minerals Local Plan.*

Pollution control

35. A scheme for surface water drainage for the site shall be implemented and maintained in accordance with the following details previously approved by the MPA on 30 May 2013 (in respect of Condition 34 of Planning Permission 4/2010/0178):

a) Documents entitled 'Design Philosophy for Surface Water Drainage Revision 1'; 'Halfren Water Report'; and 'Two Oaks Quarry -Environmental Statement' all received by the MPA on 10 April 2013;

b) Drawings Numbered '192-S-02 (Site Plan) B'; '192-S-03 (Junction GA) F'; '192-S-04 (Long Section 0-300) G'; '192-S-05 (Long section 300 - 500) F'; '192-S-06 (Visibility Splay sheet 1) E'; '192-S-07 (Parking Layby) C'; '192-S-08 (Corner to plant area) C'; '192-S-09 (Section @30m) E'; '192-S-10 (Section @50m 100m) G'; '192-S-11 (Section @150m 200m) E'; '192-S-12 (Section @250m) D'; '192-S-13 (Section @300m) D'; '192-S-14 (Section @350m) D'; '192-S-15 (Section @400m) D'; '192-S-16 (Section @450m) B'; '192-S-17 (Section @500m) A'; '192-S-18 (Section @525m) A' all received by the MPA on 20 March 2013.

c) Surface Water Calculations received by the MPA on 20 March 2013;

d) Documents entitled 'Balancing Lagoons –No Discharge Off Site' and 'Balancing Lagoons – Greenfield Run-Off Rate' both received by the MPA on 15 May 2013.

Reason: *To prevent the increased risk of flooding, to improve and protect water quality, improve habitat and amenity, and ensure future maintenance of the surface water drainage system in accordance with Policy DM2 of the Nottinghamshire Minerals Local Plan.*

36. A scheme for the disposal of foul drainage shall be implemented in accordance with the following details previously approved by the MPA on 30 May 2013 (in respect of Condition 35 of Planning Permission 4/2010/0178):

a) Document entitled 'Design Philosophy for Foul Water Drainage – Revision 1';

b) Document entitled 'Biotec 1 and Biotec 2 – Installation and Operation Guidelines';

c) Document entitled 'Biotec 3 and Biotec 4 – Installation and Operation Guidelines';

d) Document entitled 'Installation Guidelines for BioDisc Units BA, BAx, BB and NB';

e) Document entitled 'Installation Guidelines for BioDisc Units BC, NC';

f) Drawing Number 'DS1146P: BA-BB-BAx BioDisc Gravity Sales Drawing';

g) Drawing Number DS0456P: 'BC BioDisc General Dimensions Customer Drawing';

h) Document entitled 'BioDisc Sewage Treatment Plans Units BA – BG';

i) Document entitled 'Siting and Installation Considerations for BioDisc Units BA – BG and Nitrification Versions';

j) Drawing Number '192-S-38: Weigh Bridge and Office Proposed Foul Drainage Plan.

All received by the MPA on 10 April 2013.

Reason: *To ensure the satisfactory means of foul drainage disposal from the site in accordance with Policy DM2 of the Nottinghamshire Minerals Local Plan.*

37. Prior to being discharged into any watercourse, surface water sewer or soakaway system, all surface water from parking areas, and hard standings susceptible to oil contamination shall be passed through an oil separator designed and constructed to have a capacity compatible with the site being drained. Roof water shall not pass through the oil separator which shall be maintained in accordance with the manufacturer's instructions throughout the life of the development.

Reason: *To protect the water environment in accordance with Policy DM2 of the Nottinghamshire Minerals Local Plan.*

38. Any facilities for the storage of oils, fuels or chemicals shall be sited on impervious bases and surrounded by impervious bund walls. The volume of the bunded compound shall be at least equivalent to the capacity of the tank plus 10%. If there is multiple tankage, the compound should be at least equivalent to the capacity of the largest tank, of the combined capacity of the interconnected tanks, plus 10%. All filling points, vents, gauges, and sight glasses must be located within the bund. The drainage system of the bund shall be sealed with no discharge to any watercourse, land, or underground strata. Associated pipework should be located above ground and protected from accidental damage. All filing points and tank overflow pipe outlets should be detailed to discharge downwards into the bund.

Reason: To prevent pollution of the water environment in accordance with Policy DM2 of the Nottinghamshire Minerals Local Plan.

Ecology

39. Prior to the commencement of mineral extraction in each phase or sub-phase, ecological management plans shall be submitted to the MPA for its approval in writing. The plans shall detail measures to improve the biodiversity of those areas of the site not subject to operational activities and shall include, but not necessarily be limited to, any or all of the following measures as appropriate:

(i) Management of hedgerows to increase their size and density to the benefit of breeding birds and bats;

(ii) The provision of suitable field margins (wild bird seed areas) sown with high energy seed yielding plant species that shall remain intact during the winter months;

(iii) The location of the wild bird seed areas shall be notified in writing to the MPA each year within two weeks of being sown.

(iv) Timescales for the provision and ongoing maintenance of the proposed measures.

Additionally with respect to phase 1:

a) The wild bird seed areas shall continue to be sown, established and maintained in accordance with the details in the document entitled 'Condition 38: Ecological Management Plan' produced by Eco-Tech and received by the MPA on 24 April 2013 (pursuant to Condition 38 of Planning Permission 4/2010/0178) albeit that the location of the areas shall be rotated from year to year;

b) The location of the wild bird seed areas shall be notified in writing to the MPA each year within two weeks of being sown;

The ecological management plans shall be implemented in accordance with the approved details.

Reason: In the interest of protecting species and their habitats in accordance with the National Planning Policy Framework.

40. Site clearance works within each phase and sub-phase, and that involve the destruction and removal of vegetation, including felling, clearing or removal of trees, shrubs or hedgerows or the removal of any standing crops, shall not commence until

all potential habitats for protected species have been investigated by a qualified ecologist and a report of the investigation has been submitted to, and approved in writing by, the MPA. In the event that protected species or nesting birds are present, the report shall provide a working design, method and timetable to mitigate any undue adverse effects on the species involved. The mitigation measures shall be implemented as approved prior to any site clearance works taking place within that phase.

Reason: In the interest of protecting species and their habitats in accordance with the National Planning Policy Framework.

Soil stripping, handling and storage

41. The MPA shall be notified in writing at least 5 working days before soil stripping is due to commence on any phase or sub-phase, or part phase or part sub-phase in the event that a phase or sub-phase is not stripped in its entirety in one stripping campaign.

Reason: To ensure the proper restoration of the site, conserving and managing all available soil resources, in accordance with Policy DM3 of the Nottinghamshire Minerals Local Plan.

42. Soil handling shall be undertaken in accordance with the general Soil Handling and Soil Movement Scheme for Two Oaks Quarry received by the MPA on 19/4/13 (under 4/2010/0178). A detailed soil handling scheme for each phase, sub-phase, part phase or part sub-phase of the development shall be submitted in writing to the MPA at least one month prior to the stripping of any soil from that area of the site. Such a scheme shall include the following details:

(i) The size, location, volume and composition of soil storage mounds;

(ii) A methodology statement for the stripping and storage of soils;

(iii) The types of machinery to be used;

(iv) The routes to be taken by plant and machinery involved in soil handling operations;

(v) The depths of subsoil and topsoil to be stripped;

(vi) Which soils are to be retained for restoration purposes and which are to be used in the production of 'fibresand' products.

The soil handling schemes shall be carried out in accordance with the approved details.

Reason: To ensure the proper restoration of the site, conserving and managing all available soil resources, in accordance with Policy DM3 of the Nottinghamshire Minerals Local Plan.

43. No plant or vehicles shall cross any area of unstripped topsoil or subsoil except where such trafficking is essential and unavoidable for purposes of undertaking permitted operations. Essential trafficking routes shall be marked in such a manner as to give effect to this condition. No part of the site shall be excavated or traversed or used for a road, or storage of topsoil, subsoil or mineral deposits, until all available topsoil and subsoil has been stripped from that part.

Reason: *To ensure the proper restoration of the site, conserving and managing all available soil resources, in accordance with Policy DM3 of the Nottinghamshire Minerals Local Plan.*

44. Soil stripping shall not commence until any standing crop or vegetation has been cut and removed.

Reason: *To ensure the proper restoration of the site, conserving and managing all available soil resources, in accordance with Policy DM3 of the Nottinghamshire Minerals Local Plan.*

45. Topsoil, subsoil, and soil making material shall only be stripped when they are in a dry and friable condition and movements of soils shall only occur:

(i) When all soil above a depth of 300mm is in a suitable condition that it is not subject to smearing;

(ii) When topsoil is sufficiently dry that it can be separated from subsoil without difficulty;

(iii) When there are no areas of standing water on the surface of soils in the area to be stripped, traversed or used for soil storage.

Reason: *To ensure the proper restoration of the site, conserving and managing all available soil resources, in accordance with Policy DM3 of the Nottinghamshire Minerals Local Plan.*

46. All further storage mounds that will remain in situ for more than 6 months, or over winter, shall be seeded within 3 weeks of their construction with British Seed House A4 Low Maintenance seed mix at 35g/m2 unless an alternative seed mix is otherwise previously agreed in writing by the MPA. Seeding should aim to provide a suitable grass sward on the outside faces of any perimeter storage mounds/screening bunds and a winter supply of high energy seed yielding plant species on the inside faces as well as on all internal soil storage mounds. The mounds shall thereafter be maintained free of weeds until used for restoration purposes.

Reason: *To ensure the proper restoration of the site, conserving and managing all available soil resources, in accordance with Policy DM3 of the Nottinghamshire Minerals Local Plan and in the interests of biodiversity.*

47. Details of the volumes and locations of soils stored on the site shall be submitted to the MPA by 31 December each year.

Reason: *To ensure there are sufficient soils available for the restoration of the site and to ensure all available soil resources are conserved and managed, in accordance with Policy DM3 of the Nottinghamshire Minerals Local Plan.*

Phased restoration

48. Details of the restoration of the four main phases of the site and the plant site shall be submitted in writing to the MPA within the following timescales:

Phase	Date for restoration details to be submitted
1	Within 12 months of the completion of mineral extraction within phase 1a
2	Within 12 months of the completion of mineral extraction in phase 2a
3	Within 12 months of the commencement of mineral extraction in phase 3
4	Within 12 months of the completion of mineral extraction in phase 4a
Plant site	Within 12 months of the commencement of mineral extraction in phase 4b

Reason: To ensure the phased working and restoration of the site in accordance with Policy DM12 of the Nottinghamshire Minerals Local Plan.

Soil replacement for agricultural and woodland restoration

49. The MPA shall be notified in writing at least 5 working days before each of the following:

(i) Overburden/sand substrate has been prepared ready for soil replacement to allow inspection of the area before further restoration of this part is carried out; and

(ii) When subsoil has been prepared ready for topsoil replacement to allow inspection of the area before further restoration of this part is carried out; and

(iii) On completion of topsoil replacement to allow an opportunity to inspect the completed works before the commencement of any cultivation and seeding operation.

Reason: To ensure the proper restoration of the site, conserving and managing all available soil resources, in accordance with policies DM3 and DM12 of the Nottinghamshire Minerals Local Plan.

50. Topsoils and subsoils shall only be replaced when they and the ground on which they are to be placed are in a dry and friable condition and no movements, respreading, levelling, ripping or loosening of subsoils or topsoils shall occur:

(i) When it is raining; or

(ii) When there are pools of water on the surface of the storage mound or receiving area.

Reason: To ensure the proper restoration of the site, conserving and managing all available soil resources, in accordance with policies DM3 and DM12 of the Nottinghamshire Minerals Local Plan.

51. Plant and vehicles shall not cross any area of replaced and loosened ground, replaced subsoil, or replaced topsoil except where essential and unavoidable for the

purposes of carrying out soil replacement, ripping and stone picking or beneficially treating such areas. Only low ground pressure machines shall work on prepared ground.

Reason: To ensure the proper restoration of the site, conserving and managing all available soil resources, in accordance with policies DM3 and DM12 of the Nottinghamshire Minerals Local Plan.

52. Prior to the placement of any subsoils, the quarry floor shall be ripped to a minimum depth of 250mm with tine spacings no wider than 1.5m.

Reason: To ensure the proper restoration of the site, conserving and managing all available soil resources, in accordance with policies DM3 and DM12 of the Nottinghamshire Minerals Local Plan.

53. The top soil and upper subsoils shall be replaced to an overall combined depth of no less than 750mm.

Reason: To ensure the proper restoration of the site, conserving and managing all available soil resources, in accordance with policies DM3 and DM12 of the Nottinghamshire Minerals Local Plan.

54. The re-spread subsoil shall be approximately, and at least a minimum of, 350mm in depth and shall be cross-ripped:

(i) To provide loosening to a minimum depth of 400mm with tine spacings no wider than 1.5m, and

(ii) Any rock, boulder or larger stone greater than 200mm in any dimension shall be removed from the loosened surface before further soil is laid. Materials that are removed shall be utilised for the creation of refugia areas for reptiles and amphibians, or buried at a depth not less than 2 metres below the final settled contours.

Reason: To ensure the proper restoration of the site, conserving and managing all available soil resources, in accordance with policies DM3 and DM12 of the Nottinghamshire Minerals Local Plan and in the interest of habitat creation.

55. The re-spread topsoil shall be approximately, but no more than a maximum of, 400mm in depth and shall be rendered suitable for agricultural cultivation by loosening and ripping:

(i) To provide loosening to a minimum depth of 450mm with tine spacings of 1.5 metres or closer;

(ii) Any non-soil making material or rock or boulder or larger stone lying on the loosened topsoil surface and greater than 100mm in any dimension shall be utilised for the creation of refugia areas for reptiles and amphibians, or buried at a depth not less than 2 metres below the final settled contours.

Reason: To ensure the proper restoration of the site, conserving and managing all available soil resources, in accordance with policies DM3 and DM12 of the Nottinghamshire Minerals Local Plan and in the interest of habitat creation.

Restoration of areas to heathland, wetland areas and woodland

56. Within the timescales prescribed in Condition 48 above for those phases, part phases, sub-phases or part sub-phases to be restored to heathland, wetland areas and woodland, details of the restoration of those areas shall be submitted to the MPA for its approval in writing. The details shall be in accordance with 'Plan PA3 – Proposed Restoration Scheme & Cross Section' received by the MPA on 28 February 2019 with the aim of creating a mosaic of heathland, acid grassland, short ephemeral vegetation and bare ground with a varied micro-topography, including areas of open water of varying sizes and in clusters, and clumps of scrub and oak-birch woodland. The details shall include the following:

(i) The results of a walk-over survey carried out to identify evidence of, or potential for, protected species along with the results of any further detailed protected species carried out as necessary;

(ii) The results of surveys carried out to identify features that have arisen naturally or as a consequence of excavation works which are of value (or have the potential to be of value) in the context of creating a diverse heathland habitat, and details of how the survey results have been taken into account when drawing up the restoration details;

(iii) Target habitats with reference to the UK Biodiversity Action Plan;

(iv) Woodland, wetland margin and heathland species mixes and establishment methods which should be of native genetic origin and appropriate to the local area, including the source of heather brash and numbers, species, planting, positions and sizes of all trees and shrubs;

(v) Substrate preparation (where required), including the creation of micro-topography features;

(vi) Details of the reshaping of the silt lagoons in phase 1 to a shallower edge profile;

(vii) Habitat transition areas between the agricultural grassland areas and the heathland areas;

(viii) Sandstone faces;

(ix) The provision of appropriate refugia areas for reptiles and amphibians using, where appropriate, any rocks, boulders or stones picked in accordance with Conditions 54 and 55 above;

(x) Timetable for the implementation of the restoration works.

The restoration of the site shall be provided in accordance with the approved details.

Reason: *To ensure the phased restoration of the site in accordance with Policy DM12 of the Nottinghamshire Minerals Local Plan and to provide for extensive heathland and acid grassland afteruse in accordance with Policy SP2 of the Nottinghamshire Minerals Local Plan.*

Aftercare

57. Following the restoration of any phase or sub-phase of the site, that phase or sub-phase shall undergo aftercare management for a 5 year period.

Reason: *To provide for the aftercare of the restored site, in accordance with Policy DM12 of the Nottinghamshire Minerals Local Plan.*

58. Prior to any phase or sub-phase being entered into aftercare, the extent of the area and its date of entry into aftercare shall be agreed in writing with the MPA. The 5 year aftercare period shall run from the agreed date.

Reason: *To provide for the aftercare of the restored site, in accordance with Policy DM12 of the Nottinghamshire Minerals Local Plan.*

59. An aftercare scheme and strategy for each phase or sub-phase shall be submitted for the written approval of the MPA at the same time as the submission of the restoration details for that phase or sub-phase in accordance with the timescales detailed in Condition 48 above. The aftercare scheme and strategy shall outline the steps to be taken, the period during which they are to be taken, and who will be responsible for taking those steps to ensure the land is restored and brought back to its intended restored afteruse. The aftercare scheme shall include but not be restricted to details of the following:

(i) Cultivations;

(ii) Weed control;

(iii) Scrub control on heathland areas;

(iv) Sowing of seed mixtures;

(v) Soil analysis;

(vi) Keeping of records and an annual review of performance and proposed operations for the coming year, to be submitted to the MPA between 31 March and 31 May each year;

(vii) Drainage amendments;

(viii) Subsoiling and underdrainage proposals;

(ix) Management practices such as the cutting of vegetation;

(x) Tree protection;

(xi) Remedial treatments;

(xii) Irrigation;

(xiii) Fencing;

(xiv) Proposals for a survey visit by a suitably qualified ecologist, to be undertaken in year 5, to assess the ecological interest of those parts of the site restored to heathland, wetland areas and woodland, including their habitats, flora and flora, to inform management practices for the additional periods of aftercare secured through legal agreement; and

(xv) A report detailing the findings of the survey visit referred to in (xiv) above, to be submitted to the MPA at the end of year 5.

Reason: *To provide for the aftercare of the restored site, in accordance with Policy DM12 of the Nottinghamshire Minerals Local Plan.*

60. Site management meetings shall be held with the MPA each year to assess and review the detailed annual programmes of aftercare operations referred to in

Condition 59 (vi) above, having regard to the condition of the land, progress in its rehabilitation and necessary maintenance.

Reason: To provide for the aftercare of the restored site, in accordance with Policy DM12 of the Nottinghamshire Minerals Local Plan.

61. The aftercare programme shall be implemented in accordance with the details approved under Condition 59 (vi) above, as amended following the annual site meeting carried out in accordance with Condition 60 above.

Reason: To provide for the aftercare of the restored site, in accordance with Policy DM12 of the Nottinghamshire Minerals Local Plan.

Alternative Restoration

62. Should, for any reason, mineral extraction from the application site cease for a period in excess of 12 months, then, within three months of the receipt of a written request from the MPA, a revised scheme for the restoration of the site shall be submitted in writing to the MPA for its approval in writing. Such a scheme shall include details of the final contours, provision of soiling, sowing of heathland habitat, planting of trees and shrubs, drainage and fencing in a similar manner to that submitted with the application and modified by these conditions.

Reason: To secure the proper restoration of the site within an acceptable timescale.

63. The revised restoration scheme approved under Condition 62 shall be implemented within 12 months of its approval by the MPA, and shall be subject to the aftercare provisions of Conditions 59 – 61 above.

Reason: To secure the proper restoration of the site within an acceptable timescale.

NOTES TO APPLICANT

1. **The development hereby permitted must be carried out in accordance with the conditions attached to this planning permission and any approved plans and details. Failure to implement the permission in accordance with the planning conditions and approved details may render the development unlawful and could lead to enforcement action and prosecution.**

2. **If, at any stage, it becomes necessary to vary any of the approved plans or details you should contact the County Planning Authority in advance of implementing any changes to ascertain whether the proposed changes require any further planning approval.**

3. **Where appropriate there is a fee payable, currently £116, where a written request is made for the discharge of one or more conditions on the same permission or for confirmation that condition(s) on a permission have been complied with. The fee is payable for each request and not for each condition. When submitting a fee, please provide the planning application reference number. Fees can be paid in several ways, either:**

- **using a debit/credit card by calling 0115 9932584;**
- **by paying online at www.nottinghamshire.gov.uk/planning-and-environment/planning-applications/pay-a-planning-fee; or**
- **by sending a cheque payable to 'Nottinghamshire County Council' to the Planning Support Officer, Development Management, Nottinghamshire County Council, County Hall, Loughborough Road, West Bridgford Nottingham, NG2 7QP. Please mark the envelope 'Private and Confidential'.**

4. **Where pre-commencement conditions may be specified in this decision notice, the justification as to why such conditions are imposed and need to be discharged prior to the commencement of development is stated in accordance with Article 35 of The Town and Country Planning (Development Management Procedure) (England) Order 2015.**

5. **This notice of planning permission and the attached conditions should be read alongside the associated Section 106 legal agreement dated 19 September 2017.**

6. **Your attention is drawn to the consultation responses from the Environment Agency dated 23 June 2010, Central Networks dated 6 May 2010 and the Highways Authority dated 9 November 2012 copies of which have been previously forwarded.**

7. **It is the objective of the Nottinghamshire Minerals Local Plan (Policy SP3) that all aspects of minerals development should minimise impacts on the causes of climate change by reducing greenhouse gas emissions and move towards a low-carbon economy. Technological improvements (particularly LEDs) mean that there are more energy efficient floodlighting products on the market compared to the existing fittings. The company should take the opportunity to review the floodlighting and the energy and costs savings that may be available from fitting new products.**

8. **Your attention is drawn to the Standing Advice from The Coal Authority set out below.**

DN1-759

APPLICATION REF NO. 4/V/2021/0397

IMPORTANT NOTICE: STANDING ADVICE
Planning Application Consultations with the Coal Authority

The proposed development lies within an area that has been defined by the Coal Authority as containing potential hazards arising from former coal mining activity at the surface or shallow depth. These hazards can include: mine entries (shafts and adits); shallow coal workings; geological features (fissures and break lines); mine gas and former surface mining sites. Although such hazards are seldom readily visible, they can often be present and problems can occur in the future, particularly as a result of development taking place.

It is recommended that information outlining how the former mining activities may affect the proposed development, along with any mitigation measures required (for example the need for gas protection measures within the foundations), is submitted alongside any subsequent application for Building Regulations approval (if relevant).

Any form of development over or within the influencing distance of a mine entry can be dangerous and raises significant land stability and public safety risks. As a general precautionary principle, the Coal Authority considers that the building over or within the influencing distance of a mine entry should be avoided. In exceptional circumstance where this is unavoidable, expert advice must be sought to ensure that a suitable engineering design which takes into account all the relevant safety and environmental risk factors, including mine gas and mine-water. Your attention is drawn to the Coal Authority Policy in relation to new development and mine entries available at:
www.gov.uk/government/publications/building-on-or-within-the-influencing-distance-of-mine-entries

Any intrusive activities which disturb or enter any coal seams, coal mine workings or coal mine entries (shafts and adits) requires a Coal Authority Permit. Such activities could include site investigation boreholes, excavations for foundations, piling activities, other ground works and any subsequent treatment of coal mine workings and coal mine entries for ground stability purposes. Failure to obtain a Coal Authority Permit for such activities is trespass, with the potential for court action.

If any coal mining features are unexpectedly encountered during development, this should be reported immediately to the Coal Authority on 0345 762 6848. Further information is available on the Coal Authority website at:
www.gov.uk/government/organisations/the-coal-authority

Informative Note valid from 1st January 2021 until 31st December 2022.

Appendix B Noise Assessment

LFAcoustics
consulting engineers

NOISE ASSESSMENT

TWO OAKS QUARRY
IMPORTATION OF INERT WASTE
TO FULFIL APPROVED RESTORATION SCHEME

MANSFIELD SAND COMPANY LTD

NOVEMBER 2023

LF Acoustics Ltd
Pond Farm
7 High Street
Pulloxhill, Beds
MK45 5HA

t: 01525 888046
e: mail@lfacoustics.co.uk

Registered in England
Company Reg: 8434608

NOISE ASSESSMENT

TWO OAKS QUARRY
IMPORTATION OF INERT WASTE
TO FULFIL APPROVED RESTORATION SCHEME

MANSFIELD SAND COMPANY LTD

NOVEMBER 2023

Revision	Prepared By	Date
2.0	L Jephson BEng (Hons) MIOA	21/11/23
1.0	L Jephson BEng (Hons) MIOA	21/4/23

CONTENTS

1. Introduction

LF Acoustics Ltd have been appointed to carry out a noise assessment to support a planning application to enable the importation of inert waste to fulfil the approved restoration scheme within the quarry.

At present, lagoons 7, 8, 9 and 10 are being progressively filled and restored using waste material from the quarry in accordance with the approved restoration scheme. There is insufficient material available within the quarry to complete the restoration and Mansfield Sand are seeking planning permission to import additional inert materials to enable the restoration to be completed.

No changes to the sand washing / screening, drying and bagging plants are proposed nor associated with the presently permitted extraction operations.

This updated report presents an assessment of the noise levels associated with daytime operations attributable to the operation of the quarry, taking account of the plant proposed to be used for the restoration operations and HGV movements delivering the material to the quarry. Consideration is also given to the noise levels within the adjacent woodland to ensure potential disturbance to the Nightjar and Woodlark is minimised.

2. Applicable Guidance and Relevant Planning Conditions

A description of the noise units referred to within this report is provided in Appendix B.

2.1. National Planning Policy Framework

The National Planning Policy Framework (NPPF), revised in September 2023 [1], sets out the Government's planning policies for England and how these should be applied. It provides a framework upon which locally-prepared plans for housing and other development can be produced.

The purpose of the planning system is to contribute to the achievement of sustainable development and at the heart of the Framework is a presumption in favour of sustainable development.

With regards noise, the NPPF advises that local planning policies and decisions should contribute to and enhance the natural and local environment by:

- preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels noise pollution.
- mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development (including cumulative effects) – and avoid noise giving rise to significant adverse impacts on health and the quality of life;
- identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

The Planning Policy Guidance note on noise, published in March 2014 and updated July 2019 [2], defines potential adverse effects and the required mitigation, as follows:

No Observed Adverse Effect

Noise can be heard, but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life (no specific measured required to mitigate noise).

Observed Adverse Effect

Noise can be heard and causes small changes in behaviour and/or attitude, eg turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life (mitigate and reduce noise levels to a minimum).

Significant Observed Adverse Effect

The noise causes a material change in behaviour and/or attitude, eg avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area (avoid).

The minerals planning guidance attached to the NPPF relating to noise was updated in March 2014 [3], which covers mineral extraction and related processes, provides guidance and advises upon acceptable levels of noise from site operations.

For normal daytime works the guidance seeks to ensure that the operations do not result in significant adverse effects and advises for normal daytime operations that the following limits should not exceed:

- 10 dB above the background (L_{A90}) noise level; subject to
- a maximum value of 55 dB $L_{Aeq,\ 1\ hour}$ (free field).

Where background noise levels are low, the guidance accepts that it may be very difficult to achieve a limit based upon background + 10 dB(A) without imposing unreasonable burdens on the mineral operator. In such cases, the government guidance clearly advises the limit set should be as near that level as practicable during normal working hours and should not exceed 55 dB $L_{Aeq,\ 1\ hour}$ (free field).

In addition to the general daytime works, the guidance advises that all mineral operations will have some particularly noisy short-term activities that cannot meet the limits set for normal operations. These include soil-stripping, construction or removal of bunding or spoil heaps and construction of new permanent landforms. A level of 70 dB $L_{Aeq,\ 1\ hour}$ is suggested as a limit for these activities for periods of up to eight weeks in any one year. Where the duration of temporary works may exceed eight weeks it can be appropriate to apply a lower limit for a longer period. The guidance also recognises that, in wholly exceptional cases, where there is no viable alternative, a limit of more than 70 dB $L_{Aeq,\ 1\ hour}$ may be appropriate in order to obtain other environmental benefits.

The guidance suggests that in the evening (19:00 – 22:00) $L_{Aeq,\ 1\ hour}$ noise levels should not exceed the background (L_{A90}) noise level by more than 10 dB.

For any operations during the period 22:00 – 07:00 noise limits should be set to reduce to a minimum any adverse impacts, without imposing unreasonable burdens on the mineral operator. In any event the noise limit should not exceed 42dB $L_{Aeq,\ 1\ hour}$ (free field) at a noise sensitive property.

2.2. Relevant Planning Conditions

Condition 21 restricts the operational hours for extraction to between 6am to 8pm Mondays to Fridays and 7am to 1pm on Saturdays. No amendments are being sought to these hours.

Condition 24 of the planning permission specified site noise limits at surrounding residential properties, as follows:

24. The free field noise levels associated with the development, when measured in the curtilage of any of the noise-sensitive properties listed below, shall not exceed the following limits measured as an Equivalent Continuous Noise Level for a 1 hour LAeq (free field):

Criterion Noise Levels LAeq, 1 hour			
Location	LAeq (7am – 7pm)	LAeq (7pm – 10pm)	LAeq (10pm– 7am)
Bright Sparks/ Stonehills House, Derby Road	55	52	42
Coxmoor House, Derby Road	55	52	42
Forest Farm, off Derby Road	55	52	42
Forest House, Thieves Wood Lane	55	52	42

Reason: *To minimise the noise impact of the development on the amenity of the local area, in accordance with Policy DM1 of the Nottinghamshire Minerals Local Plan.*

Condition 27 of the planning permission seeks to ensure any potential disturbance to the Nightjar and Woodlark within the neighbouring woodland is minimised, as follows.

27. Operational noise at the site shall be managed in accordance with the 'Protocol for Control of Noise to Protect Nightjar and Woodlark' – May 2013, received by the MPA on 10 May 2013 and approved in writing by the MPA on 30 May 2013 (in respect of Condition 26 of Planning Permission 4/2010/0178), whereby it shall be ensured that the continuous sound level from the site does not exceed 55 dB LAeq and the peak sound level does not exceed 80 dB LA(max) at any point on land surrounding the site that has the potential to support breeding nightjar and woodlark."

3. Proposed Operations

The location of the site and surrounding residential properties is indicated on Figure 1.

Lagoons 7, 8, 9 & 10 are presently being infilled and restored using quarry generated waste as per the approved scheme, with plant operating elsewhere within the quarry used for the restoration operations.

There is insufficient material available within the quarry to complete the restoration and it is proposed to import inert waste to facilitate the completion of the restoration.

A dozer and excavator would be used within this area to spread the material periodically during the day and to progress the restoration.

Materials would be delivered to the site by HGV. It is proposed to allocate 14,000 vehicle movements per annum (7000 in and 7000 out) to import material for capping during the season, which will typically be from April-October, and around 75-100 movements to and from the site a day as a worst-case.

There would be no changes to the presently permitted operational hours for the plant, nor any changes to other plant requirements within the quarry, which would remain as existing.

4. Calculation and Assessment of Noise Levels

4.1. Calculation Methodology

Calculations of the noise levels attributable to the proposed daytime operations, considering the infilling and restoration operations, have been modelled at the surrounding residential properties, based upon source term noise levels obtained previously. The measured source term levels have been evaluated into equivalent Sound Power Levels, for use within the noise modelling software.

The assumed source terms are provided in the table below.

Plant	Source Noise Level SWL [dB(A)]
Excavator	103.6
Dozer	107.5
Motor Scraper	104.9
Conveyor Screen	100.3
Conveyor Motor	93.7
Sand Washing Plant Screen	103.3
Sand Washing Plant	101.3
Gravel Plant	100.7
Wash Plant Pumps	105.0
Loading Shovel	101.4
Bagging Plant	99.6
Drying Plant	100.1
Forklift	93.4
HGV Movements	101.6

Table 4.1 Noise Source Terms

The calculations have been prepared for the daytime period, assuming the main processing plant operational and HGV movements into and out of the site.

The calculations have been based upon the extraction and processing operations modelled and assessed previously. At present, extraction is progressing within Lagoon 10. It is anticipated by the time the infilling commences, that extraction will have commenced in Phase 2 and the calculations have been prepared on this basis. Assuming working in Phase 2 will provide worst-case conditions for the neighbouring properties.

For the purposes of the infilling operations, the calculations have modelled the excavator and dozer operating at the south-western corner of Lagoon 9, at a position closest to the surrounding residential properties and woodland to represent worst-case conditions. An additional 10 HGV movements per hour have also been included within the calculations to take account of the vehicles delivering the restoration materials.

4.2. Calculation Results

Calculations have been made upon the basis of the above to derive the $L_{Aeq,\ 1\ hour}$ noise levels at the surrounding properties, for the early morning periods and for the main daytime periods where there would be HGV movements into and out of the quarry.

The results of the modelling are presented graphically on Figure 2 with the details provided in Appendix B. The results of the calculations are summarised below.

Location	Calculated Daytime Noise Level [dB $L_{Aeq,\ 1\ hour}$]
Bright Sparks	37
Coxmoor House	39
Forest Farm	37
Forest Lodge	38

Table 4.2 Calculated Noise Levels

Figure 2 additionally presents the calculated noise levels within the adjacent woodland. The modelling results indicate that the proposed infilling operations would generate noise levels below 55 dB $L_{Aeq,\ 1\ hr}$ within the woodland, thus minimising any potential disturbance to the birds. There would be no operations carried out within the infilling areas which would generate high levels of noise above that associated with the general engine noise of the plant, which would include the tipping of inert material from the vehicles. On this basis a maximum level of 80 dB(A) would not be exceeded within the woodland. On this basis, the requirements of Condition 27 would be maintained.

4.3. Assessment

The calculations indicate overall noise levels attributable to the operation of the quarry, taking account of the additional restoration operations, would result in noise levels of between 40 – 42 dB $L_{Aeq, 1\ hour}$ at the surrounding properties during daytime operations.

With regards the requirements of the planning conditions at the residential receptors, noise levels attributable to the quarry operations would remain at least 13 dB(A) below the 55 dB $L_{Aeq, 1\ hour}$, thus ensuring that the overall noise levels remained acceptable.

Consideration has also been given to the noise levels within the neighbouring woodland to address the requirements of Condition 27. The calculations indicated that noise levels within the woodland would remain below 55 dB LAeq, 1 hour and would not exceed 80 dB LAmax, F. This would ensure that any potential disturbance to the birds within the wood were minimised and ensure continued compliance with the requirements of Condition 27.

The calculations and assessment have been made upon the basis of worst-case operating conditions, with the plant fully operational.

On the basis of the above, noise levels attributable to the proposed infilling and restoration operations would remain below the planning condition limits and thus ensuring any adverse effects are minimised.

5. Summary

LF Acoustics Ltd were appointed to carry out a noise assessment to support a planning application to enable the importation of inert waste to fulfil the approved restoration scheme within the quarry.

At present, lagoons 7, 8, 9 and 10 are being progressively filled and restored using waste material from the quarry in accordance with the approved restoration scheme. There is insufficient material available within the quarry to complete the restoration and Mansfield Sand are seeking planning permission to import additional inert materials to enable the restoration to be completed.

Calculations of the likely worst-case noise levels associated with the quarry operations at the surrounding properties have been made on the basis of the existing permitted quarry operations and proposed operations associated with the infilling and restoration.

The calculated noise levels have been assessed against the current operational noise limits specified in the planning permission. The assessment concluded that noise levels would remain significantly below the site noise limits, and thus acceptable.

References

1. Department for Levelling Up, Housing & Communities. National Planning Policy Framework. September 2023.

2. Department for Communities and Local Government. Planning Practice Guidance. Noise. 6 March 2014, last updated 22 July 2019.

3. Department for Communities and Local Government. Planning Practice Guidance. Assessing Environmental Impacts from Minerals Extraction. Revision Date 6 March 2014.

Figures

Figure 1:
Site Location and
Surrounding Residential
Properties

Figure 2:
Calculated Noise Levels
Phase 2 Including
Infilling

Appendix A
Noise Units

Decibels (dB)

Noise can be considered as 'unwanted sound'. Sound in air can be considered as the propagation of energy through the air in the form of oscillatory changes in pressure. The size of the pressure changes in acoustic waves is quantified on a logarithmic decibel (dB) scale firstly because the range of audible sound pressures is very great, and secondly because the loudness function of the human auditory system is approximately logarithmic.

The dynamic range of the auditory system is generally taken to be 0 dB to 140 dB. Generally, the addition of noise from two sources producing the same sound pressure level will lead to an increase in sound pressure level of 3 dB. A 3 dB noise change is generally considered to be just noticeable, a 5 dB change is generally considered to be clearly discernible and a 10 dB change is generally accepted as leading to the subjective impression of a doubling or halving of loudness.

A-Weighting

The bandwidth of the frequency response of the ear is usually taken to be from about 18 Hz to 18,000 Hz. The auditory system is not equally sensitive throughout this frequency range. This is taken into account when making acoustic measurements by the use of A-weighting, a filter circuit that has a frequency response similar to the human auditory system. All the measurement results referred to in this report are A-weighted.

Units Used to Describe Time-Varying Noise Sources (L_{Aeq}, L_{Amax}, L_{A10}, and L_{A90})

Instantaneous A-weighted sound pressure level is not generally considered as an adequate indicator of subjective response to noise because levels of noise usually vary with time.

For many types of noise the Equivalent Continuous A-Weighted Sound Pressure Level ($L_{Aeq,T}$) is used as the basis of determining community response. The $L_{Aeq,T}$ is defined as the A-weighted sound pressure level of the steady sound which contains the same acoustic energy as the noise being assessed over a specific time period, T.

The L_{Amax} is the maximum value that the A-weighted sound pressure level reaches during a measurement period. $L_{Amax\,F}$, or Fast, is averaged over 0.125 of a second and $L_{Amax\,S}$, or Slow, is averaged over 1 second. All L_{Amax} values referred to in this report are Fast.

The L_{A90} is the noise level exceeded for 90% of the measurement period. It is generally used to quantify the background noise level, the underlying level of noise that is present even during the quieter parts of measurement period.

Appendix B
Calculation Details

Legend

Source		Source name
Source type		Type of source (point, line, area)
Time slice		Name of time slice
L'w	dB(A)	Sound power level per m, m²
Lw	dB(A)	Sound power level per unit
l or A	m,m²	Size of source (length or area)
Ko	dB	Correction for propagation in limited spacial angle
S	m	Distance source - receiver
Adiv	dB	Mean attenuation due to geometrical spreading
Agr	dB	Mean attenuation due to ground effect
Abar	dB	Mean attenuation due to screening
Ls	dB(A)	Unassessed sound pressure level at receiver
Ls=Lw+Ko+ADI+Adiv+Agr+Abar+Aatm+Afol_site_house+Awind+dLrefl		
dLw	dB	Correction due to source operation time
Lr	dB(A)	Assessed level of time slice

Two Oaks Farm
Mean propagation Leq - Importation November 2023 Phase 2B

10

Source	Source type	Time slice	L'w	Lw	l or A	Ko	S	Adiv	Agr	Abar	Ls	dLw	Lr
			dB(A)	dB(A)	m,m²	dB	m	dB	dB	dB	dB(A)	dB	dB(A)
Receiver Bright Sparks Fl GF Lr24hr,lim dB(A) LAeq,T 37.3 dB(A)													
Bagging Plant	Point	LAeq,T	99.6	99.6		3	1199.59	-72.6	-8.4	0.0	21.6	0.0	21.6
Conveyor Motor	Point	LAeq,T	93.7	93.7		3	1293.93	-73.2	-8.6	0.0	14.9	0.0	14.9
Conveyor Motor	Point	LAeq,T	93.7	93.7		3	1196.26	-72.5	-8.4	-5.4	10.3	0.0	10.3
Conveyor Screen	Point	LAeq,T	100.3	100.3		3	821.17	-69.3	-7.6	0.0	26.4	0.0	26.4
Dozer Lagoon 9	Point	LAeq,T	107.5	107.5		3	1077.63	-71.6	-8.2	-15.1	15.6	0.0	15.6
Drying Plant	Point	LAeq,T	100.1	100.1		3	1227.18	-72.8	-8.5	0.0	21.9	0.0	21.9
Excavator Lagoon 9	Point	LAeq,T	103.6	103.6		3	1073.57	-71.6	-8.2	-11.1	15.7	0.0	15.7
Forklift	Point	LAeq,T	93.4	93.4		3	1162.80	-72.3	-8.3	0.0	15.8	-3.0	12.8
Gravel Plant	Point	LAeq,T	100.7	100.7		3	1369.33	-73.7	-8.7	0.0	21.3	0.0	21.3
HGV Movements	Line	LAeq,T	62.1	93.6	1412.6	3	1069.43	-71.6	-7.9	-0.2	17.0	12.0	29.0
Infilling HGV Movements	Line	LAeq,T	67.0	98.9	1567.0	3	1011.27	-71.1	-8.0	-1.3	21.6	10.0	31.6
Loading Shovel	Point	LAeq,T	101.4	101.4		3	1292.42	-73.2	-8.6	0.0	22.6	-6.0	16.6
Motor Scraper	Point	LAeq,T	104.9	104.9		3	800.24	-69.1	-7.5	0.0	31.3	0.0	31.3
Pumps	Point	LAeq,T	105.0	105.0		3	1362.63	-73.7	-8.7	0.0	25.6	0.0	25.6
Washing Plant	Point	LAeq,T	101.3	101.3		3	1352.32	-73.6	-8.7	0.0	22.0	0.0	22.0
Washing Plant Screen	Point	LAeq,T	103.3	103.3		3	1358.54	-73.7	-8.7	0.0	24.0	0.0	24.0
Receiver Coxmoor House Fl GF Lr24hr,lim dB(A) LAeq,T 39.4 dB(A)													
Bagging Plant	Point	LAeq,T	99.6	99.6		3	1073.11	-71.6	-8.2	0.0	22.8	0.0	22.8
Conveyor Motor	Point	LAeq,T	93.7	93.7		3	1243.96	-72.9	-8.5	0.0	15.3	0.0	15.3
Conveyor Motor	Point	LAeq,T	93.7	93.7		3	1243.43	-72.9	-8.1	0.0	15.7	0.0	15.7
Conveyor Screen	Point	LAeq,T	100.3	100.3		3	936.03	-70.4	-6.2	0.0	26.7	0.0	26.7
Dozer Lagoon 9	Point	LAeq,T	107.5	107.5		3	1363.97	-73.7	-5.8	-9.5	21.5	0.0	21.5
Drying Plant	Point	LAeq,T	100.1	100.1		3	1093.02	-71.8	-8.2	0.0	23.1	0.0	23.1
Excavator Lagoon 9	Point	LAeq,T	103.6	103.6		3	1354.10	-73.6	-5.0	-9.6	18.4	0.0	18.4
Forklift	Point	LAeq,T	93.4	93.4		3	1061.57	-71.5	-8.1	0.0	16.8	-3.0	13.7
Gravel Plant	Point	LAeq,T	100.7	100.7		3	1181.20	-72.4	-8.4	0.0	22.9	0.0	22.9
HGV Movements	Line	LAeq,T	62.1	93.6	1412.6	3	787.52	-68.9	-7.4	0.0	20.3	12.0	32.3
Infilling HGV Movements	Line	LAeq,T	67.0	98.9	1567.0	3	913.35	-70.2	-6.6	-0.6	24.6	10.0	34.6
Loading Shovel	Point	LAeq,T	101.4	101.4		3	1135.61	-72.1	-8.3	0.0	24.0	-6.0	18.0
Motor Scraper	Point	LAeq,T	104.9	104.9		3	919.43	-70.3	-5.7	0.0	32.0	0.0	32.0
Pumps	Point	LAeq,T	105.0	105.0		3	1165.09	-72.3	-8.3	0.0	27.3	0.0	27.3
Washing Plant	Point	LAeq,T	101.3	101.3		3	1161.60	-72.3	-8.3	0.0	23.7	0.0	23.7
Washing Plant Screen	Point	LAeq,T	103.3	103.3		3	1169.55	-72.4	-8.3	0.0	25.6	0.0	25.6
Receiver Forest Farm Fl GF Lr24hr,lim dB(A) LAeq,T 37.2 dB(A)													
Bagging Plant	Point	LAeq,T	99.6	99.6		3	1205.16	-72.6	-8.4	0.0	21.6	0.0	21.6
Conveyor Motor	Point	LAeq,T	93.7	93.7		3	1321.26	-73.4	-8.5	0.0	14.8	0.0	14.8
Conveyor Motor	Point	LAeq,T	93.7	93.7		3	1380.99	-73.8	-8.7	0.0	14.2	0.0	14.2
Conveyor Screen	Point	LAeq,T	100.3	100.3		3	1321.96	-73.4	-8.5	0.0	21.4	0.0	21.4
Dozer Lagoon 9	Point	LAeq,T	107.5	107.5		3	1577.94	-75.0	-5.8	-8.2	21.5	0.0	21.5
Drying Plant	Point	LAeq,T	100.1	100.1		3	1206.48	-72.6	-8.4	0.0	22.1	0.0	22.1
Excavator Lagoon 9	Point	LAeq,T	103.6	103.6		3	1569.40	-74.9	-5.0	-8.3	18.3	0.0	18.3
Forklift	Point	LAeq,T	93.4	93.4		3	1218.16	-72.7	-8.4	0.0	15.3	-3.0	12.2
Gravel Plant	Point	LAeq,T	100.7	100.7		3	1202.95	-72.6	-8.4	0.0	22.7	0.0	22.7
HGV Movements	Line	LAeq,T	62.1	93.6	1412.6	3	1037.23	-71.3	-7.0	0.0	18.3	12.0	30.3
Infilling HGV Movements	Line	LAeq,T	67.0	98.9	1567.0	3	1187.22	-72.5	-6.7	-0.5	22.3	10.0	32.3
Loading Shovel	Point	LAeq,T	101.4	101.4		3	1206.34	-72.6	-8.4	0.0	23.4	-6.0	17.3
Motor Scraper	Point	LAeq,T	104.9	104.9		3	1322.57	-73.4	-8.0	0.0	26.5	0.0	26.5
Pumps	Point	LAeq,T	105.0	105.0		3	1189.98	-72.5	-8.4	0.0	27.1	0.0	27.1
Washing Plant	Point	LAeq,T	101.3	101.3		3	1193.27	-72.5	-8.3	0.0	23.5	0.0	23.5
Washing Plant Screen	Point	LAeq,T	103.3	103.3		3	1197.63	-72.6	-8.4	0.0	25.3	0.0	25.3
Receiver Forest Lodge Fl GF Lr24hr,lim dB(A) LAeq,T 37.7 dB(A)													
Bagging Plant	Point	LAeq,T	99.6	99.6		3	1099.60	-71.8	-8.2	0.0	22.6	0.0	22.6
Conveyor Motor	Point	LAeq,T	93.7	93.7		3	1061.40	-71.5	-8.1	0.0	17.1	0.0	17.1
Conveyor Motor	Point	LAeq,T	93.7	93.7		3	962.70	-70.7	-7.9	-4.6	13.5	0.0	13.5
Conveyor Screen	Point	LAeq,T	100.3	100.3		3	964.31	-70.7	-7.9	0.0	24.7	0.0	24.7
Dozer Lagoon 9	Point	LAeq,T	107.5	107.5		3	746.36	-68.5	-7.4	-5.0	29.6	0.0	29.6

Two Oaks Farm
Mean propagation Leq - Importation November 2023 Phase 2B

10

Source	Source type	Time slice	L'w	Lw	I or A	Ko	S	Adiv	Agr	Abar	Ls	dLw	Lr
			dB(A)	dB(A)	m,m²	dB	m	dB	dB	dB	dB(A)	dB	dB(A)
Drying Plant	Point	LAeq,T	100.1	100.1		3	1110.16	-71.9	-8.2	0.0	23.0	0.0	23.0
Excavator Lagoon 9	Point	LAeq,T	103.6	103.6		3	751.65	-68.5	-7.4	-6.9	23.8	0.0	23.8
Forklift	Point	LAeq,T	93.4	93.4		3	1075.58	-71.6	-8.2	0.0	16.6	-3.0	13.6
Gravel Plant	Point	LAeq,T	100.7	100.7		3	1189.00	-72.5	-8.4	0.0	22.8	0.0	22.8
HGV Movements	Line	LAeq,T	62.1	93.6	1412.6	3	1157.85	-72.3	-8.3	-1.4	14.7	12.0	26.7
Infilling HGV Movements	Line	LAeq,T	67.0	98.9	1567.0	3	964.34	-70.7	-7.8	-2.0	21.4	10.0	31.4
Loading Shovel	Point	LAeq,T	101.4	101.4		3	1142.11	-72.1	-8.3	0.0	24.0	-6.0	17.9
Motor Scraper	Point	LAeq,T	104.9	104.9		3	972.84	-70.8	-7.9	0.0	29.2	0.0	29.2
Pumps	Point	LAeq,T	105.0	105.0		3	1193.59	-72.5	-8.4	0.0	27.1	0.0	27.1
Washing Plant	Point	LAeq,T	101.3	101.3		3	1185.12	-72.5	-8.4	0.0	23.5	0.0	23.5
Washing Plant Screen	Point	LAeq,T	103.3	103.3		3	1185.93	-72.5	-8.4	0.0	25.4	0.0	25.4

Appendix C Air Quality Statement

Proposed Increase in HGV Movements, Two Oaks Quarry, Sutton-in-Ashfield

Air Quality Statement

1. Background

1.1. Mansfield Sand Company Ltd (MSCL) proposes to submit to Nottinghamshire County Council (NCC) an application to vary the existing planning permission for Two Oaks Quarry, Sutton-in-Ashfield. Smith Grant LLP (SGP) has prepared the following air quality statement in support of the variation application.

1.2. The current planning permission (ref: 4//2017/0690; granted 13th March 2018) replaces previous granted permissions for the quarry.

1.3. Condition 13 of the existing permission governs the number of heavy goods vehicles permitted to enter and leave the site as follows:

> **Condition 13**:
> *The number of HGVs entering or leaving the site shall not exceed the following:*
> *a) Except for the period 1 May to 30 June inclusive there shall be no more than 200 HGV movements to and from the site in any one working day (100 in, 100 out) and no more than 1100 HGV movements to and from the site in any one week (550 in, 550 out).*
> *b) For the period 1 May to 30 June inclusive there shall be no more than 240 HGV movements to and from the site in any one day (120 in, 120 out) and no more than 1320 HGV movements to and from the site in any one week (660 in, 660 out).*
>
> *Over the course of any calendar year, total HGV movements to and from the site shall not exceed 34,000 (17,000 in, 17,000 out).*

1.4. The current Condition 13 reflects previous variations to the conditions since the original granting of the permission.

1.5. Proposals are to seek a further variation to Condition 13 to allow increases to the permitted HGV movements to and from the site. It is proposed that on an annual basis[1]:

- for the months of May, June and July there shall be 380 HGV movements to and from the site in one working day (190 in, 190 out);

[1] David Tucker Associates (DTA), Two Oaks Quarry, Proposed further variation of Condition 13 to accommodate increased production, Transport Statement, January 2019, RJM/AK/17187-05a TS

- for all remaining months of the calendar year there shall be no more than 320 HGV movements to and from the site in any one working day;
- overall movements shall be 50,000 HGV movements per year (25,000 in / 25,000 out).

1.6. There no proposed changes to any other aspects of the operation such as the mineral reserves, access arrangements or traffic movement prohibitions.

2. Previous Assessments

2.1. The original planning application and subsequent variations, have been supported by a number of air quality assessments and supplementary information as follows:

- R1140-R01-v5, prepared by SGP, January 2010 – Air Quality Assessment;
- R1140-N03, prepared by SGP, November 2010 – provision of supplementary information and assessment in relation to fine particulate matter and vehicle emissions;
- R1140-N04, prepared by SGP, January 2011 – provision of supplementary information and assessment in relation vehicle emissions;
- R1140-N05, prepared by SGP, December 2012 – provision of supplementary information and assessment in relation vehicle emissions;
- JPP2702-R-003, prepared by RPS, February 2012 – Assessment of Air Pollution Impacts on Heathland Habitats and Nightjar and Woodlark of the Sherwood Forest Area;
- JPP2702-R-004a, prepared by RPS, February 2012 – Supplementary Ecological Information
- R2156-Client-L20160222, prepared by SGP, February 2016 – air quality assessment information in support of application to vary permission to permit temporary increased HGV movements in months of May and June;
- R2156-SGP Reports-R01-v2, September 2016 – air quality statement in support of application for increase in annual HGV movements;
- R2156-SGP Reports-R02-v2, November 2017 – air quality statement in support of application for increase in HGV movements in May and June.

2.2. These reports considered the potential impacts of the quarry activities, particularly in relation to vehicle movements and mineral extraction and handling operations, on local air quality, with regards to human health and ecological receptors.

3. Update Local Air Quality Information

3.1. SGP has reviewed the most recently available local air quality information to determine whether there have been any changes that would affect the conclusions of the previous assessments. Reference has been made to the latest air quality report issued by Ashfield District Council

(ADC)[2]. This details the results of the monitoring and assessment work undertaken by ADC in 2017.

3.2. No AQMAs (Air Quality Management Areas) have been declared by ADC within its administrative area, and no areas have been identified as requiring assessment due to poor air quality under the Local Air Quality Management (LAQM) requirements. It is noted that ADC was directed at a national level to carry out work in relation to an exceedance of an air quality objective along a stretch of the A38; this location is distant from the site and it not considered further.

3.3. ADC continues to undertake monitoring for NO_2 across the District using passive diffusion tubes. However, none of these are within the vicinity of the site or associated road network.

3.4. The nearest monitoring location is tube reference 32, located 2.6m to the west-southwest on Lowmoor Road within Kirby in Ashfield (NGR: 450636 356270). This location is distant from the local highway that may be affected by site-related HGV movements; these being along the B6139 Coxmoor Road, A611 or stretch of B6020 to the west of the A6020 / A611 junction. However, the monitoring location does provide information on roadside locations within the town centre where concentrations would be expected to be higher. The annual mean NO_2 concentrations at this location remain well below the UK objective of 40 µg/m^3 at 25.5 µg/m^3 in 2017.

3.5. The latest data provided by Defra for the key pollutants of interest, NO_2 and NOx, for the grid squares in which the site and immediate associated road network is located for the current year (2019) and a future year (2024) are summarised below in Table 1. This data is based on data published in 2017 which takes into account UK-wide monitoring data from 2015 and projections of UK fleet composition and emission factors.

Table 1: Predicted Defra Background Air Quality Data

Grid Square	Location	Predicted Pollutant Concentrations (µg/m^3)			
		NO_2		NO_x	
		2019	2024	2019	2024
452500 356500	A611, B6139 west	11.4	9.5	15.4	12.6
453500 356500	site access, B6139	10.4	8.6	13.9	11.4
452500 355500	B6020 / A611 junction	10.9	9.1	14.6	12.0
453500 355500	B6020 west	10.1	8.5	13.6	11.2
451500 355500	B6020 east	12.3	10.2	16.7	13.7

Data downloaded from Defra website on 6th March 2019; data issued by Defra 13th November 2017

[2] Ashfield District Council (ADC), Air Quality Annual Status Report, June 2018

3.6. The predicted background concentrations of both pollutants in the locality are substantially below the long-term objectives established for the protection of human health (annual mean of 40 $\mu g/m^3$) and ecological systems (annual mean of 30 $\mu g/m^3$).

4. Implications of Proposed Revisions

4.1. The proposals are for increases in permitted HGV movements in any single day and for the overall annual movements.

4.2. The primary assessment criteria used to assess air quality impacts on both human health and ecological systems, and of relevance to the development, are provided on an annual basis, i.e. ambient NO_2 and NO_x concentrations as an annual average concentration and nitrogen deposition critical loads as kg of nitrogen per hectare per year.

4.3. The institute of Air Quality Management (IAQM) provides non-statutory guidance[3] with regards to planning and air quality and sets out advice as to when an air quality assessment should be undertaken in support of a planning application, including in relation to increases in vehicle movements. A criterion of a change of more than 100 AADT (annual average daily traffic) HGV flows is provided as indicating when an air quality assessment may be required where outside an AQMA and on local roads with relevant receptors. Such an assessment may take the form of a Simple or Detailed Assessment.

4.4. The proposals are for an increase of total annual HGV movements to 50,000 compared to the existing permitted 34,000 movements. This represents an increase of 16,000 movements per annum, equating to annual average daily movements of 44 (2-way movements; averaged across a year of 365 days).

4.5. This is substantially below the level of change in HGV movements of +100 AADT that would indicate the need for an air quality assessment.

4.6. These additional movements would be dispersed across the local road network with the maximum increase only experienced at the site access points. Additional average daily movements passed any individual sensitive receptors, would be substantially reduced to 44.

[3] [3] Institute of Air Quality Management (IAQM), Land-Use Planning and Development Control: Planning for Air Quality, January 201, v1.2

4.7. Reference is also made to the original annual HGV limit that was permitted at the site of 27,800. The cumulative increase from this limit to the current proposals is 22,200 HGVs per annum. This would equate to +61 HGV movements as an annual average daily movement (2-way movements; averaged across a year of 365 day). This cumulative increase also therefore remains well below the criterion indicating the need for an air quality assessment.

4.8. The overall proposed annual increase in HGV movements would not therefore result in significant additional ambient NO_2 or NO_x or nitrogen and acid deposition. Further detailed assessment is not considered necessary.

4.9. Similarly, the proposed increased in permitted HGV movements on any particular day to 360 during the months of May, June and July and 320 at other times would not result in significant impacts due to additional NO_2 or NO_x or nitrogen and acid deposition, due to the limit that would continue to be imposed on the overall annual movements.

5. Conclusions

5.1. It is concluded that the proposed amendments to the currently approved traffic movements at Two Oaks Quarry will not have a significant adverse impact on local air quality.