Envireauwater Ltd on behalf of Mansfield Sand Company Ltd

Two Oaks Quarry

Appendix I – Dust and Emissions Management Plan

3020067 – R02 (01) Permit Application

RSK GEOSCIENCES

APRIL 2024

RSK GENERAL NOTES

Project No.: 3020067

Title: Appendix I – Dust and Emissions Management Plan: Two Oaks Quarry

Client: Envireauwater Ltd on behalf of Mansfield Sand Company Ltd

Date: April 2024

Office: RSK Environment Limited, Fourways House, 57 Hilton Street, Manchester, M1 2EJ, UK

Status: Final (Rev 01)

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Date:	11/04/2024	Date:	11/04/2024

Revision control sheet				
Revision ref.	**Date**	**Reason for revision**	**Amended by:**	**Approved by:**
Rev 00	28 March 2024	First issue for client review	n/a	see above
Rev 01	11 April 2024	Final following client review	Charlotte Slade	see above

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1 INTRODUCTION

1.1 Report Context

RSK Environment Limited (RSK) was commissioned by Envireauwater (an RSK Group company) on behalf of Mansfield Sand Company Ltd to prepare a Dust and Emissions Management Plan as part of supporting documentation for an application to obtain a Bespoke Environmental Permit for their site at Two Oaks Quarry, Coxmoor Road, Mansfield, NG18 5BW hereafter referred to as the 'Site'.

A scheme to redevelop the site is proposed which will involve the importation of waste materials to support in the restoration of a sand and gravel quarry to produce a mosaic of acid grass land, low level heathland and marginal wetland habitats in line with Nottinghamshire County Councils approved restoration scheme.

Activities on site will include:

- Back filling and capping the lagoons with waste material from the local area;
- Excavation and drainage of the lagoons on site for back filling; and
- Restoration of the back filled lagoons back to heathland.

Appendix C of the permit application presents a set of site plans for the site.

1.1.1 Dust Management Plan

The Environment Agency (EA) requires sites that apply for a bespoke waste recovery permit to have a Dust Management Plan if they undertake any of the listed activities:

- keeping or treating (or both) aggregates, soils, ashes or similar materials;
- recovery of household, commercial or industrial waste by deposit for recovery; or
- when the site is within 2.00 km of an Air Quality Management Area for PM10 or within 500 m of a sensitive receptor such as a home, school, hospital or nursing home, food preparation facility or similar.

A Dust Management Plan is required whether site operations are undertaken within or outside of a building.

The earthworks being undertaken at Two Oaks Quarry will include the storage, movement and redeposit of waste soils from an outside source onto the site.

The site is within 2.00 km of an AQMA for PM10 and Nitrogen Dioxide as designated by Nottinghamshire County Council. The site is also within 500 m of sensitive receptors such as homes, businesses and primary school, Harlow academy which lies west of the site.

The purpose of this Dust Management Plan is to identify potential sources of dust emissions in association with the proposed waste recovery activity at Two Oaks Quarry site and detail the measures proposed to control them.

The Dust Management Plan will form part of the sites overall Environment Management System.

The Management Plan will be heavily influenced by the Environmental Risk Assessment (ERA) produced to support the Environmental Permit application. The Management Plan will address all the risks outlined within the risk assessment and outline the measures which will be implemented to reduce or eliminate these risks.

It is understood that different sites may experience differing conditions that can potentially affect how issues such as dust are perceived by receptors. The operator will, as part of the onsite day to day duties, ensure that dust is closely monitored. Should any issues be observed then this Dust Management Plan will be reviewed if required, and the implementation of any additional abatement measures will be considered.

A hard copy of the latest version of this document will be available on site for review by site management and staff. It will be kept within the main site office with all other environmental permitting documentation.

The Dust Management Plan is based on the Environment Agency guidance on "Control and monitor emissions for you environmental permit" https://www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit.

1.2 Operator and Agent

The Environmental Permit application and this management plan have been prepared by RSK Environment Ltd (RSK) which is acting as an 'Agent' on behalf of the proposed 'Operator', Mansfield Sand Company Ltd, which is registered in England and Wales as Company Number 03754188.

1.3 Background

The Site is approximately 173 acres. Phase 1 of the quarry workings accounts for 30% of the total acreage. Under planning condition 48, and 56 the site must be progressively restored, and a restoration scheme submitted to the County Council within 12 months of exhausted mineral extraction in each phase of working.

As such, mineral extraction of the whole quarry site will be carried out in 4 phases, with the whole site progressively restored during mineral extraction. The Site will be restored in line with the restoration schemes with imported inert materials, and the stockpiles of topsoil and subsoils previously stripped from the Site.

The restoration proposals aim to return the Site close to existing levels and its previous agricultural use to the South of the Site. Deposit for Recovery operations will be located within the areas marked with a green line on the site plan at **Figure 1.**

The centre of the Site is to be marginal wetland with oak and birch, and the North and West of the Site is to be lowland acid grassland and heathland.

Suitable margins have been left at the perimeters of the excavations to ensure support to adjoining unworked land and to protect retained peripheral boundary features, hedgerows and fencing.

To ensure adequate drainage, there will be a slight gradient from the Site boundaries towards the proposed wetland in the centre of the Site. The final gradient will be approximately 1:30 to permit surface water runoff to the south and southwest of the Site

to existing drainage ditches feeding an existing seasonal pond to the southwest of the Site.

Activities at the Site will be regulated under the Environmental Permitting (England and Wales) Regulations 2016 and will be carried out as defined under Annex II of the Waste Framework Directive can be summarised as follows:

- R10 Land Treatment resulting in benefit to agriculture or ecological improvement;
- R11 Use of waste obtained from any of the operations numbered R1 to R10; and
- R13 Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)

1.4 Existing Information and Limitations

The following reports for the Site have been completed by various consultants and have been gleaned to help inform this report:

Reports:

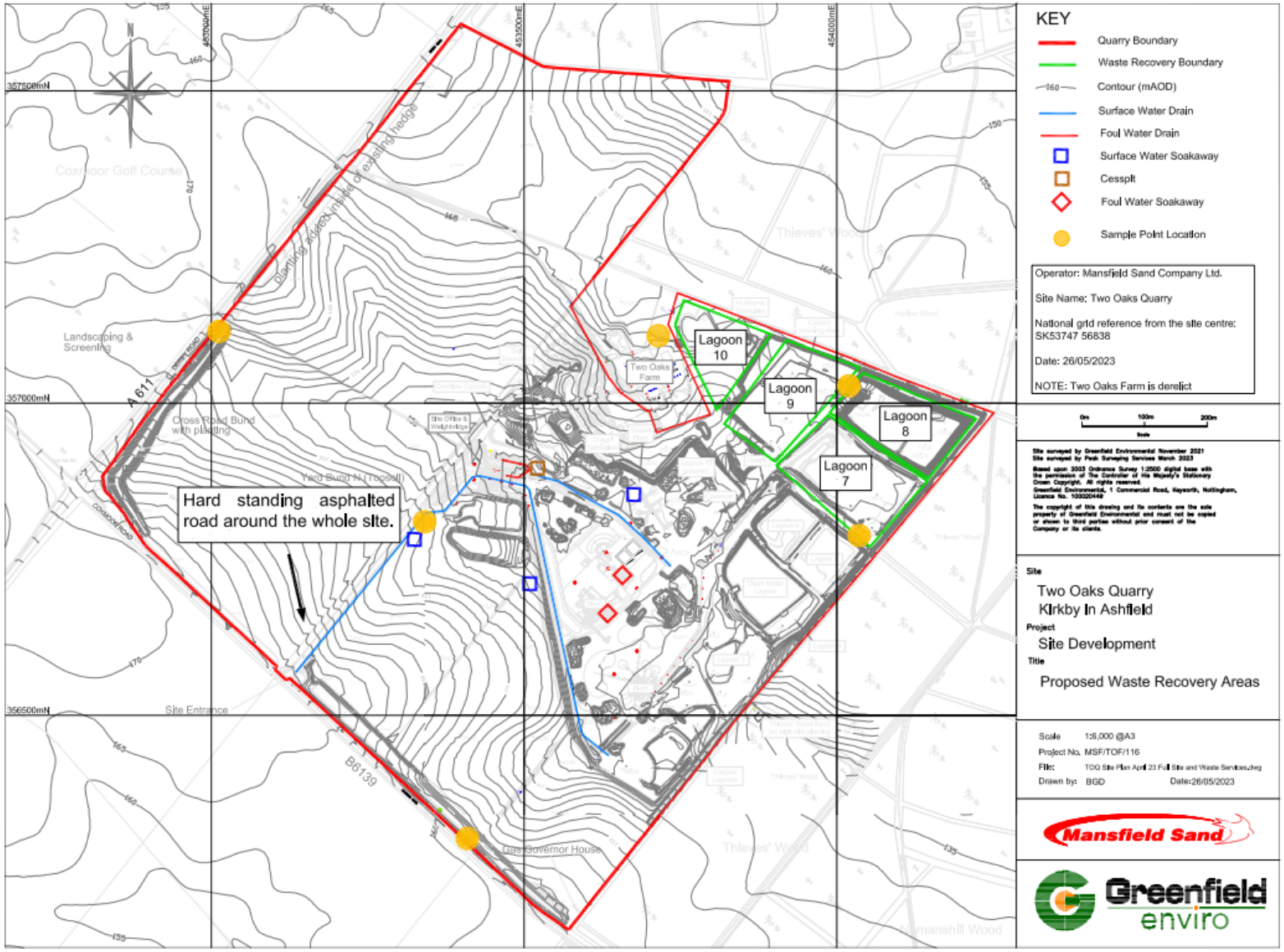
- Environmental Risk Assessment – Envireauwater;
- Hydrological Risk Assessment – Envireauwater; and
- Environmental Setting and Site Design – Envireauwater.

The comments given in this report and the opinions expressed are based on the information reviewed. RSK cannot accept any responsibility for inaccuracies in third party data.

1.4.1 Considerations of Climate Change

Climate change has been factored as a risk as increased winter and summer temperatures could increase dust emissions. This has been considered as part of Envireauwater's Environmental Risk Assessment (ERA) and these measures that have been included in the ERA mitigate the risks associated with climate change in line with government guidance.

Figure 1. Site Plan showing permitted areas within green boundaries



2 SITE DETAILS

2.1 The Site

The Site is located adjacent to Coxmoor Road (B6139), Mansfield. From the North, East and South the Site borders Thieves Wood. Derby Road (A611) borders the North West of the site and Coxmoor Golf Club lies across the road to the North West of the Site. Harlow Academy and Portland College lie to the east of the Site within the wood. Kirkby in Ashfield, a residential area lies to the West, Mansfield town to the north, Harlow wood residential to the east and Ravens head village to the southeast.

The site is 'L' shaped and covers an area of approximately 100.4 hectares (248.1 acres) of mixed agricultural land and the extraction area would be 95.2 hectares (235.2 acres).

A plan showing the Site Boundary Plan is provided at **Figure 1.** The Site is centred on grid reference SK 53131 56573 (closest postcode NG17 7QP).

2.2 Proposed Development

Phase 1 of the quarry workings accounts for 30% of the total acreage. Under planning condition 48, and 56 the site must be progressively restored, and a restoration scheme submitted to the County Council within 12 months of exhausted mineral extraction in each phase of working.

As such, mineral extraction of the whole quarry site will be carried out in 4 phases, with the whole site progressively restored during mineral extraction. The Site will be restored in line with the restoration schemes with imported inert materials, and the stockpiles of topsoil and subsoils previously stripped from the Site.

The restoration proposals aim to return the Site close to existing levels and its previous agricultural use to the South of the Site. Deposit for Recovery operations will be located within the areas marked with a green line on the site plan at **Figure 1.**

2.3 The Surrounding Area

The area surrounding the Site comprises public access forest, residential areas with a school to the east and a Golf Course located to the northwest of the Site as detailed in **Table 1**.

Table 1: Site Setting

To the north:	Thieves woods runs from the north and east to the south of the Site directly sharing a border. The town of Mansfield is located to the north of the Site, beyond the woods.
To the east:	Harlow Academy primary school and Portland College within 500m of the Site. Harlow wood village is situated within Harlow and Thieves wood.
To the south:	The B6139 (Coxmoor road) borders the Site. Agricultural land lies beyond this and Holinwell golf course lies directly south of the site. Ravenshead village is located to the southeast.

To the west:	The A611 (Derby Road) borders the Site to the northwest and across from this lies Coxmoor Golf Club within 500m of the site. Directly West lies Kirkby in Ashfield.

2.4 Prevailing Wind Direction

Information from the website weatherspark.com for the nearest weather station, Alfreton, denotes a westerly prevailing wind. With wind coming from West to East 75% of the time throughout the last 10 years. Local receptors most likely to be affected by dust are therefore those directly adjacent to the site and the east and southeast of the site.

2.5 Waste Acceptance

Waste material will comprise of waste that has been stockpiled on site and waste which has been sourced off site. Waste will be deposited into the lagoons over several phases.

2.6 Sensitive Receptors

Sensitive receptors include, but are not limited to hospitals, schools, childcare facilities, elderly housing and convalescent facilities. These are areas where the occupants maybe more susceptible to the adverse effects of exposure to high levels of dust and particulates.

Receptors that have been considered at and closest to the Site (in each direction) include those detailed in **Table 2.**

Table 2: Sensitive Receptors

Category	Feature	Designation	Distance/direction from site boundary
People and property	Residential areas	n/a	Harlow Village around 600m to the east of the site
Education and Health	Residential care home	n/a	~95.00 m north
	Primary school	n/a	~400m east
Public access / footpaths / playing fields	Thieves Wood	n/a	Shares a boundary
	Coxmoor Golf Course	n/a	~100m northwest
	Open fields	n/a	~100m south
Sensitive land	Rainworth Lakes	SSSI	2.6km west
Drainage systems and watercourse / features	Rainworth Water	n/a	600m southeast

2.7 Watercourses

The nearest main river is Rainworth Water located approximately 600 m to the southeast of the Site, within Thieves Wood. Ditches are present approximately 300 m to the west where they flow along the boundary of the overall quarrying site.

3 OPERATIONS

3.1 Potential Sources of Dust

There are several potential sources of dust identified. The main sources of dust emissions from the site are:

- Dust from excavation and transportation;
- Dust from material stockpiling (wind whipping and exposed surfaces); and
- Re-deposit of material and exposed surfaces.

These are considered in turn in the sections below.

All waste received will be solid. Due to the nature of the waste accepted at site (soil and stone and clay) it is likely to contain a small proportion of fine dust within the load. There will be no liquid wastes or sludges accepted at the site.

3.2 Waste Deliveries and Transportation Across Site

The material will comprise of materials from the local area. Which are to be deposited under the Deposit for Recovery permit in Phase 1. It is not anticipated that any waste will be received and deposited except those outlined in the approved Waste Recovery Plan at **Appendix G of the permit application.**

All vehicles carrying waste will be directed by site staff to the appropriate haulage route where speed limits will be clearly visible. Turning points will be constructed using compacted hardcore materials and road planings to provide a suitable tracking surface to unloading points on site. Dust emissions are more likely to occur if vehicles are driving at speed, and on uneven surfaces.

Dust may arise as a result of these vehicle movements should mud be tracked onto access routes from vehicles exiting the site. If allowed to accumulate on trafficked surfaces it may dry and give rise to dust disturbed from further vehicle movements. A vehicle washdown area will be provided for any vehicles leaving site and deployment of a road-sweeper will be considered should mud on the road become an issue.

All HGVs entering the site to deliver soils and other permitted wastes, and all HGVs leaving the site, shall be fully sheeted.

3.3 Material Stockpiling

Material stockpiles could give rise to emissions if allowed to dry out and exposed to wind. Covering of stockpiles, damping down and reducing stockpile sizes will be used to minimise any potential impact from wind whipping or windblown material.

Materials which are being tested will be stockpiled prior to re-deposition on site.

Topsoils and subsoils will be stripped and stockpiled separately on Site for later use in its restoration or processed into manufactured soil substitutes if the topsoil does not meet the standard for restoration.

Stockpile heights should not exceed 10.00 m.

3.4 Overview of Waste Processing

As outlined in section 1.1, it is intended to use waste materials from the local surrounding area that are permitted as stated within the Waste Recovery Plan. There will be some site derived soils used to blind over the capped lagoons. It has been calculated that a total of 296,000 tonnes of wastes will be required.

Material acceptance, testing and clarification will be undertaken in accordance with a Waste Acceptance Procedure. These materials will be screened, and where required validation tested prior to deposition to the required formation levels for the development.

A Construction Quality Assurance (CQA) plan will be put in place to ensure that the attenuation layers are of the correct thickness and permeability and are constructed using suitable materials. Following completion of the works a CQA Report will be prepared summarising the works undertaken and presenting the results of laboratory and in-situ testing carried out during the works.

It is currently anticipated that the handling and placement of waste will involve the use of:

- Tracked excavator (15 tonne or similar);
- D6 Bulldozer;
- Non-vibrating and Vibrating Rollers;
- Tractor and water bowser; and
- Tipper trucks/HGVs.

The following precautionary measures will be adhered to should stockpiling be required:

- The stockpile will be clearly signed in order to prevent accidental use of the soils;
- Depending on the reason for temporary storage of soils on site (i.e., suspicion of contamination and awaiting removal) then the stockpile may have to be placed on suitable material (i.e., polythene sheeting, lapped up at the edges) to prevent migration or spreading of contaminants to the underlying soils. If necessary, the stockpile may have to be covered with polythene sheeting or tarpaulin material in order to suppress any dust which may arise from the soils; and
- While the stockpile is uncovered, for example during removal, the soils may need to be wetted down through the use of water spraying.

4 DUST AND PARTICULATE MANAGEMENT

4.1 Responsibility for Implementation of the Management Plan

Responsibility for implementing the dust management plan rests with the site manager and their nominated deputy during their absence. The site manager may delegate some of the responsibilities to site staff to ensure that the objectives of the dust management plan are achieved.

The site manager will ensure that the dust management plan is reviewed once every 4 years, following any significant changes to the infrastructure and operations on site or following a request by the regulator. Any updates will be recorded within the table at the front of this document.

The site manager will ensure that all site staff are aware of their responsibilities with regards to dust on site and that they are aware of what they need to do should dust be observed or reported.

It is not anticipated that any specific training (other than instruction on the requirements of the environmental permit and the dust management plan) will be required, but this will be reviewed should dust become an issue.

4.2 Sources and Control of Fugitive Dust Emissions

Table 3 and **Table 4** identify potential sources of dust and outlines the measures to be used on site to control dust.

Table 3: Potential Sources of Dust

Source	Pathway	Receptor	Type of Impact	Where pathway can be interrupted
Excavation and movements of materials on site	Airborne dust during loading and movements of materials Debris falling off lorries Tracking dust on wheels and vehicles, then mud dropping off wheels/vehicles when dry	Site staff Local residents Local businesses Local recreation areas (off site)	Visual soiling, also consequent resuspension as airborne particulates resulting in possible health risk Mud on roads when wet can be slippery	Careful driving to prevent debris spilling off wagons. Speed limits to be restricted to 10mph around site. As per the planning requirements. 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. This also applies to any HGVs carrying waste materials.
Loading and unloading of vehicles	Airbourne dust	Site staff Local residents Local businesses Local recreation areas (off site)	Airborne particulates	Minimise drop heights when unloading and stockpiling of materials. Tipping/loading will not be undertaken during extremely windy weather conditions.
Material stockpiling on - site	Airborne dust (windy conditions or from soils handling)	Site staff Local residents Local businesses Local recreation areas (off site)	Resuspension as airborne particulates	Stockpiling management and positioning of stockpiles away from site boundaries Covering of stockpiles to prevent windblown fugitive dust emission where practicable. Prevailing Wind direction is towards Rainworth lakes SSSI.
Deposits and exposed surfaces	Airborne dust (windy conditions or from soils handling) and traversing across the site	Site staff Local residents Local businesses Local recreation areas (off site)	Airborne particulates	Maintaining site surfacing and good housekeeping. Use of water suppression and covering of exposed surface if required. Materials placement and compaction of re-deposited materials.

Table 4: Measure Used on Site to Control Dust

Abatement measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
Stockpile size	By managing the size of stockpiles on site the risk of dust can be reduced.	Stockpiles shall not exceed 3.00 m in height in the case of topsoil or exceed 5.00 m in height in the case of subsoil and all other materials, unless otherwise agreed in writing by the Local Planning Authority.	Limiting stockpiles will reduce the risk of dust being kicked up by gusts. Clear signs relating to stockpile size should be used to ensure heights are not exceeded.
Distance	Maintaining a reasonable distance between the source and receptor will allow particulate matter to settle before it can impact upon the receptor.	Ensuring that any waste storage and depositing activities are located a reasonable distance from the site boundary at all times will reduce any impact.	Waste activities will move around the site as the different parts of the site are developed. If waste storage areas are moved the new site will be assessed to ensure that the activities are a suitable distance from any nearby receptors.
Staff Education on Dust Risk & implications	All employees will receive Tool Box Talks on the long-term health concerns of respirable dust and how to reduce and mitigate dust.	If staff are educated on how to reduce dust emissions on site then there will be a lower risk of dust being emitted from the site.	This will be a standard part of site induction and standard toolbox talks. All site staff will receive dust specific training at yearly intervals.
Good house-keeping	Having a consistent, regular housekeeping regime that is supported by management, will ensure site is regularly checked and issues remedied to prevent and remove dust and particulate build up.	Good housekeeping will be required by all employees to ensure the site is kept clean and tidy. This will be implemented and will require minimal equipment. Staff will carry out regular monitoring of the site and ensure that it is kept tidy. Site management will also undertake regular inspections of the site and ensure that cleaning equipment is available at all times. Road sweepers may be required on occasion to ensure that any roads and surfaced areas are kept tidy.	Good housekeeping is a requirement of all staff, and site management will be responsible for ensuring high standards. Regular daily site checks will be undertaken to ensure standards are in line with housekeeping procedures
Sheeting of vehicles	Prevents the escape of debris, dust and particulates from vehicles as they travel.	Waste is not anticipated to be accepted from off-site but should this be required waste will likely be received onto site within skip wagons of various sizes. All wagons arriving on site should be sheeted.	Open skips or wagons will often be used for delivering waste to site. Open wagons will be sheeted, and the sheeting will be removed at the site entrance prior to waste acceptance checks being undertaken. Site staff may require drivers to re-sheet vehicles before proceeding to any waste laydown areas on site to reduce dust in the air.

Abatement measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
			A maximum-speed-limit of 15 mph on surfaced and 10 mph on un-surfaced haul roads and work areas will be implemented on site.
Sheeting of outgoing vehicles	Prevents the escape of debris, dust and particulates from vehicles as they travel.	In the very unlikely event that waste is accepted at site and unaccepted waste is required to leave site this will usually be contained within open wagons or large skips. It will be ensured that any open wagons and skips are sheeted for transport. Empty wagons may also contain residual dust and may require sheeting unless they have been cleaned out.	Empty wagons may be required to hose down or re-sheet to reduce dust generation.
Easy to clean concrete impermeable surfaces	Creating an easy to clean impermeable surface, such as concrete compound areas and 'surfaced' site roads. This should reduce the amount of dust and particulate generated at ground level by vehicles and site activities.	Site road surfaces will be regularly assessed and repaired where necessary to prevent potholes and rutting. Site management will ensure roads in operational areas are maintained and cleaning procedures are implemented.	All road surfaces will be regularly checked by site staff and any repairs done swiftly to prevent potholes and other forms of damage.
Dirty transport	Tracking dust on wheels and vehicles, then mud dropping off wheels/vehicles when dry.	A vehicle washdown area will be available on site that will be used to regularly clean vehicles. If a vehicle is identified as being too dirty following a collection or delivery it will be directed to the washdown area.	All road surfaces will be regularly checked by site staff and any mud resulting on surfaces will be reported and action taken.
On-site sweeping	Sweeping could be effective in managing larger debris, dust and particulates but may also cause the mobilisation of smaller particles. Road sweeping vehicles damp down dust and particulates whilst brushing and collecting dust and particulates from the road surface, particularly at the kerbside.	Sweeping will be routinely undertaken by site staff as part of good housekeeping practices. Checks will be undertaken on site to monitor the state of surfaces. If site management deem a road sweeper is required it will be arranged. This will be provided by a road sweeper daily.	Routine cleaning of the access route through the holiday park will be undertaken. Sweeping may also be done at other times should it be required. Regular daily site checks carried out by site management may lead to sweeping being done if issues are identified.

Abatement measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
Water suppression with hoses & water jets	Damping down of plant and site areas using hoses can reduce dust and particulate re-suspension and may assist in the cleaning of the site if combined with sweeping.	Hose pipes will be available on site and can be used if required to damp down surfaces to help prevent dust issues.	Site staff will be told to damp down site areas and plant where appropriate should it be required. Regular daily checks carried out by site management may lead to water suppression being implemented if issues are identified.
Ceasing operation during high winds and/or prevailing wind direction	Mobilisation of dust and particulates is likely to be greater during periods of strong winds and hence ceasing operation at these times may reduce peak pollution events.	All waste will be stored and handled outdoors and as a result high winds are likely to result in mobilisation of dust. If winds are strong enough to affect operations and mitigation measures are not possible then operations will need to cease on site. Stockpiles should be orientated parallel to the direction of the prevailing wind to reduce the surface area exposed, where possible.	Decisions to cease operations on site will be made by site management.
Dusk Mask Availability for staff on site	Dusk Masks are available to prevent staff being exposed to dust.	Dust Masks are located around the site for staff to access.	Increased dust levels.

4.3 Dust Monitoring

Dust from activities on the site has the potential to impact upon nearby receptors. Therefore, during routine daily site checks around the perimeter of the site and around any waste storage area; the presence of dust both in the air and on surfaces will be checked. Particular focus will be given to areas of the site that are downwind of any activities being undertaken.

It is recognised that some dust (PM10 and PM2.5) may not be visible to the naked eye. However, dust of this size will usually be present with larger visible particles.

Dust monitoring surveys are carried out at regular intervals and the results communicated to the workforce. All airborne dust is monitored through frisbee gauges and results sent to the Environmental Health Officer monthly.

If dust is identified as being present either onsite or off-site then it will be investigated. This investigation will include identifying the source of any dust, considering additional monitoring, assessing the impact of the dust and taking action to prevent further dust emissions.

If dust is an issue then the operator will also consider instigating a monitoring plan that considers the type of monitoring required, the best times to take samples and the most appropriate locations. This monitoring plan would also provide details around the type of equipment used (i.e., frisbees), where it is best installed (i.e., at operational areas, at the site boundary and near any sensitive receptors), the training required by staff to undertake the monitoring and the reporting of data.

The Environment Agency have produced Technical Guidance Note M17 – Monitoring Particulate Matter in Ambient Air around Waste Facilities. This document details the EA's approach to monitoring dust and provides methods used for regulatory purposes. This document, or any document that supersedes it, will be used to plan an appropriate approach to dust monitoring, should it be required.

4.4 Summary of Measures

All waste storage and deposit will take place outside and the nature of the waste accepted means that there is a small risk of dust particulates which could affect nearby sensitive receptors. Mitigation measures will be applied to prevent the risk of dust emissions.

It is anticipated that the proposed prevention measures will be sufficient to ensure that the risk of dust is controlled on site. Prevention measures proposed include (but are not limited to):

- Imposing and signposting a maximum-speed-limit of 15 mph on surfaced and 10 mph on un-surfaced haul roads and work areas;
- Regularly inspecting on-site haul roads to ensure their integrity and ensuring necessary repairs are arranged as soon as possible; Ensuring vehicles entering and leaving areas of the Site are covered (sheeted) to prevent escape of materials during transport;
- Stockpiles should be orientated parallel to the direction of the prevailing wind to reduce the surface areas exposed where possible;

- Providing a vehicle washdown area;
- Good housekeeping to ensure that surfaces are kept clean and free of excessive dust and debris; and
- Damping down with hose pipes and spraying equipment on dry and windy days.

However, should conditions still be dusty then the operator will investigate the source of any dust issues and assess the scale of impact to staff, neighbours and the local area. Based on this assessment, appropriate steps will be recommended and taken to prevent further dust emissions. This may include (but is not limited to):

- Undertaking unscheduled site inspections to check activities on site are being undertaken responsibly;
- Removal of dust source (if appropriate). This may include moving any dust generating machinery/plant away from receptors;
- Damping down with hose pipes and spraying equipment during dry conditions
- Cleaning of surfaces; and
- Use of a road sweeper.

The operator may also consider ceasing operations until conditions are more favourable, and dust is no longer being generated (i.e., works on dry very windy days may generate or increase dust dispersal).

5 COMPLAINTS MANAGEMENT AND REPORTING

A formal complaints procedure will be developed. Complaints may be received via emails or letters, by person and by telephone.

All complaints and queries will be immediately logged. Complaints will be acknowledged within 24 hours of receipt where possible and the complainant will be provided with relevant contact details where appropriate.

All complaints will be investigated by staff on site immediately and feedback provided to the complainant by staff familiar with managing and responding to such issues.

Complaint investigations should instigate on site monitoring for dust at all potential sources and around the perimeter of the site. Investigations may also involve monitoring at the complainants location (if known).

Records of any complaint should include the following details:

- Name and contact details of complainant (if known);
- Description of dust (colour, quantity);
- Location of dust (if known);
- Date, time, duration, prevailing weather conditions should be recorded (including as a minimum wind direction and strength, and temperature, i.e. warm, mild, cold if degrees not available);
- Onsite activities and operational conditions on site at time of complaint;
- Details of any likely sources of the dust (even if not from the Two Oaks Quarry Site);
- Details of any corrective actions taken, and any subsequent changes to monitoring and/or operational procedures; and
- The Environment Agency will be informed of the complaint as soon as reasonably possible.

A regular review of the above complaint procedure will be undertaken to ensure it is effective.

6 SUMMARY

Mansfield Sand Company Ltd recognise that there is a very small risk of dust being generated on the site from the proposed activities.

This Dust Management Plan details any potential sources of dust at the site and outlines what measures have been put in place to prevent or minimise the risk of airborne particles.

Preventative measures as detailed above will be implemented during any works involving the acceptance, storage or deposition of wastes with the potential to generate dust. Mansfield Sand Company Ltd will constantly monitor activities on site and site staff will be instructed to report any arisings of dust onsite or any instances where dust is observed offsite.

All observations of dust will be reported to site management who will report within the site diary or on daily check sheets.

Mansfield Sand Company Ltd will review this Dust Management Plan every four years to ensure it remains up to date unless there are any substantial changes to the site infrastructure and operations, or they are required to by the regulator.

APPENDIX A
SERVICE CONSTRAINTS

1. Service Constraints for all Reports

1.1. This Report (the “Report”) and any study, inspection, investigation, sampling, testing and or interpretation carried out in connection with the Report (together the "Services") were compiled and carried out by RSK Environment Limited (RSK) trading as Carbon Zero Consulting, Leap Environmental or RSK Geosciences, for the Client named in the first paragraph of the Report (the "Client") in accordance with the terms of an RSK Fee Proposal including RSK Environment Standard Terms and Conditions (the “Appointment”) between RSK and the Client, unless otherwise stated in the first paragraph of the Report. The Services were performed by RSK with the reasonable skill and care ordinarily exercised by a geo-environmental consultant at the time the Services were performed. Nothing in this Report shall be construed as imposing any fitness for purpose obligation. Further, and in particular, the Services were performed by RSK taking into account the limits of the scope of works required by the Client, the time scale involved and the resources, including financial and manpower resources, agreed between RSK and the Client.

1.2 Other than that, expressly contained in paragraph 1 above, RSK provides no other representation or warranty whether express or implied, in relation to the Services. RSK shall not be liable in respect of any action or proceedings arising out of or in connection with this Report whether in contract, in tort, for breach of statutory duty or otherwise after the expiry of six (6) years from either (i) the date of the Report or (ii) such earlier date as prescribed by law, unless varied in the terms of the Appointment.

1.3 Unless otherwise agreed in writing, the Services were performed by RSK exclusively for the purposes of the Client. RSK is not aware of any interest of or reliance by any party other than the Client in or on the Services. Unless expressly provided in writing, RSK does not authorise, consent, or condone any party, other than the Client relying upon the Services. Should this Report or any part of this Report, or details of the Services or any part of the Services, be made known to any such party, and such party relies thereon, that party does so wholly at its own and sole risk, and RSK disclaims any liability to such parties. Any such party would be well advised to seek independent advice from a competent geo-environmental consultant and/or lawyer.

1.4 The Client shall not, without the prior written consent of RSK, assign, transfer, charge, mortgage, subcontract, or deal in any other manner with all or any of the benefits provided in this Report. Unless specified in the Appointment, RSK shall not be obliged to assign the benefit of the Report whether by collateral warranty, third party rights pursuant to the Contracts (Rights of Third Parties) Act 1999, letter of reliance or otherwise. If RSK agrees to any assignment of the benefit of this Report, in whatever form, benefits to third parties through collateral warranties, third party rights or letters of reliance shall not be provided unless a fee for each right, warranty or letter is agreed. The form of wording used in the warranty or letter shall be provided by RSK for agreement by the Client. Any reasonable changes to the form of wording will be implemented by mutual agreement, however the terms in the warranty or letter cannot offer the third party any greater benefit than the Appointment offered to the Client.

1.5 It is the understanding of RSK that this Report is to be used for the purpose described in the introduction to the Report. That purpose was a significant factor in determining the scope and level of

the Services. Should the purpose for which the Report is used, or the proposed use of the site change, this Report may no longer be valid and any further use of or reliance upon the Report in those circumstances by the Client without the review and advice of RSK shall be at the Client's sole and own risk. RSK shall not be liable for any use of this Report for any purpose other than that for which it was provided.

1.6 The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the Report inaccurate or unreliable. The information and conclusions contained in this Report should not be relied upon in the future without the written advice of RSK. In the absence of such written advice of RSK, reliance on the Report in the future shall be at the Client's own and sole risk.

1.7 The observations and conclusions described in this Report are based solely upon the Services which were provided pursuant to the agreement between the Client and RSK. RSK has not performed any observations, investigations, studies or testing not specifically set out, or required by the Appointment between the Client and RSK. RSK is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this Report, RSK did not seek to evaluate the presence on or off site of asbestos, invasive plants, electromagnetic fields, lead paint, heavy metals, radon gas, fuel storage, persistent bio-accumulative or toxic chemicals (including PFAS and related compounds) or other radioactive or hazardous materials, unless specifically identified in the Services.

1.8 The Services are based upon RSK's observations of existing physical conditions at the Site gained from a visual inspection of the site together with RSK's interpretation of desk based publicly available information, including documentation, obtained from third parties and from the Client on the history and usage of the site, unless specifically identified in the Services and the limitations below:

a.The Services were based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely.

b.The Services were limited by the accuracy of the information, including documentation, reviewed by RSK and the observations possible at the time of the visual inspection.

c.The Services did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the Client or third parties, including laboratories and information services, during the performance of the Services.

d.The Client has identified in writing to RSK, the information, reports, findings, surveys and preliminary works RSK may not rely upon when providing the Services.

RSK is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to RSK, and including the doing of any independent investigation of the information provided to RSK, save as otherwise provided in the terms of the Appointment between the Client and RSK.

1.9 Any site drawing(s) provided in this Report is (are) not meant to be an accurate base plan for scale measurement but is (are) used to present the general relative locations of features on, and surrounding, the site. Features (intrusive and sample locations etc) annotated on site plans are not

drawn to scale but are centred over the approximate location. Such features should not be used for accurate setting out and should be considered indicative only.

1.10 Should RSK be requested to review the Report after the date of issue of this Report, RSK shall be entitled to additional payment at the existing rates, or such other terms as agreed between RSK and the Client.

2. Service Constraints where the Report provides an intrusive assessment of ground conditions:

2.1 The intrusive environmental ground investigation aspects of the Services are a limited sampling of soil from the site, at pre-determined locations based on the known historic / operational configuration of the site. The conclusions given in this Report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent of the limited area depends on the properties of the materials adjacent and local conditions, together with the position of any current structures and underground utilities and facilities, and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters (as stipulated in the scope agreed between the Client and RSK, based on an understanding of the available operational and historical information) and it should not be inferred that other chemical species (not tested) are not present.

2.2 The comments given in this Report and the opinions expressed are based on the ground conditions encountered during the site work and on the results of tests made in the field and in the laboratory. The extent of the exploratory holes, laboratory testing and monitoring undertaken may have been restricted due to a number of factors including accessibility, the presence of buried or overhead services, current development, site usage, timescales or the Client's specification. The exploratory holes only assess a small proportion of the site area with respect to the site as a whole, and as such may only provide an indicative assessment of ground conditions on site. There may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account. In particular, it should be noted that there may be areas of made ground not detected due to the limited nature of the investigation or the thickness and quality of made ground across the site may be variable. In addition, groundwater levels and ground gas concentrations and flows, may vary from those reported due to seasonal, or other, effects and the limitations stated in the data should be recognised. The presence of hotspots of undisclosed contamination or exceptional and unforeseen ground conditions cannot be discounted.

2.3 Where the Services include Investigation of an exploratory nature or relating to physical ground works, any costings and prices provided in the Report are estimated and provided for guidance purposes only. The actual cost and time quantities shall be remeasured and shall be dependent upon the ground or other conditions, constraints present, and number and depth of the investigation locations, which shall influence the number of samples and tests required, and the quantities of soil being classified.

2.4 Asbestos is often observed to be present in soils in discrete areas. Whilst asbestos-containing materials may have been locally encountered during the fieldworks or supporting laboratory analysis, the history of brownfield and demolition sites indicates that asbestos fibres may be present more widely in soils and aggregates, which could be encountered during more extensive ground works. However, this Report does not constitute an asbestos survey. On this basis, the presence of asbestos on site cannot be discounted and a full asbestos survey should be undertaken.

2.5 Unless stated otherwise, only preliminary geotechnical recommendations are presented in this Report and these should be verified in a Geotechnical Design Report, once proposed construction and structural design proposals are confirmed. Eurocode 7 gives guidance on the type of sampling, sample quality, number and spacing of intrusive investigations, and number of laboratory tests required. It is intended that the Geotechnical Information section of this Report will fulfil the general requirements of the Ground Investigation Report as set out in section 6 of Eurocode7, although this is subject to the restrictions imposed on the investigation, as listed above. For geotechnical design, Eurocode 7 requires the Geotechnical Design Report to address both the geotechnical and structural aspects of the geotechnical design for both the limit and serviceability states. The Geotechnical Appraisal section of this Report will not meet the requirements of a Geotechnical Design Report (GDR) and should therefore be used for preliminary guidance only.

3. Service Constraints where the Report relates to Surface Water Management:

3.1 The Surface Water Management Inspection (SWMI) Report, documents provided, observations, actions, and recommendations, with respect to the management of potential pollution issues to surface waters, made during the site Inspection visit, are those present at the time of the visit, and may not represent those recorded by others on the same day.

3.2 The comments given in this Report and the opinions expressed are based on the weather, ground and ground water conditions encountered during the site work and on the results of tests made in the field and in the laboratory. However, there may be conditions pertaining to the site that have not been disclosed by the inspection and therefore could not be taken into account. In addition, groundwater levels and flows, may vary from those Reported due to seasonal, or other, effects and the limitations stated in the data should be recognised.

3.3 RSK places a degree of dependence upon oral information provided by site representatives, which is not readily verifiable through visual inspection, or supported by any available written documentation. RSK shall not be held responsible for conditions or consequences arising from relevant facts that were not fully disclosed by facility or site representatives at the time this Report was prepared.

3.4 This Report is a live document, to be continually reviewed and updated as the development progresses or other changes occur on site. RSK can only maintain the currency of this Report through the Client requesting support with supplementary site visits or attendance at meetings ahead of key stages of the development in relation to surface water management. Our risk rating assesses a number of risk factors in line with the source-pathway- receptor model and is therefore subject to constant change.

3.5 Standard design drawings are indicative. Material types, dimensions and construction details will need to be adjusted by the Client to suit the specific conditions / flows on Site.

3.6 The full responsibly for implementing the site-specific protection and maintenance measures to protect the surface water system as stated in this Report, remains with the Client and their site management team. Additional control measures may be required to achieve the objectives set out in the Surface Water Management Plan to be implemented and financed by the Client.

4. Service Constraints where the Report relates to Waste Management:

4.1 In accordance with the definition provided in the Waste Framework Directive (WFD), materials are only considered waste if ‘they are discarded, intended to be discarded or required to be discarded,

by the holder'. Naturally occurring soils are not considered waste if re-used on the site of origin for the purposes of development. Soils such as made ground that are not of clean and natural origin (irrespective of whether they are contaminated or not) and other materials such as recycled aggregate, do not necessarily become waste until the criteria above are met. Excavation arisings from the development may therefore be classified as waste if surplus to requirements and/or unsuitable for re-use.

4.2 It is the duty of the waste producer, to ensure that all waste is accurately classified prior to waste disposal. Technical Guidance WM3 (EA, 2018) sets out in its Appendix D requirements for waste sampling. It is a legal requirement to correctly assess and classify waste. The level of sampling should be proportionate to the volume of waste and its heterogeneity. Unless otherwise stated, the waste assessment presented in this Report should be considered as preliminary and further testing and assessment of the waste under the provisions of a Waste Sampling Plan may be required to obtain the necessary level of data required for basic characterisation of the waste in support of disposal.

4.3 Unless stated otherwise in the Report, information relating to historical operations at the site was not reviewed as part of the assessment by RSK. In addition, unless otherwise stated in the Services, RSK was not present during the collection of the samples nor had any input on the chemical testing suite. Therefore, the waste assessment and classification detailed in this Report are based solely on any information that were provided to RSK (e.g., laboratory chemical data, exploratory hole records) and were completed without prejudice for our Client.

4.4 RSK's assumes that any ground investigation data, chemical testing results etc., that were provided by the Client to inform the waste assessment and supporting review were carried out in accordance with current best practice and relevant guidance/ standards, where applicable. Thus, the comments given in this Report and the opinions expressed are based solely on the information provided by the Client. However, it is noted that there may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account as part of the RSK assessment.

5. Service Constraints for Construction Environmental Management Plan Reports:

5.1 This Report should be considered in the light of any changes in legislation, statutory requirement or industry practices that may have occurred subsequent to the date of issue.

5.2 The measures and comments outlined in this Report and any opinions expressed are based on the plans provided at the time and discussions with relevant parties. However, there may be conditions pertaining to the site that have not been disclosed by investigations and therefore could not be taken into account.

5.3 This CEMP is a live document and is subject to change throughout the project, as and when necessary, to ensure management of environmental aspects remains relevant, and to ensure continued compliance with legislation and commitments as they may change. RSK understands that this CEMP will be reviewed by the Client every six months and updated as and when necessary.

5.4 It is the full responsibility of the Principal Contractor/ Client to ensure that their works do not contravene legal requirements, and adherence to this CEMP alone cannot be a full defence regarding legal action against the Principal Contractor.

6. Service Constraints where the Report relates to Ground Gas Membrane Verification:

6.1 This Report is limited to the verification of the gas resistant membrane/vapour membrane/ radon barrier after installation and no inspections were undertaken of the substrate (i.e. prepared ground). The Report therefore does not constitute as a full verification of ground gas protection system.

6.2 The comments given in this Report and the opinions expressed, are based on the condition of the ground gas membrane as encountered at the time of inspection by suitably qualified personnel. RSK cannot accept liability for any subsequent change to the status of the gas membrane by follow-on trades or other construction activity.

6.3 Where not designed by RSK, the verification of protection measures is carried out with reference to the gas protection design provided by the Client. RSK assume the scope of gas protection measures as determined by third parties to be correct and to have achieved any required approval from authorities.

6.4 The Ground Gas Design Report/Remediation Strategy and Verification Plan contains details of the procedures to be adopted for inspection and validation of the works. However, it should be noted that responsibility for the correct implementation of the strategy lies with the appointed contractor. RSK cannot be held responsible for any remedial works that are carried out without the agreed procedures involving either direct supervision by RSK, or inspection and validation of the works by a representative from RSK.

7. Service Constraints for Environmental Due Diligence (EDD)Reports:

7.1 The comments given in this Report and the opinions expressed are based on the information obtained and reviewed as part of the desk-based assessment. However, there may be conditions pertaining to the Site that have not been disclosed by the assessment and therefore could not be taken into account. Furthermore, no intrusive investigations, monitoring or sampling have been undertaken to confirm the environmental status of the site, therefore any comments relating to ground conditions and subsurface contamination are based solely on a review of desk-based information.

7.2 This Report describes the results of the EDD exercise. The scope of this EDD Report, where appropriate, covers legal or regulatory compliance with respect to UK or international regulations associated with environmental matters.

7.3 As with any EDD exercise, there is a certain degree of dependence upon information provided by the target company. The EDD does not include a site walkover / visit or liaison with site representatives unless identified in the Services. Therefore, the assessment is based on the available desk study information. Also, there is a certain degree of dependence upon oral information provided by site representatives, which is not readily verifiable through visual inspection, or supported by any available written documentation. RSK shall not be held responsible for conditions or consequences arising from relevant facts that were not fully disclosed by facility or site representatives at the time this EDD exercise was performed.

7.4 This Report, including all supporting data and notes (collectively referred to hereinafter as "information"), was prepared or collected by RSK for the benefit of its Client.

7.5 The comments given in this Report and the opinions expressed are based on the information obtained and reviewed as part of the desk-based assessment and the site inspection visit. However, there may be conditions pertaining to the Site that have not been disclosed by the assessment and therefore could not be taken into account. Furthermore, no intrusive investigations, monitoring or sampling have been undertaken to confirm the environmental status of the Site therefore any comments

relating to ground conditions and subsurface contamination are based solely on a review of desk-based information and observations collected during the site inspection visit.

8. Service Constraints for Ground source heat energy Reports:

8.1 It is understood that this is a desktop survey only and that there are no requirements for a site walkover, service utility survey, or provision of service plans. These services can be provided upon request if required.

8.2 At a later stage, it is possible that a thermal response test (TRT) will need to be completed, for which a test borehole will have to be drilled, and these would be costed at the time. RSK can provide all aspects of subsequent site work for a GSHP system if required.

9. Service Constraints for Water Abstraction Borehole Reports:

9.1 The Report aims principally to only identify and assess the suitability of the site for a water abstraction borehole. This Report should be considered in the light of any changes in legislation, statutory requirements, and industry practices, that have occurred subsequent to the date of the Report.

9.2 Unless stated in the Report, the opinions expressed in this Report including all comments and recommendations provided are on the basis of the information obtained from a desk-based assessment.