DUST MANAGEMENT PLAN

203040/DMP
October 2023

Smeaton Industrial Park
Went Edge Road
Kirk Smeaton
Pontefract
WF8 3LU

1. SCOPE OF PLAN AND SITE DETAILS

1.1 This dust emissions management plan sets out how the risk of poor air quality emissions will be managed at Went Edge Quarry, operated by Wentvalley Aggregates and Recycling Ltd (the Operator). The plan supports the application for the proposed works to cap and re-profile the existing quarry.

1.2 The purpose of this plan is to:

- minimise the emissions of dust, particulates and NO_2 produced by site activities, as far as is practicable, using appropriate best practice measures; and
- mitigate the potentially adverse impacts of the residual emissions of dust, particulates and NO_2 after all appropriate control measures have been applied with due regard to the sensitivity of the local surroundings.

1.3 This management plan incorporates industry good practice to ensure the air quality emissions risk remains low during the site's operation. The plan has been developed following the principals set out in the EA dust control guidance. The relevant guidance in these plans relates primarily to construction processes which are consistent with those operated at the manufacturing site and present good industry practice. To note, this is a relatively short-term earthworks construction project anticipated to only take 2 to 3 years to import material.

1.4 The site is located off Went Edge Road circa 6 km south east of the centre of Pontefract (National Grid Reference - SE 49965 17053). The site location plan is presented in drawing 203040/D/001.

The site will include a temporary material storage area, placement of imported suitable engineering fill, and a quarantine area. The site will be accessed from the access track which connects to Went Edge Road. The whole permitted area is secured by a combination of fencing and vegetation along the borders. The proposed site layout and access is detailed by drawing 203040/D/004. The proposal involves the import and use of circa 296,890 m^3 over a 3-year period.

1.5 The movement, storage and placement of waste may generate particulates and litter. The sources of emissions and associated controls are described in Section 4 of this plan. The plan sets out the proactive and reactive measures that will be implemented to control the emissions during standard and abnormal operational circumstances. These controls are described in subsequent sections.

1.6 In the event that the implementation of controls fails, corrective actions will be identified and implemented.

1.7 The scope of this management plan follows the Environment Agency's (EAs) requirements set out in the Dust and Emissions Management template. Monitoring is in line with EA Guidance M17.

2. WASTE OPERATIONS

2.1 The operations on site will involve transfer, placement and storage of inert waste streams originating from construction and demolition waste. The site layout includes access / egress from the north of the site via the tarmac access road. Lorries will drive directly to the area of placement (dependent on work programme). An excavator and/or bull dozer will spread the directly tipped material into the final landform area. Topsoil has already been removed as part of the previous quarry workings The topsoil provides good screening along the southern edge of the site.

2.2 Table 1 sets out the waste streams, waste management activities and the potential for fugitive particulate emissions.

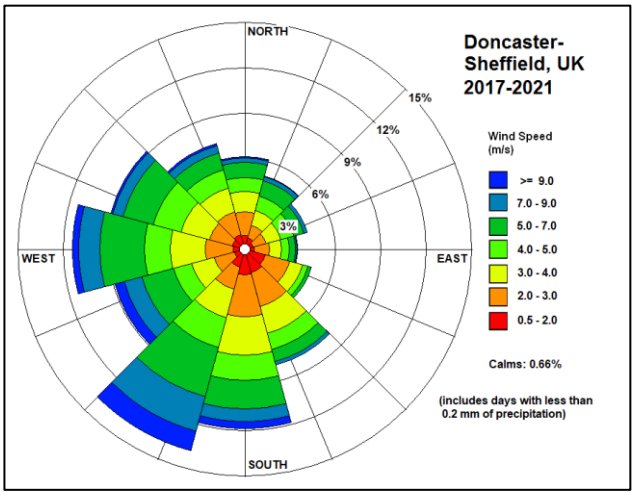
Table 1. Waste streams and description of management activities

Description	Activities	Potential for fugitive particulate emissions without mitigation
Haulage and site operation (site wide)	Import of materials (whole site)	Possible exhaust emissions and fugitive dusts from loads from vehicles (NO_x, PM_{10} (<10 µm) and Total Suspended Particulates (TSP)). Possible: Wind entrainment of fines silts and soil on operating surface and haul route.
Movement and placement of suitable engineering fill waste	Tipping of waste and temporary storage	Possible wind entrainment of waste and materials.
	Loading of material onto hoppers or other vehicles and placement into the ground	Possible wind entrainment of lighter waste fraction. As the material is transferred or dropped onto the ground there is the potential for wind entrainment of fines Exhaust emissions and fugitive dusts from the vehicles in operation.
	Transfer of material and manual segregation into stockpiles	Possible emissions from the movement of vehicles if there is significant build-up of mud and waste. Possible emissions during the bulk loading of recovered materials.
Storage of material	Storage of material or waste within stockpiles	Possible wind entrainment of waste and litter.

2.3 The waste types are all mineral / soil based. The associated risk with these waste types is the finer fraction of the matrix drying out and becoming mobile via wind or site disturbance. This is most likely during drier, summer months.

3. BASELINE CONDITIONS

3.1 The frequency of exposure and likelihood of any fugitive emissions on sensitive land uses is determined by the magnitude of release, proximity of receptors and prevailing meteorological conditions. Meteorological wind data for five years has been acquired from the Atmospheric Dispersion Modelling Ltd (ADM). The wind data has been taken from the Met Office Station in Doncaster, which is located circa 15 km south east of the site. The prevailing wind direction is from the south-west quadrant. There are also winds from the western quadrant.



3.2 The nearest and most sensitive receptors are the Brockadale SSSI which is located immediately north of the site and the residential properties circa 260 m north west of the site, off Jacksons Lane. There are also footpaths in the surrounding area. The residential receptors are downwind of the prevailing wind direction. The SSSI and the footpath that runs adjacent to the River Went are upwind.

3.3 The land immediately to the north east and east of the site is primarily woodland and agricultural land whereas the land in the less exposed quadrants is used for primarily residential and commercial purposes. The sensitive receptors are shown in drawing 203040/D/002.

3.4 The site is not located within an Air Quality Management Area (AQMA). The nearest AQMA is the A1 AQMA to the west of the site, which is designated for its NO_2 concentrations.

3.5 Detailed information about the site's environmental context are given in the Environmental Setting and Site Design Report (203040/ESSD).

3.6 Dust Scan provided an air quality assessment in 2018, as part of the Planning application process. The assessment concluded the activities were low risk provided a Dust Emissions Management Plan was in place. This document is the key emission control document under the site's specific Environmental Management System.

4. SOURCES OF FUGITIVE PARTICULATES AND CONTROL PROCESSES

4.1 The potential dusts include fine particulate matter which consist of inhalable fractions (total suspended particulates (<100 µm) and the more dangerous respirable fraction (less than PM10). Such dust types are termed as friable. Friable dusts may occur in hardcore and in crushed aggregate waste.

4.2 There will be no point source emissions of air pollutants. Any release will be fugitive. Operations at the site will ensure the suppression of dust and fugitive emissions. The following controls will be implemented:

1. Potential material streams will be reviewed prior to being transported to site and inspected at the gate in line with the Importation Protocol. The pre-acceptance procedure will ensure no dusty loads are imported to the site. All dusty loads will be dealt with in accordance with the Quarantine procedure, in accordance with the Operational Plan;
2. Wheel wash will be in operation for HGVs leaving the site in the event significant mud/debris is identified. The wheel wash will consist of a fully close loop water fixed wash system with a 50 m^3 tank to recycle the water;
3. Dust on highway will be monitored visually by the Site Manager and/or nominated site operative on a daily basis. There is a circa 500 m surfaced internal road which will help mitigate against mud on road. There will be a dedicated dust brush on site to deal with larger detritus. In the

event of significant dust debris, a road sweeper will be deployed within 48 hours to remove the finer particles afterwards;

4. The access point will be swept and maintained daily;
5. All lorries will be 8-wheel enclosed, sheeted lorries or vehicle with equivalent dust controls. Vehicles will be sheeted upon arrival. Vehicles will temporarily uncover for visual inspection, then recover on internal haul route. Vehicles will finally uncover at placement location;
6. Material will be placed directly or placed as soon as possible, and immediately bladed in by a bulldozer. This process helps reduce double handling and potential dust mobilisation;
7. Material will be placed as soon as possible to minimise potential for mobilisation;
8. Double handling will be minimised by tipping at location of placement and minimising need for temporary storage;
9. If material cannot be directly placed, temporary stockpiles smaller than 3 m high will be constructed away from the prevailing wind direction and compacted to minimise wind entrainment. The compaction of aggregate will decrease the pore space between particles and increasing the bonds between soil particles, in turn reducing the potential for wind entrainment. The compaction method is solely by the excavator tidying up the perimeter of the stockpile and compacting with the bucket to minimise debris rolling down the slopes and will minimise mobilisation by wind or rain;
10. In the event stockpiles are identified as a source of dust, alternative measures will be reviewed, including but not limited to, the use of calcium magnesium acetate (CMA) as a stockpile surface dust suppressant. In the event CMA is used, any surface water drainage will be contained by temporary swale and/or lined lagoon. Any use of CMA will be in liaison and approval with the EA;
11. Temporary stockpiled material will be no greater than 3 m in height to allow for dust suppression systems to dampen down the whole stockpile. Stockpiles will also be constructed at safe angles of repose (typically 1:3), to minimise the risk of instability that can lead to a greater risk of wind entrainment;
12. Misting/dampening systems will be implemented on operations and stockpiles if dust emissions identified. The misting systems will be mobile: one by tractor and bowser to suppress surfaces. The system can access all parts of the site. The mobile bowser will allow misting > 3 m coverage. The high-pressure sprayer is handheld allowing 360° coverage;
13. Site operatives are to be briefed on minimising drop heights during daily briefings and tool box talks by the Site Manager. By undertaking direct placement and compaction, the need for any double-handling and further dropping will be removed;
14. Prior to acceptance the waste will be reviewed to determine its characteristics including dusty load check. This may include photograph checks or review of geology (silty / clay fraction may cause greater dust potential). In the event a check is positive, the Operator will contact the waste Producer and arrange load to be transported back to the producer. In the event the non-compliant material must be tipped (cannot be returned immediately), the waste will be placed in the quarantine area under dust suppression measures. The load will be isolated. All recording and normal controls will be in accordance with the Operational Plan;
15. Site wide speed limit set at 10 mph for all HGVs; All drivers delivering waste will be subject to signage reminders of speed limit, dust controls and by the operator at the ticket office. Driver's under the Operator's primary control will be subject to a site induction and toolbox talks;
16. All staff receive air emissions awareness training at site induction and through regular toolbox talks;
17. All plant and equipment will be routinely serviced in line with manufacturers' guidance to help reduce NO_2 emissions;
18. Plant and equipment will be switched off when not in use. There will be an anti-idling policy and 3 strike system implemented to repeat operative offenders; and
19. Daily site inspection recorded in Site Diary. In the event visual dust emissions are identified mobilising beyond site boundary, a non-conformance report will be implemented, and corrective/preventative actions prescribed.

4.3 During dry conditions, mobile tractor with water bowser will be deployed at dust generating site operations at ground level including blading, compaction and deposition of material to ensure there is effective suppression in all wind directions at surface.

4.4 All site operatives will receive internal dust and emissions training. Training is included within the site induction (upon the start of employment), during daily site briefings, and through tool box talks.

4.5 As a minimum, this plan will be reviewed on an annual basis to ensure that it is up to date, addressing the dust risks of the operations at any time. The plan will be reviewed by Senior Management either following an emissions incident quantified by a substantiated complaint, a monitoring threshold exceedance or observed emissions over the boundary. The review procedure will be undertaken within 1 month of the incident to allow any further data to be interpreted. The review will ensure mistakes are learnt from and new/improved methods will be integrated.

4.6 The facility and operations will be mains fed negating the need for generators. In the unlikely event, for short term operations, as a minimum, Tier 2 or 3 will be used (where electricity cannot be provided). Any procurement of generators will be aware of the classification and the need for the more suitable Tier 4 standard, where practically possible.

4.7 Water for suppression will be sourced largely from on site mains supply, which is conservatively assessed as providing 50 m^3 per day. Furthermore, there is a borehole which a maximum of 20 m^3 can be taken from (in line with the exemption) each day. There is also a 50 m^3 water tank which can be used in an emergency. The Operator would have access to the onsite sources. The Operator will promote rainwater harvesting, where possible. There is no discharge to surface waters during the importation phase.

4.8 The estimated worst-case water consumption of on-site operations is calculated below:

Table 2. Onsite worst-case water consumption

Dust suppression Activity	Worst Case Water Consumption (per day)
Road sweeper	35L/min x 10 hours = 21 m^3
Mobile high-pressure hose system	13.2L/min x 10 hours x 2 systems on site = 15.84 m^3
Mobile tractor and bowser suppression	2,200 L tank emptied x 10 trips (1 per hour) = 22 m^3
Maintenance (cleaning, washing down)	Estimated at 0.5 m^3
Total	**59.34 m^3**
1. Water consumptions taken from WRAP 'Case Study: Water Efficiency on construction site'. 2. Calculations based on a 10-hour day.	

4.9 Based on the worst-case scenario in Table 2, the water capacity at the site can comfortably deal with site operations. During contingency measures. off site third party sources (consisting of 10,000L tanker 4-5 times a day giving 50 m^3) will be utilised.

4.10 To note, temporary buildings were investigated as part of the temporary works design for this scheme however not deemed financially viable based on this being a three-year construction project.

5. FUGITIVE EMISSIONS MONITORING

5.1 A daily site inspection will be undertaken by the Operator including potential sources that day, the control of dusts, conditions of haulage routes and the provision of controls. This information will be recorded in the Site Diary. To note, any site operative can report incidents to their line manager and appropriate actions will be taken immediately. The inspection will be undertaken by the Site Manager and/or a nominated site operative. In the event the Manager is not at the site, the On-Duty Manager and/or nominated site operative will be expected to undertake the site inspection. The Site Diary is kept in the site office / welfare unit. Corrective actions are outlined in Section 6 and will be recorded in the Site Diary and effectiveness monitored.

5.2 The visual monitoring locations are shown on drawing 203040/D/005. In line with the EA guidance, the daily inspections will have a trigger threshold of visual dust (in the form of a dust plume) leaving the boundary identified. This trigger threshold is an internal site action threshold only and not a compliance threshold. There is no severity to visual dust: if it is seen, a response procedure must be implemented.

5.3 In the event this threshold is breached, the Site Manager or nominated site operative will notify the Site Team and the response procedure will be initiated. The response procedure actions are set out below:

- When a visual dust plume is identified leaving the site boundary, the Site Manager and/or nominated site operative will assess the operations, waste type being handled and deliveries immediately prior to an alert being raised;
- If the source cannot be ascertained with certainty, the Site Team will temporarily cease the most likely operation;
- If the source is within the site's control, the Site Team will take appropriate action in terms of dust/particulate abatement to ensure further observations do not encounter the same emissions for a similar activity. Actions will include:
  - Review of the activity's dust control measures;
  - Increased frequency of the existing control measures; and
  - Temporarily suspending likely works until suitable abatement can be introduced.
- If an effective control measure cannot be identified and the action observation level is exceeded again within 30 minutes of the first alert raised; and the wind direction indicates it could be from the site; the source activity will be suspended until sufficient controls can be achieved. Visual inspection frequency will be every half an hour during the response procedure, until incident is closed out.
- If there are more than three incidents within a month, quantitative dust monitoring will be undertaken to establish source and effective control measures.

5.4 The action observation exceedance will be logged in the Site Diary and a report of the exceedance and corrective action response to the local EA officer via email. Any exceedance which is not from the site but from an adjacent third-party activity, will be noted in the Site Diary. All complaints will be logged and dealt with appropriately in accordance with the Operator's complaint procedure (attached in Appendix B).

5.5 If numerous complaints (≥ 5 substantiated complaints from separate receptors) are received within one week or less, operations will be ceased temporarily until the issue is discussed and resolved by taking appropriate measures.

5.6 All monitoring data will be made available to the Local Authority and Environment Agency, upon request or as specified within the Environmental Permit.

6. CONTROLS IN THE EVENT OF ABNORMAL FUGITIVE EMISSIONS

6.1 In the event that abnormal fugitive particulate emissions are identified during site inspections the following controls should be applied:

- take immediate action to cease operations;
- investigate the incident; and
- record the incident and the remedial site action in the Site Diary.

6.2 Remedial actions are dependent on the source but may include, but not limited to:

- Increase the frequency of road sweeping along the haul route and public roads;
- Reconfiguration of the soil management area to minimise certain activities near to receptors;
- Deploy more misting systems, specifically targeting certain locations; and
- Limit placement activities to fewer hours each day and/or during wet periods (in addition to the standard controls being implemented).

6.3 In the event that these controls do not resolve fugitive particulate emissions at the site, key source activities will be suspended until suitable arrestment systems are implemented. These systems will be

implemented in agreement with the Local Authority and the EA. The systems may include permanent use of remedial actions or alternative measures, as agreed.

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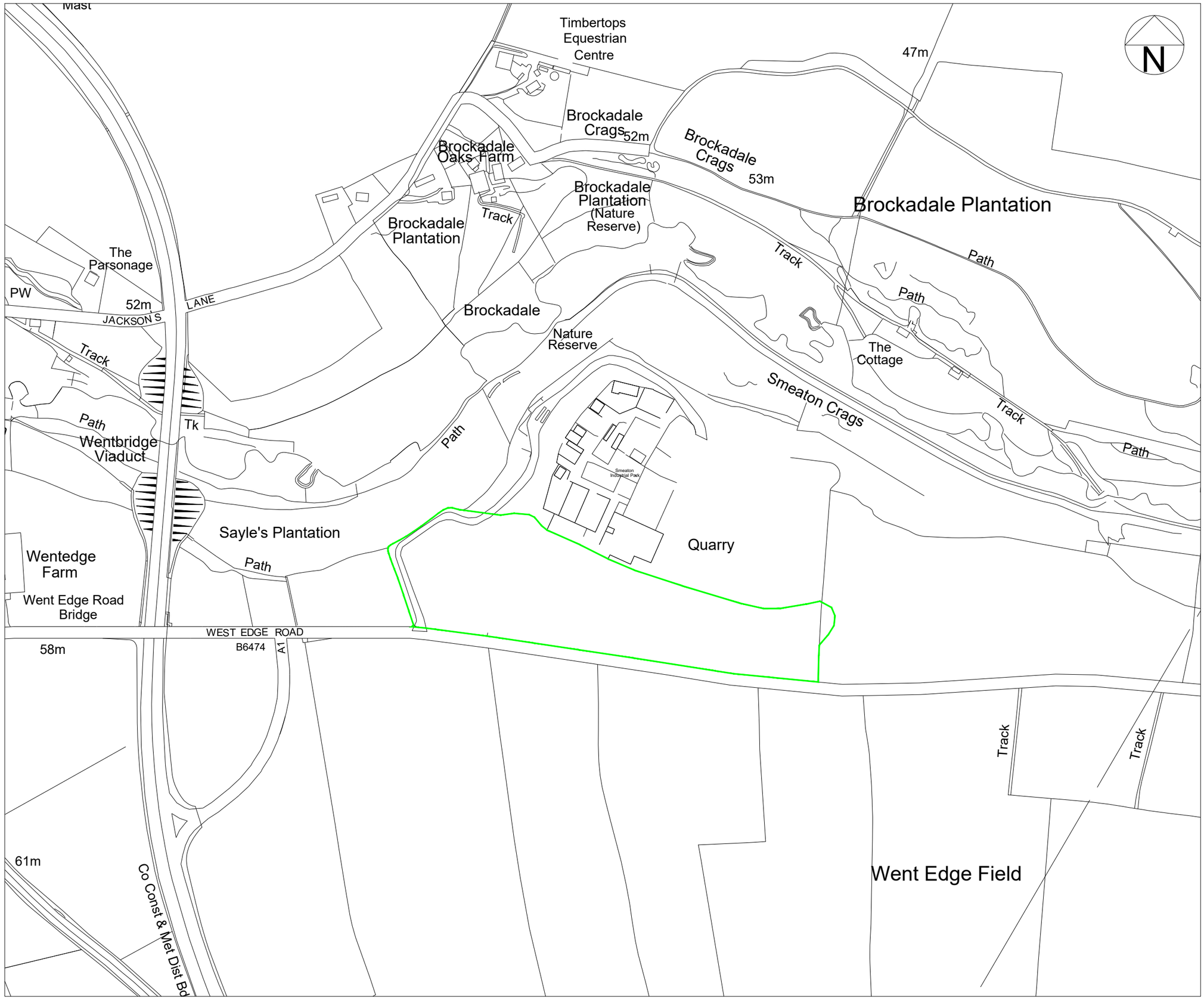
Approved:	Matthew Lawman BSc (Hons) MSc	
Date:	October 2023	

Drawings



Key:

Permit Boundary

Rev.	Details	Drawn / Chkd.	Date

Project

203040
Went Edge Quarry
Kirk Smeaton

Title

Site Location Plan

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Scale	Date	Drawn	Chkd.	Drg. No.	Rev.
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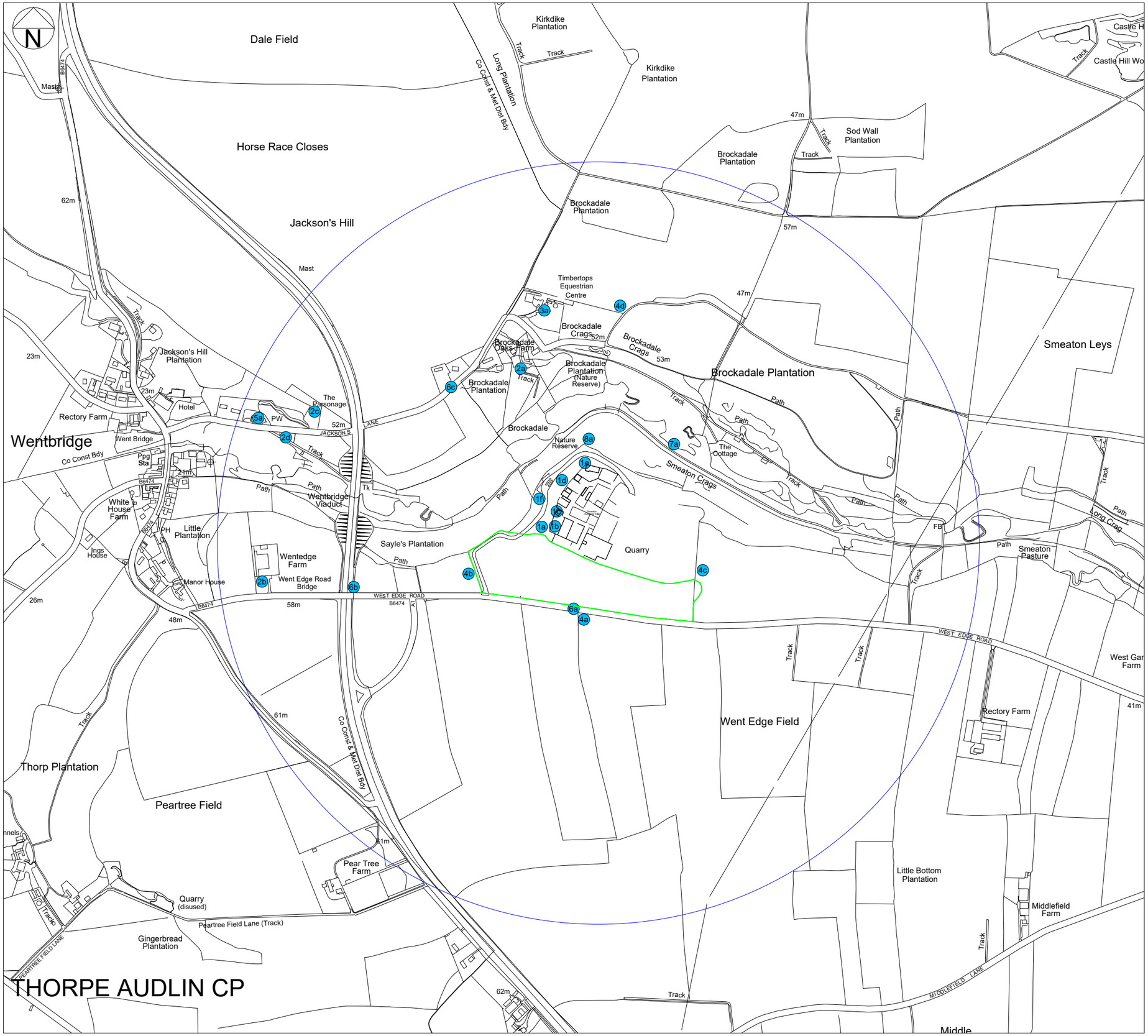

Key:

- Permit Boundary
- 1 km Radius
- 1 Commercial
  - a) Wentbridge Stone & Paving Ltd
  - b) Andy Mann Storage
  - c) AM Leisure Caravan Spares
  - d) Image Star Signs
  - e) Raceway Motorsport
  - f) Went Valley Skips
- 2 Residential
  - a) Dwelling off Jacksons Lane
  - b) Wentedge Farm Dwelling
  - c) Dwelling North of Jacksons Lane
  - d) Dwelling South of Jacksons Lane
- 3 Recreational
  - a) Timbertops Equestrian Centre
- 4 Agricultural
  - a) Land South of Site
  - b) Land West of Site
  - c) Land East of Site
  - d) Land North of Site
- 5 Religious Buildings
  - a) St John's Church Wentbridge
- 6 Public Roads
  - a) West Edge Road
  - b) A1
  - c) Jackson's Lane
- 7 Main Rivers
  - a) River Went
- 8 Ecological
  - a) Brockadale SSSI

Rev.	Details	Drawn / Chkd.	Date

Project

203040
Went Edge Quarry
Kirk Smeaton

Title

Sensitive Receptor Plan

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Scale	Date	Drawn	Chkd.	Drg. No.	Rev.
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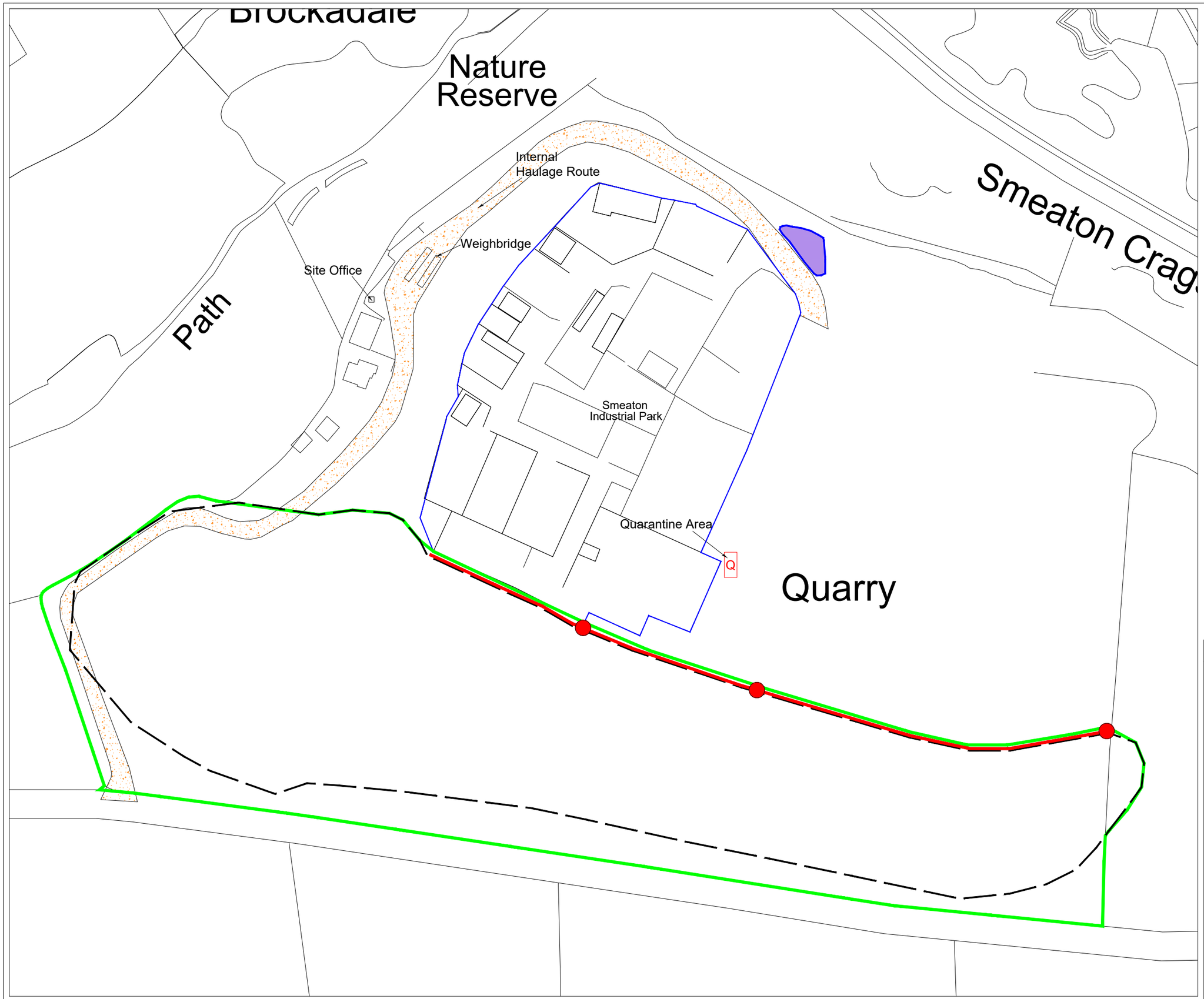

Key:

- Permit Boundary
- Extent of Infilling
- Extent of Industrial Park
- Toe Drainage
- Drainage Inspection/ Monitoring Point
- Surface Water Lagoon

Rev.	Details	Drawn / Chkd.	Date

Project

203040
Went Edge Quarry
Kirk Smeaton

Title

Site Layout Plan

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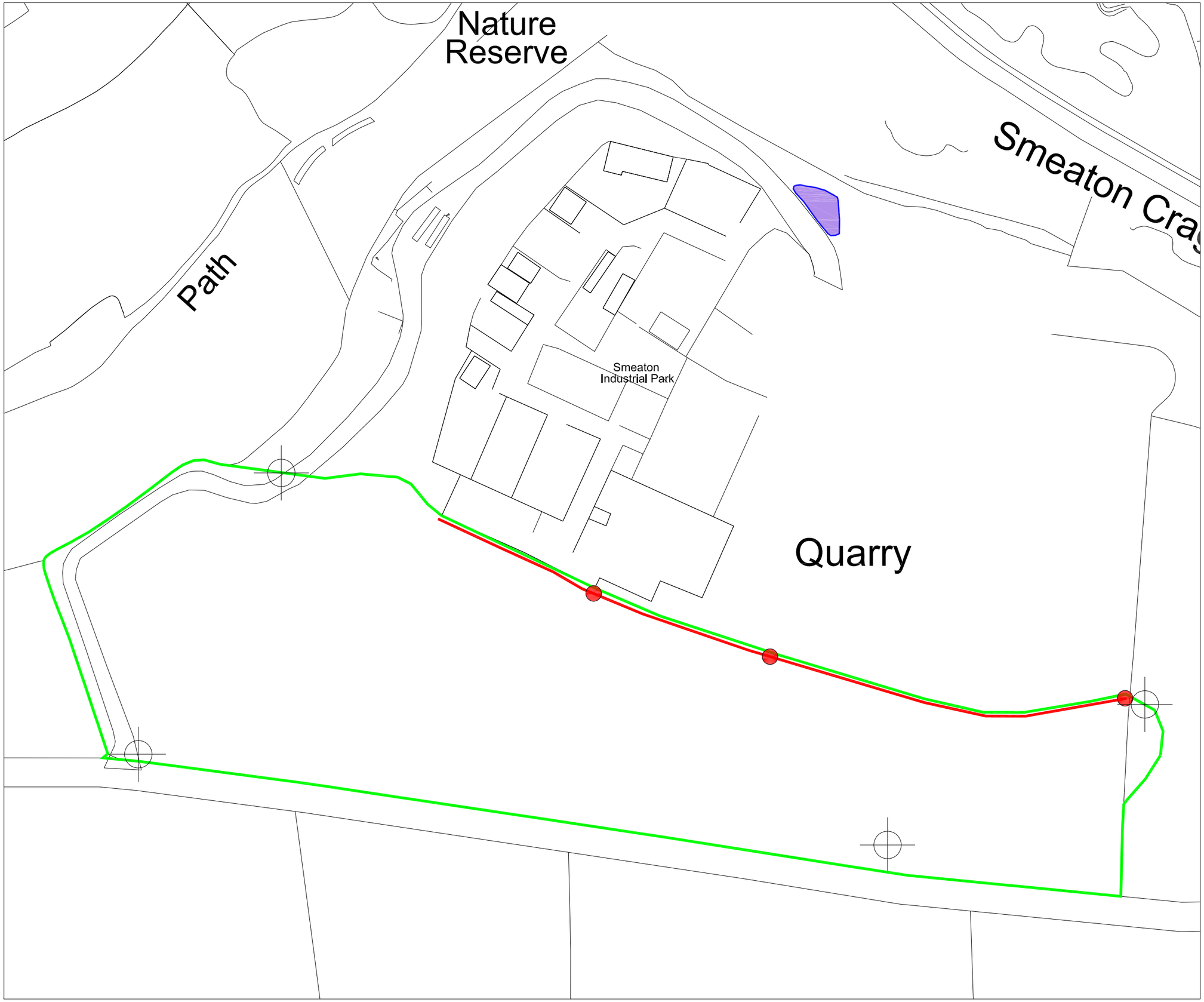
Scale	Date	Drg. No.	Rev.
1:2,000@A3	Sep'23	203040/D/004	

Drawn	Chkd.
KW	EB



Key:

- Permit Boundary
- Visual Inspection Monitoring Points
- Toe Drainage
- Drainage Inspection/ Monitoring Point

Rev.	Details	Drawn / Chkd.	Date

Project

203040
Went Edge Quarry
Kirk Smeaton

Title

Monitoring Points Location Plan

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Scale	Date	Drg. No.	Rev.
1:2,000@A3	Sep'23	203040/D/005	

Drawn	Chkd.
KW	EB

Appendix A
Complaints Form & Procedure

Complaints Procedure

203040/CP

INTRODUCTION

This Complaints Procedure outlines how the Operator will respond in the event of a complaint. A complaint may arise relating to the site permitted activities involving a nuisance (dust, noise, odour, pests). This procedure contains information on how any complaint will be investigated and any actions taken as a result of the complaint.

KEY CONTACTS

The key contacts will be shown on the site notice board at the site entrance. Alternatively, any complaints can be made at the site to any site operative and/or the Site Manager.

PROCEDURE

1. Any complaints made will be immediately logged by the Site Manager and/or Site Operative. In the event a complaint is made to a Site Operative, the Site Operative will refer the complaint to the Site Manager. If able to do so, the complainant details will be taken on initial contact either by phone or in person. The response time is typically within 1 hour.

2. The Site Manager (or nominated operative) will discuss any concerns with the complainant directly within 1 working day of the complaint being made; and request contact details to notify the complainant of any updates/corrective measures. The complaint will be logged using the Complaint Form (attached) and given a unique reference number.

3. The Site Manager will review the site activities and ensure control measures are in accordance with the Site's Management Systems. This review will typically happen in conjunction with point 1 and review will be undertaken within 2 working days of complaint being made.

4. Once initial contact and review of the site has been undertaken, the Site Manager will investigate the location of concern raised in relation to the site i.e. at a local receptor location and/or public highway to inspect the impact on the receptor. This will occur within 3 working days.

5. The Site Manager will notify the complainant of any updates to the control measures / site operations. Control measures may be corrective and/or preventative and include additional control measures and/or increase the frequency of an existing control measure. Alternatively, the design of the site operations may change to decrease nuisance to that receptor. The notification will be within 1 week of the complaint being made.

6. In the event the same issue persists, the Site Manager will further review site operations and control measures. This may require a temporary cessation of certain operations whilst additional measure is implemented. The works will not recommence until further control measures have been incorporated and a review of effectiveness has been agreed / witnessed by the Site Manager. The complainant will be kept abreast of further measures. This is likely to be within 1-2 weeks subject to what the complaint is, severity of complaint and associated activity taking place.

7. In the event of an out of hour complaint, the complaint will be picked up on the next working day and dealt with as per point 1-6 above.

RECORDS

On site Records

A copy of this procedure is kept on site and briefed to all site operatives upon site induction. Any identified complaints, incidents or accidents, as well as corrective measures, are recorded in the Complaint Form. Copies of the complaint forms are kept on site.

Complaints Procedure

203040/CP

Review

This procedure is reviewed on a yearly basis or post-incident to ensure it remains up-to-date with the site operations. The review procedure would involve the Senior Management Team and site team collectively to establish the root cause and the best available control techniques. The review will take place within 1 month of the incident.