LPA Ref: LCC/2023/0030

Appeal Ref:6002168

Lancashire County Council

Section 78 of the Town and Country Planning Act 1990

Appeal by Baxter Group Ltd:

Against decision of Lancashire County Council to refuse to grant planning permission for the extraction and processing of sand and gravel including the construction of new site access roads, landscaping and screening bunds, minerals washing plant and other associated infrastructure with restoration of leisure end uses, agricultural land and biodiversity enhancement using imported fill

at Land off Bourbles Lane, Preesall, Lancashire

PROOF OF EVIDENCE of

Matthew Edwards

of AtkinsRéalis Ltd.

In respect of dust amenity

On behalf of Lancashire County Council as the minerals planning authority

Date: 17th March 2026

1. INTRODUCTION

Qualifications and Experience

1.1.1 My name is Matthew Edwards. I am an Associate in the Air Quality and Emissions Team in AtkinsRéalis, Chartered Scientist (CSci) and a Full Member of both the Institution of Environmental Science (MIEnvSc) and the Institute of Air Quality Management (MIAQM). I hold a BSc (Hons) degree in Geography and an MSc in Air Pollution Management and Control from Birmingham University.

1.1.2 I have over 19 years' consultancy experience, working wholly within the air quality and emission arena since 2006, initially joining Entec UK (now Wood Group) as a graduate, leading the air quality team at Royal HaskoningDHV prior to my current position at AtkinsRéalis starting in 2018.

1.1.3 My technical expertise includes using a range of measurement and modelling tools to dispersion modelling, regulatory compliance, environmental permit applications and variations, pollutant monitoring surveys and site audits. I regularly provide expert advice to both public and private sector clients in support and in objection to planning submissions for nuisance and amenity matters, including dust and odour. Most recently this includes being a frameworks supplier to Gloucestershire County Council's review service for minerals and waste developments and Southern Water's developer services for odour and nuisance. I have conducted numerous dust risk assessments for minerals sites, national infrastructure (predominantly rail) including setting up or managing data from monitoring networks for dust deposition or particulate matter action levels.

1.1.4 I confirm that the evidence in this proof of evidence is true and that the opinions expressed are my true and professional opinions.

Artificial Intelligence tools have not been utilised in preparation of this proof of evidence.

Scope of Evidence

1.1.5 AtkinsRéalis were engaged by The Minerals Planning Authority, Lancashire County Council (the Council) in September 2023 to provide technical review [CD2.16] of the original application in relation to air quality [CD1.22]. This review identified a requirement for further information from the Applicant following which the Council made a Regulation 25 request [CD3.01]. The Applicant submitted further information including a revised Air Quality Assessment [CD3.06].

1.1.6 The Council's refused planning permission [CD6.01] for application LCC/2023/0030 for the following reasons:

"1) The development would have unacceptable impacts on highway safety which cannot be adequately mitigated and the development therefore conflicts with paragraph 116 of the National Planning Policy Framework, policy DM2 of the Lancashire Minerals and Waste Local Plan and Policy CDMP6 of the Wyre Local Plan

2) The development by reason of proximity to residential properties would have unacceptable noise and dust impacts that could not be satisfactorily mitigated contrary to paragraph 198 of the National Planning Policy Framework, Policy DM2 of the Lancashire Minerals and Waste Local Plan and Policy CDMP1 of the Wyre Local Plan."

1.1.7 The Council approached AtkinsRéalis in January 2026 to support them in respect of air quality (dust) at Appeal. In reviewing the revised air quality assessment and the reasons for refusal, it was agreed the requested support could be provided to the Council at Appeal and a formal instruction was made in February 2026, and so I now provide by expert opinion in this proof of evidence regarding dust impacts as cited in the second reason for refusal and covers the

potential effects as relevant to air quality (dust) amenity during the operational and restoration phases of the proposed development.

1.1.8 An agreed topic specific Statement of Common Ground (SoCG) for dust has been agreed between Katrina Hawkins (for the Appellant) and Matthew Edwards (for the Council) which defines that matters relating to air quality health impacts (with respect to combustion based pollutants and satisfaction of Air Quality Standards objective levels) and Respirable Crystalline Silica have already been excluded from consideration.

1.1.9 In preparing this evidence I have reviewed the following:

- Relevant planning application documents notably the revised Air Quality Assessment (AQA) [CD3.06];
- LCC planning officer's report to committee [CDCD6.02] (as amended[1]), Decision Notice [CD6.01];
- Appellant Statement of Case, and documents submitted with the Appeal, including:
    - Topic specific Statement of Common Ground for dust (DustSoCG), as agreed between Katrina Hawkins (for the Appellant) and Matthew Edwards (for the Council);
    - LCC Statement of Case (SoC).
- Relevant industry guidance including:
    - Planning Practice Guidance for Minerals [CD12.05]
    - IAQM Minerals Guidance [CD12.11]
    - IAQM Construction Dust Guidance [CD12.13]
    - MIRO guidance [CD 12.14, CD12.15]

[1] https://council.lancashire.gov.uk/ieDecisionDetails.aspx?ID=29059

- Arup- (1006): Environmental Effects at surface mineral workings (Volume 1)[2]
- MPG11[3]
- Planning Practice Guidance for Mineral [CD12.05]

1.1.10 The evidence I will present relates to the content of the Appellant's updated Air Quality Assessment (AQA) [CD3.06].

1.1.11 My evidence demonstrates that dust emissions from mineral excavation and restoration activities will have the greatest impact at receptors within 100m, especially those closest to dust emissions sources, which would experience unacceptable disamenity impacts.

1.1.12 My evidence will further present that mitigation measures proposed by the Appellant cannot adequately reduce dust emissions so that no significant effect is experienced beyond the site boundary.

1.1.13 While the AQA)[CD3.06] for the proposed development has adopted relevant standards and guidance, appropriate consideration has not been given to the magnitude of dust source emissions mitigation measures so as to sufficiently mitigate the potential impacts on amenity of nearby residents.

2. LEGISLATION AND POLICY FRAMEWORK

2.1.1 Policies of relevance to the Council's decision to refuse planning permission on dust amenity grounds are paragraph 198 of the National Planning Policy Framework, Policy DM2 of the Lancashire Minerals and Waste Local Plan and Policy CDMP1 of the Wyre Local Plan.

[2] Arup (1996) The Environmental Effects of Dust from Surface Mineral Workings - Volume 1 Summary Report and Best Practice Guides. ISBN 0 11 753186 3
[3] Minerals Planning Guidance Note 11 (MPG11): *Controlling and Mitigating the Environmental Effects of Minerals Extraction in England*,

National Planning Policy Framework

2.1.2 Paragraph 198 (as related to ground conditions and pollution) of the National Planning Policy Framework states that

"*Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development."*

2.1.3 Paragraph 135 reinforces this position stating that

"135. Planning policies and decisions should ensure that developments:

…

f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users"

National Planning Guidance

2.1.4 National planning guidance for minerals [CD12.05] is provided by government agencies or the planning system via the web-based guidance published October 2014. The guidance sets out the responsibilities of the local authority and obligations to assess environmental effects including dust. The guidance sets out the procedure, as replicated from previous MPG11 guidance as follows:

"*How should mineral operators seek to minimise dust emissions?*

Where dust emissions are likely to arise, mineral operators are expected to prepare a dust assessment study, which should be undertaken by a competent person/organisation with acknowledged experience of undertaking this type of work.

There are 5 key stages to a dust assessment study:

- *establish baseline conditions of the existing dust climate around the site of the proposed operations;*
- *identify site activities that could lead to dust emission without mitigation;*
- *identify site parameters which may increase potential impacts from dust;*
- *recommend mitigation measures, including modification of site design*
- *make proposals to monitor and report dust emissions to ensure compliance with appropriate environmental standards and to enable an effective response to complaints."*

2.1.5 No specific details are provided for recommendations of assessment nor suitable mitigation measures however it provides a framework and obligation for assessment. A site assessment flowchart is provided in CD12.05 (copy is provided at Appendix 1) which provides guidance that in the absence of concern regarding exceeding the PM_{10} Air Quality Strategy objectives "Good Practice measures" are defined as required.

Lancashire Minerals and Waste Core Strategy and Local Plan

2.1.6 Policy DM2 (Development Management) of the Lancashire Minerals and Waste Core Strategy and Local Plan states that

"*development for minerals and waste management operations will be supported where it can be demonstrated to the satisfaction of the mineral and waste planning authority, by the provision of appropriate information, that all material, social, economic or environmental impacts that would cause demonstrable harm can be eliminated or reduced to acceptable levels. In assessing proposals account will be*

taken of the proposal's setting, baseline environmental conditions and neighbouring land uses together with the extent to which its impacts can be controlled in accordance with current best practice and recognised standards.

2.1.7 Policy DM2 of the Lancashire Minerals and Waste Local Plan sets out that minerals and waste development will be supported where impacts that will cause demonstrable harm can be eliminated or reduced to acceptable levels having regard to the proposal's setting, baseline environmental conditions and neighbouring land uses together with the extent to which impacts can be controlled. Similarly, policy CDMP1 of the Wyre Local Plan (presented in paragraph 2.1.8 below) requires that development must not have significant adverse effects on amenity and that development should be *compatible with adjacent existing uses*

Wyre Local Plan

2.1.8 Policy CDMP1 (Environmental Protection) of the Wyre Local Plan states that

"*Development will be permitted where in isolation or in conjunction with other planned or committed developments it can be demonstrated that the development:*

a) Will be compatible with adjacent existing uses or uses proposed in this plan and it would not lead to significant adverse effects on health, amenity, safety and the operation of surrounding uses and for occupants or users of the development itself with reference to noise, vibration, odour, light, other pollution or nuisance. Applications will be required to be accompanied where appropriate by relevant impact assessments and mitigation proposals.

c) (ii) Where development will result in, or contribute to, a deterioration in air quality, permission will only be granted where any such

harm caused is significantly and demonstrably outweighed by other planning considerations and appropriate mitigation measures are provided to minimise any such harm.

3. PLANNING HISTORY

3.1.1 Information on relevant planning history is presented in the Planning Proof of Evidence and Statement of Common Ground.

4. DESCRIPTION OF THE SITE

4.1.1 A description of the site is set out in paragraphs 7 – 13 of the Council's Committee Report [CD6.02].

4.1.2 Of relevance to the dust assessment - the site is of an open and flat profile, currently agricultural interspersed with individual residential properties around the site boundary. There is no natural barrier between source and receptor by means of topography or vegetation.

5. THE CASE FOR THE COUNCIL

5.1.1 The Council's decision and reasons for refusal are set out in document CD6.01.

5.1.2 The Council further present their position in their Statement of Case.

5.1.3 The following paragraphs present further detail as relevant to disamenity dust.

The Proposals

5.1.4 The proposal is for the extraction of approximately 500,000 tonnes of sand and gravel with restoration of the site using imported inert backfill materials. A full description of activities [CD1.02], plans of the development and proposed working phases [CD3.04] form Core Documents including the AQA [CD3.06].

5.1.5 With reference to IAQM Minerals Guidance [CD12.11, page 38] examples of dust emissions relevant to the proposed development include:

- Site preparation and restoration
- Mineral extraction
- Materials handling
- On-site transportation
- Mineral processing
- Stockpiles and other exposed surfaces
- Off-site transportation (track-out).

5.1.6 As included in the topic specific statement of common ground for dust (DustSoCG), made between the Appellant and the Council, it is agreed that an acceptable and commonly applied assessment methodology was adopted, within the AQA [CD3.06], referencing IAQM Minerals Dust Guidance [CD12.11]. A qualitative source-pathway-receptor (S-P-R) methodology for assessment of dust risk is applied to individual worst case receptors, define in the guidance as:

"The Source-Pathway Receptor (S-P-R) concept presents the hypothetical relationship between the source (S) of the pollutant, the pathway (P) by which exposure might occur, and the receptor (R) that could be adversely affected."

5.1.7 The majority of the concern regarding dust amenity is due to the proximity of receptors (as discussed in paragraph 5.1.19, twelve within 100m, the closest stated as 15m), with little distance between the proposed development and nearby properties (as reported within paragraphs 5.2.4 – 5.2.38 of the AQA [CD3.06] as replicated in Table 1 of this Proof.

5.1.8 At this point I clarify that ‘distance to receptor’ should include the property boundary, not necessarily as measured from the building façade. This is important as effects are defined as occurring outside the building curtilage (e.g. cleaning of cars, surfaces and laundry (IAQM Minerals Guidance [CD 12.11], pages 8 and 16) and residents would expect to enjoy high levels of amenity within tended gardens and when parking cars within the curtilage of the property boundary.

5.1.9 I proceed with the receptor distances as reported in paragraphs 5.2.4 – 5.2.38 of the AQA [CD3.06] and replicated in Table 1 below, however I identify any specific receptors where consideration of the curtilage of the property changes the view on risk in the following sections of my evidence.

Table 1 – Description of receptor proximity to proposed development

Receptor	**Closest relevant working area**	**Distance (m) and direction from source to receptor (m) [CD3.06]**	**Receptor description**
Bourbles Farm	Phases 4	20 m NE	Close
Crossing Cottage	Phase 3	150 m E	intermediate
Greenacres	Phase 3	130 m S	Intermediate
Lyndale Farm	Extraction area	160m S	Intermediate
Hillfield House / Pointer Farm	Site access road	140 m E	Intermediate
The Beeches	Site access road	130m W	Intermediate

Ourome	Phase 4	15 m W	Close
Red Lea	Phase 1	30 m E	Close
Woodlands	Phase 1	20 m N	Close
Whinmore Fold	Phase 1	90 m W	Close
Old Nickson's Cottage / The Warren	Phase 1	130 m S	Intermediate
Mytax / New England Cottage	Phase 3	70 m W	Close

Item One: Amenity Loss

Proximity of sensitive receptors to dust source – Guidance and appeals

5.1.10 Qualitative appraisal of dust from minerals activities follows a source-pathway-receptor approach- described in accepted IAQM Minerals Guidance [CD12.11]. This approach, and the evaluation of impact is based on research [Arup[2]] that informed earlier minerals planning guidance (e.g. MPG11 and replacement web based planning guidance for minerals [CD12.05]) as demonstrated by relevant extracts below:

5.1.11 IAQM Minerals Guidance [CD12.11] states on page 16 that assessment of disamenity dust follows distance based criteria where the distance is from the source activity (not necessarily the site boundary) and the receptor.

5.1.12 In the case of the appealed development some activities (including site preparation, mineral extraction, restoration by infill of inert waste and transport of materials on internal haul roads) do in fact occur right up to the application boundary which can abut the boundary of nearby

and highly sensitive residential receptors, described on Revised Phasing Plans [CD3.04].

5.1.13 Statements that the majority of particles from minerals operations are deposited within 100m of the source are further iterated in both guidance and recent planning appeal decisions.

5.1.14 In Arup's report[2], that informed MPG 11[3], a precursor to current minerals planning guidance [CD12.05],

"the authors reference previous research that shows *that large dust particles (greater than 30µm), that make up the greatest proportion of dust emitted from mineral working will largely deposit within 100m of sources. Intermediate sized particles (10-30µm) are likely to travel up to 250-500m. Smaller particles (less than 10 µm) which make up a small proportion of dust emitted from most workings can travel up to 1km from sources. Many of the environmental impacts arising from dust are due to dust deposition."*

5.1.15 Also referencing the Arup research[2], MPG11[3]:

"*Research has shown that large dust particles (greater than 30 µm), that make up the greatest proportion of dust emitted from mineral working will largely deposit within 100 m of sources. Intermediate sized particles (10 - 30 µm) are likely to travel up to 200 - 500 m. Smaller particles (less than 10 µm) which make up a small proportion of dust emitted from most workings can travel up to 1 km from sources (although small particles can be transboundary)"*

5.1.16 This position is reiterated in IAQM Minerals Guidance [CD12.11], Box 2:

"*it is commonly accepted that the greatest impacts will be within 100 m of a source and this can include both large (>30 µm) and small dust particles. The greatest potential for high rates of dust deposition and elevated PM_{10} concentrations occurs within this distance."*

5.1.17 As presented in Appendix 1 of the IAQM Minerals Guidance [CD12.11, page 31]:

Bradley: APP/X1355/A/11/2150277
"….approximately 95% of dust particles from mineral workings have a relatively high mass and generally deposit within 100m of the point of release, with the remainder being deposited within 200 – 500 m of source."

Halton Lea Gate (APP/P2935/A/11/2164056)
"Larger dust particles greater than 30 µm, which may comprise 95% of dust released from the site, would be expected to be deposited within 100 m of the source." …. "Most nuisance dust can be expected to be deposited within 250 m of where it is generated."

5.1.18 With regard to both guidance and appeals - there is agreement that disamenity dust, the large fraction of particulate matter, largely occurs at locations closest to the source, typically quoted as in the region of 100m.

5.1.19 The proposals place a number of sensitive receptors within 100m of actively worked areas. This includes

(a) The seven (of twelve) assessed receptors within the AQA, listed in Table 1 of this Proof, and presented on a map in Appendix 2 [CD3.06, paragraphs 5.2.4 - 5.2.38] – classified as "Close"

(b) A further five properties within 100m of the boundary – un-named in the AQA [CD3.06], however grouped in with the seven named properties, bringing the total properties within 100 m to twelve.

(c) Potential for private land uses within the at-risk zone (100m) for a further two residences, including; the garden of Crossing Cottage (near to Phase 3) and private land near to Greenacres falls within 100 m of Phase 3 - taking the total to fourteen.

<u>When dust emissions are cause for concern and / or complaint</u>

5.1.20 The Arup report[2] (page 4) references case study work that

"*focused on the principal cause of concern of people living or working near to mineral workings: the deposition of dust on to surfaces such as windows and cars. These dust impacts do not relate solely to the quantity of dust, or duration of exposure. The perception of dust by people in terms of a 'nuisance' also relates to their living conditions, their tolerance to dusty conditions and their general awareness of the local environment."*

5.1.21 The Arup report[2] further examined attitudes to dust impacts and concluded on page 10

"*that severe or continual concerns about dust, associated with residents who had stated that they had complained about dust several times, were most likely to be experienced within Zone A. The width of this zone again varied considerably depending on the strength of dust sources and weather conditions. The average distance was 175m, but for sites with significant dust sources and unfavourable meteorological conditions the distance could be up to 500m.*

5.1.22 In the case of the appealed development, a number of highly sensitive residential receptors are identified within close proximity to the site, an area demonstrated to be within the zone most likely to be affected by dust deposition from on-site dust emissions sources and within the zone where complaints related to disamenity dust are most likely.

5.1.23 It is acknowledged that the scale of extraction proposed by the appellant is not on the upper end of those considered for the assessment, warranting a 500m area of concern/complaint, but reference the average site distance of 175m referred to in the study.

5.1.24 The proposals place a number of sensitive receptors in this 175 m zone of most concern. This includes

(a) The seven assessed receptors within the AQA [CD3.06] – classified as “Close”- (<100m).

(b) A further five properties not named in the AQA [CD3.06], but represented by named properties, also <100m.

(c) The eight ‘intermediate distance’ properties named in AQA [CD3.06].

(d) There is potential for private land uses within the at-risk 175m zone for a further 20+ properties on Little Tongues Lane, Gaulters Lane and Lancaster Road.

Evaluation – Amenity Loss

5.1.25 The guidance and appeals do not state whether the generally accepted distance based risk zones account for sites with zero, best practice or site specific mitigation.

5.1.26 It is my opinion that the proposals introduce an activity that will likely cause a loss of amenity within the curtilage of private property due to disamenity dust.

5.1.27 The level of amenity loss *may* be reduced by application of mitigation, however amenity loss will likely remain present at receptors. This loss of amenity will likely be present as a tangible impact at receptors irrespective of whether the future as-experienced effects would constitute a “significant effect” post application of mitigation or the high bar for a statutory nuisance to be present.

5.1.28 With respect to effects being either significant or not significant, this is a subjective, binary outcome, based on professional judgement (IAQM Minerals Guidance [CD12.11] Section 5.3, page 18).

5.1.29 With respect to dust disamenity and the higher level for nuisance, I direct the Inspector to the definitions in IAQM Minerals Guidance

[CD12.11, Section 8 Glossary& Terminology, page 29] as replicated below:

Disamenity:

The government Planning Portal does not define disamenity, but its literal meaning would be "impaired amenity" and from its definition of amenity could be considered to be a negative element or elements that detract from the overall character or enjoyment of an area. The Oxford English Dictionary defines disamenity as "the unpleasant quality or character of something". In relation to the impacts of landfills, Defra has described disamenity as nuisance caused by an activity such as noise, odour, litter, vermin, visual intrusion and associated perceived discomfort.

Nuisance:

The term nuisance dust is often used in a general sense when describing deposited dust annoyance. …nuisance dust also has specific meanings in environmental law:

a) Statutory nuisance, as defined in S79(1) of the Environmental Protection Act 1990 (as amended from time to time).

b) Private nuisance, arising from substantial interference with a person's enjoyment and use of his land.

c) Public nuisance, arising from an act or omission that obstructs, damages or inconveniences the rights of the community.

Each of these applying in so far as the nuisance relates to the unacceptable effects of emissions. It is recognised that a significant loss of amenity may occur at lower levels of emission than would constitute a statutory nuisance.

5.1.30 In considering loss of amenity due to dust deposition, in combination with other aspects and impacts of the proposed development, it is the

Council's position, and my expert opinion as evidenced above, that such loss of amenity is unacceptable and that the proposals are not compliant with planning policy and existing land uses.

Item Two: Application of Assessment Methodology

5.1.31 The application has conducted a qualitative risk assessment, adopting the framework set out in IAQM Minerals Guidance [CD12.22], and presented in the AQA [CD3.06].

5.1.32 As agreed in the topic specific SoCG for dust (Dust SoCG), it is acknowledged that there is an absence of sector specific statutory guidance or planning policies which indicate how an assessment should be undertaken. The most appropriate current guidance is provided within the web-based Planning Practice Guidance specific to Minerals [CD12.05]

5.1.33 The guidance sets out the obligation for environmental impacts of mineral sites to be a consideration within planning, including reference to health and amenity loss regarding dust emissions. The guidance adequately describes the assessment steps required, but leaves the subjective evaluation of source emissions, site sensitivity and appropriate mitigation to the professional judgement of the assessor.

5.1.34 In the absence of a prescriptive statutory methodology or standards, The IAQM's Minerals Guidance [CD12.11], was created to provide robust and consistent good practice approaches by applying a simplified risk assessment matrix, following a methodology considering S-P-R relationships, to help provide some consistency and structure to practitioner assessments.

5.1.35 I agree that the chosen qualitative risk assessment methodology is a commonly used tool for such an assessment, however with the stated limitations that:

(a) It requires a degree of professional judgement from a competent and suitably experienced air quality professional in order to reach a conclusion on the overall significance of the effect.

(b) It is inherently subjective in the classifications applied.

(c) Acknowledgment that application of classification is clear at the extremities of the assessment, i.e. those clearly with a substantial adverse or negligible effect, however there is subjectivity in between.

5.1.36 On point c), the IAQM Minerals Guidance [CD12.11, Appendix 4] provides a structure to standardise the classification of risks when it is not immediately described as substantial or negligible, and provides some information to aid these classifications (for example graduations based on site area, material removed, processes utilised).

5.1.37 While agreeing that the adopted methodology for assessment of dust impacts is suitable, I do not agree with the assessment findings regarding the magnitude of dust source emissions and pathway effectiveness for some activities. Thus, in my professional judgement, there is scope to come to alternative classifications where either:

(a) there is a clear disagreement between the guidance and the proposal details, or

(b) there is scope to consider professional judgement or err on the side of conservatism.

(i) Noting that the IAQM Minerals Guidance [CD12.11, page 16] *"Where there is uncertainty or in the assessors' judgement a*

site lies between categories a precautionary approach should be adopted and the higher category used".

5.1.38 On review of the submitted assessment the dust impact risk and resultant magnitude of dust soiling effects at some receptor locations have therefore, in my professional opinion, been underestimated by the Appellant.

5.1.39 Examples of where I feel the applicant's assessment understated the potential risks are:

(a) Magnitude of Source Emissions

It is my opinion that a higher category of 'large' should have been applied to a number of the activities, notably, site preparation, on-site transportation, minerals processing and restoration on the basis that the material has a high dust potential and low moisture content (particularly with regard to restoration infill materials).

(i) Site preparation – the total site area is declared as 20.68 ha [CD1.01] but is however assessed in the AQA [CD3.06] as individual, smaller parcels and thus assigned 'medium' magnitude, whereas the IAQM Minerals Guidance [CD12.11, Appendix 4, Section A] indicates a site of over 10 ha should be classified as 'large'.

(ii) A higher (large) dust emission magnitude is appropriate for some activities (on site transportation, minerals processing, restoration). Examples include

(A) on-site transportation – AQA [CD3.06] paragraph 4.6.8 indicates a maximum distance between extraction areas and processing plant of 180m whereas site plans indicate a maximum distance in excess of 500m, specifically in relation to on-site transport between Phase

1 and Phase A, and thus should be classed as “large” potential dust magnitude, not ‘medium’.

(B) It is also considered that the use of unpaved haul roads with a high dust potential also suggests a “large” potential dust magnitude is a more appropriate classification for this activity, not “Medium”.

(iii) storage / stockpiles: The revised Phasing Plans [CD3.04] indicate soil storage of up to 10m in the western area of Phase A. This is not reflected in the AQA [CD3.06]) thus does not give confidence that the Dust Assessment fully reflects the application proposals and thus that appropriate mitigation has been considered.

(b) Pathway effectiveness

(i) Several receptors, when considering dust amenity within the entire property boundary, are located within 30m of dust sources (including phased extraction/restoration areas and on-site haul roads): Bourbles Farm, Ourome, Red Lea, Woodlands, Mytax and New England Cottage. In line with IAQM Minerals Dust Guidance, these properties could be affected during any wind direction and thus should conservatively be assumed to have a “highly effective” pathway for dust soiling regardless of position relative to prevailing wind direction and frequency. This change to pathway effectiveness from that presented in the AQA [CD3.06] would in turn raise the estimation of dust impact risk at Ourome and Whinmore Fold to medium impact risk and moderate adverse effect, all other things remaining equal.

(c) Sensitivity

(i) The AQA [CD3.06] identifies fourteen named properties classified as high sensitivity (Table 1 below). These are

identified on Figure 2 of the AQA [CD3.06], and replicated in Appendix 2 to this Proof.

(ii) Upon considering the distances between receptors and potential on-site activities it would appear that measurements have been made to the façade of identified properties, rather than considering all areas within the curtilage of a property where residents would expect to enjoy high levels of amenity e.g. within tended gardens and when parking cars within the curtilage of the property boundary. Adequate consideration of this has not been given within the assessment, with the distances presented consistently underestimating the location of receptors relative to dust sources and in turn the categorisation of pathway effectiveness.

(d) Cumulative activities

(i) It is not clear if the assessment has considered the potential for cumulative impacts from multiple phases on individual receptors, e.g. the three properties at the location identified as Bourbles Farm could be affected concurrently by mineral extraction and restoration activities across multiple phases, e.g. Phase 2 restoration and Phase 3 extraction, and Phase 3 restoration and Phase 4 extraction. As such, the stated reduction in impacts due to phasing is unlikely to be relevant as many phases affect the same property concurrently.

(e) Mitigation

(i) Screening bunds are described as being between 3-5 m in height and their location is indicated in Figure 1 of the AQA [CD3.06]. However, this seemingly presents information for Phase A only. It is unclear if the AQA [CD3.06] is based on the information in Figure 1 (replicated at Appendix 2 to the Proof), or if it has fully considered the mitigation proposals

(positions and heights of bunds) (3 m, not 5m) presented within the Planning Statement [CD1.02], on Plan PA23-6 v2 Proposed Plant Area [CD1.33], or the Revised Phasing Plans [CD3.04] submitted in response to Regulation 25.

(ii) The proposed bund along Bourbles Lane does not extend east to afford protection for the full property at Woodlands, including garden areas where high levels of amenity would be expected.

(iii) For Red Lea, it is proposed that the haul road will be set in a cutting of 1.5 m. An existing bund is present to the south of Red Leas. Setting the haul road in a cutting of 1.5m may not contain resuspended dust from dumper trucks transporting material particularly as this property would be very close to the haul road and given the prevailing southwesterly wind direction, typical for the UK

Evaluation – - Application of Assessment Methodology

5.1.40 Where I consider a more conservative approach to the dust emissions magnitude amended to 'large', in combination with a 'highly effective pathway' for receptors of <30m from emissions sources, this would in turn give a 'high' dust risk impact and substantial adverse effect, which differs from the findings of the AQA [CD3.06] of no significant effect.

5.1.41 I consider that at some receptor locations [all twelve receptors and two residential land uses within 100m] a substantial adverse effect may be experienced, where:

(a) a higher (large) dust emission magnitude is appropriate for some activities (on site transportation, minerals processing, restoration).

(b) some receptors may experience a highly effective pathway in all weather conditions by virtue of their close proximity (<30m) to site activities.

(c) property (not necessarily building façade) is within 100m of activities including haul roads, minerals processing and restoration.

Item Three: Application of mitigation

5.1.42 The AQA [CD3.06] has applied a number of mitigations which are either embedded into the scheme (phasing, secondary purpose use of topsoil mounds as physical barriers) or management principles.

5.1.43 The measures have been selected appropriate to the assessed risk of impacts, namely a combination of the following to represent a 'moderate adverse risk':

(a) 'Medium' residual Source Emissions –

(b) 'moderate' to 'highly' effective pathway

(c) 'High Sensitivity' of receptors

5.1.44 The assessment therefore presents proportionate good practice mitigation and some bespoke actions which are suitable for a 'moderate adverse' effect.

5.1.45 Having set out concerns on the derivation of dust emissions magnitude, pathway effectiveness and dust impact risk, my professional opinion is that for some receptor locations the appropriate magnitude of dust effects could be 'substantially adverse'.

5.1.46 The proposed mitigation measures presented are therefore not sufficient for management of large magnitude emissions sources such that dust effects at identified receptors could be managed so as not to be significant.

5.1.47 This includes for physical barrier type mitigation, which does not protect all receptors from all phases of work and internal transfers, management aspects including no requirements for receptor or boundary monitoring and no restriction on operations in conditions conducive to maximum effects or on receipt of a complaint.

5.1.48 This is not to say that there could be theoretical enhancements to mitigation that could further aid in effective control of dust emissions, but that is not what the Applicant / Appellant has presented.

5.1.49 The concern is that with the proposed working areas, materials handling, haul routes and processing across the full site, there is very little room for stand-off distances to allow effective mitigation, placing receptors within the zone of most likely effect.

5.1.50 I reference MPS2 [a precursor to CD12.05] regarding the primary importance of stand-off distances and site layout considerations.

"**Stand-off Distances**

1.36 It is preferable that dust-generating activities are separated by a stand-off distance from residential properties and other sensitive uses. The minimum extent of this stand-off distance should be estimated through the use of a dust assessment study (possibly including dust monitoring). Stand-off distances ensure that the more severe dust impacts are not experienced around a site. Where this approach is needed, the MPA should seek to incorporate a stand-off distance into the site layout as an element in the application. However, since the site layout will change as work progresses, a stand-off distance from specified dust-generating activities can also be specified as a condition"

"SITE LAYOUT

1B.2 Sufficient time and thought needs to be devoted to site design, including the phasing of operations to allow careful consideration of

the relationship of activities within the site to sensitive areas outside it. As far as possible, dust-generating activities should be located away from residential properties/sensitive premises/users (summarised in Table 1A2), and dust management issues reflected within the site design. Where appropriate, the distance between sensitive uses and dust-generating activities should be maximised. Ideally, the results of a dust assessment study (see Appendix 1C) should be used to inform site design.

1B.3 Other factors that should be taken into account in the layout of a site to reduce dust impacts are:

● *placing dust-generating activities where maximum protection can be obtained from topography, woodland or other features;*

● *locating dust-generating activities where prevailing winds will blow dust away from residential properties/sensitive premises/users; and*

● *minimising the need to transport and handle materials by placing adequate storage facilities close to processing areas"*

Evaluation – Application of Mitigation

5.1.51 It is my opinion that with the spatial constraints of the quarry, with worked areas virtually to the site boundary and up to boundaries of neighbouring properties, and haul roads adjacent to properties, there is minimal space afforded to these primary mitigation factors, a stand-off distance between source and receptor and sensitive siting of activities within the site boundary.

6. CONCLUSION

6.1.1 It is my opinion that the proposals introduce an activity that will likely cause a loss of amenity due to disamenity dust, requiring that property windows and vehicles may require more frequent washing,

laundry hung outside to dry could be soiled by windblown dust, enjoyment of a private garden could be diminished.

6.1.2 The guidance and appeals referenced in my evidence provide an indication that at risk zones occur within the distances where receptors are currently located.

6.1.3 I suggest, based on guidance, that it is not debatable that there is both public concern and occurrence of dust complaints at other mineral extraction sites within the stand-off distances relevant to these proposals.

6.1.4 I also have noticed several areas where the AQA [CD3.06] may have understated the possible risks associated with the scheme. This is apparent when comparing factual items of the design to the guidance and also areas where professional judgement could present a more conservative approach. At this point I note this is not a suggestion of intentional underestimation of potential effects, only that an alternative view, adopting the most conservative position appropriate for the context of the proposed development and existing receptors, could affect assessment conclusions.

6.1.5 Given that the assessment may have understated effects, the proposed mitigation is considered unsuitable and would require enhancement to minimise effects. It is my professional opinion that although some improvements to the proposed mitigation may be hypothetically possible, there is not much space afforded to the primary mitigation measure, maximising the distance between source and receptor. Therefore, there is a limit to what mitigation can in fact be proposed to effectively disrupt the pathway, between source and receptor, given the limited space available and receptors well within the defined at-risk zone (c.100m).

6.1.6 It is acknowledged that the IAQM Minerals Guidance [CD12.11], page 18] suggests a tacit presumption that, even in situations where a significant effect is expected, *“it is likely that additional mitigation will*

be required, to a proportionate degree to sufficiently reduce the impacts."

6.1.7 It is my opinion that given the understatement of the effects in Item 2, mitigations proposed are insufficient (Item 3). Examples include

(a) Virtually no stand-off distance between source and receptor

(b) No restriction in operation in conditions which are conducive to maximum off site effects.

(c) Mitigation applied which only provides partial coverage, e.g. proposed bunds do not extend to full extent of neighbouring properties

(d) Mitigation which does not seem to be in line with the guidance e.g. Mineral extraction on a campaign basis is not suitable mitigation

(e) No recommendation for monitoring dust at receptors – except for visual inspections and a complaint handling process

6.1.8 The onus remains on the applicant to demonstrate that assessments suitably quantify the effect and that mitigations are evidenced as suitable in controlling dust emission so as not to adversely affect offsite receptors.

6.1.9 At present my professional opinion is that this has not been done sufficiently. I suggest that as presented;

(a) the proposed development will result in a degree of unavoidable amenity loss at receptors,

(b) the assessment is considered to understate impacts thus understating the level of mitigation required

(c) the space constraints of the proposals limit the efficacy of the primary mitigation measure, a stand-off distance between source and receptor.

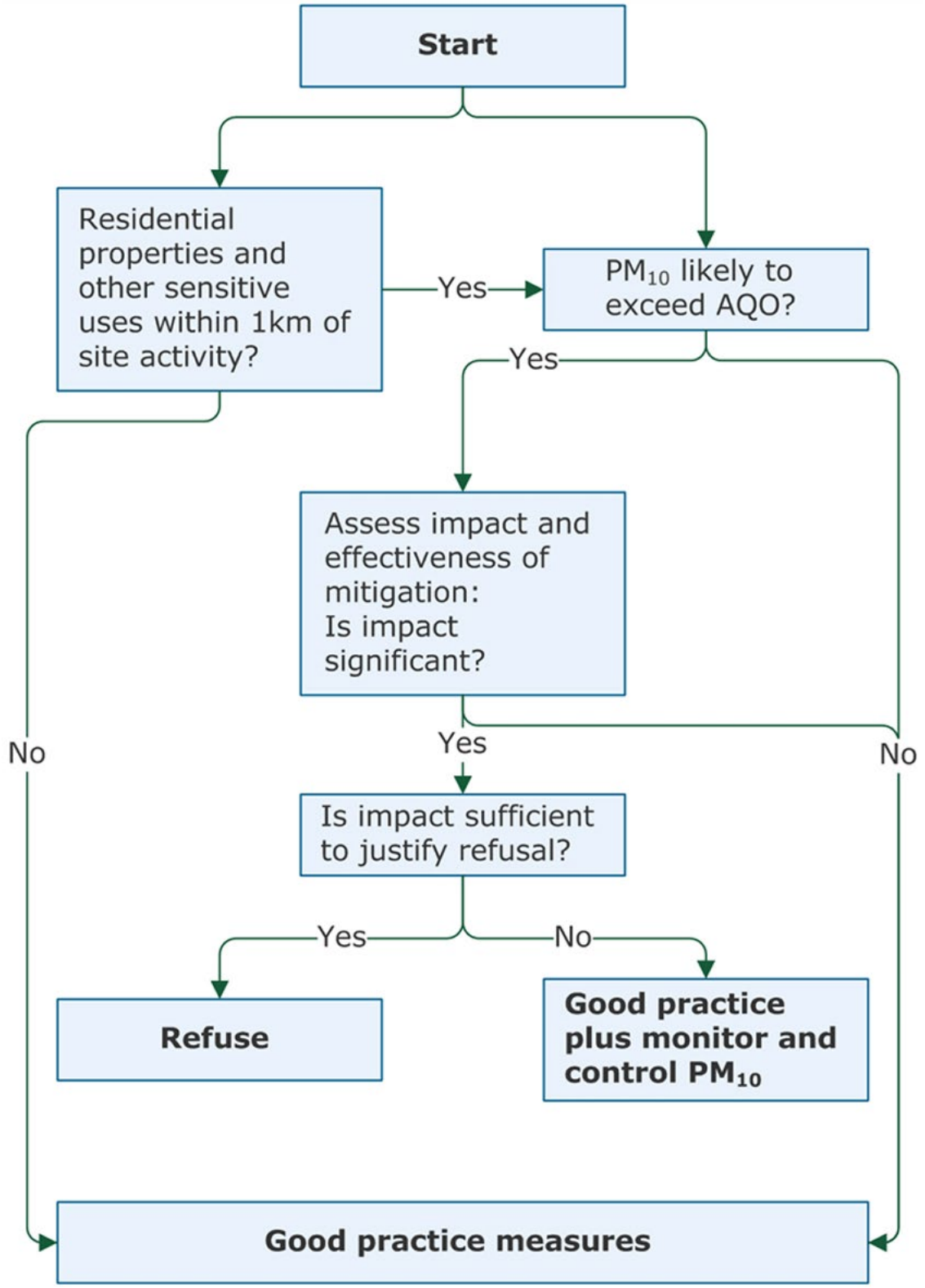
6.1.10 The evidence presented in this Proof of Evidence demonstrates that the Appellant has not adequately demonstrated that the proposed development will not result in loss of amenity at identified receptors and that the proposal is not compliant with relevant planning policy.

7. STATEMENT OF TRUTH

7.1.1 The evidence which I have prepared and provide in this Proof of Evidence is true and is given in accordance with the guidance of my professional institution. I confirm that the opinions expressed are my true and professional opinions.

Appendix 1

National Planning Guidance, Minerals [CD12.05] - Site assessment flow chart



Appendix 2

Receptors – Figure 2 extract from AQA [CD3.06]