

**Open Report on behalf of Andy Gutherson - Executive Director for Place**

Report to:	<b>Planning and Regulation Committee</b>
Date:	<b>15 April 2024</b>
Subject:	<b>County Matter Application - S23/1472</b>

**Summary:**

Supplementary Report

Planning permission is sought by G Webb Haulage Ltd (Agent: Clover Planning) to vary condition 5 of planning permission S19/0636 (reference S17/0563) to allow tipper trucks (HGVs) parked overnight on the site to leave South Witham Quarry between the hours of 06:00 and 07:00 at South Witham Quarry, Mill Lane, South Witham.

At its meeting on 6 November 2023 and following consideration of the Officer's report (attached as Appendix B) the Planning & Regulation Committee resolved to defer making a decision on the application and requested that further information be obtained to assess and demonstrate that noise from the early movement of HGV traffic would not have an unacceptable adverse impact on the amenity of nearby residents. The Committee also resolved to carry out a site visit. The site visit took place on 10th April 2024, where Members of the Committee were able to view the application site and its surroundings including the location of the overnight parking area for HGVs, accesses onto Mill Lane and Witham Road serving the site and their proximity to nearby properties.

**Recommendation:**

Following consideration of the relevant development plan policies and the comments received through consultation and publicity it is recommended that conditional planning permission be granted.

## Background

1. Planning permission is sought by G Webb Haulage Ltd (Agent: Clover Planning) to vary condition 5 of planning permission S19/0636 (reference S17/0563) to allow tipper trucks (HGVs) parked overnight on the site to leave South Witham Quarry between the hours of 06:00 and 07:00 at South Witham Quarry, Mill Lane, South Witham.
2. At its meeting on 6 November 2023, the Planning & Regulation Committee resolved to defer making a decision on the application and requested that further information be obtained to assess and demonstrate that noise from the early movement of HGV traffic would not have an unacceptable adverse impact on the amenity of nearby residents. The Committee also resolved to carry out a site visit.

## Additional Information Received Since the Last Meeting

3. To assess the potential impact of noise from the proposed change in working hours at the site, Lincolnshire County Council appointed Blue Tree Acoustics to undertake an independent noise assessment to assess the impacts of early morning HGV movements. Following the Committee deferment of the application the applicant also commissioned a noise report which was submitted in January 2024. This report has also been reviewed by the Council's noise consultant.
4. The Council's report (attached to this report as Appendix C) found that the applicants noise report did not go far enough as this assessment was limited to the impacts associated with the use of the southern haul road which is in fact under the control of a planning permission granted by Rutland County Council. The potential impact of HGV's leaving the northern access was not taken into account. The report also fails to assess the impacts from the movement of HGV's internal to the site, from the overnight lorry parking area to either the northern or southern access and as such does not assess the first half of each vehicles journey. Failings were also identified in the applicant's assessment in respect of the power output of HGV's and the determination of background noise levels and in summary was not considered to contain all of the information required to carry out a noise report to 2014 BS4142 standards.
5. The council's noise assessment included all HGV movements internal to the site and using both the southern (Witham Road) and northern (Mill Lane) access points to determine the potential for noise and disturbance on the amenity of local residents between the hours of 06:00 and 07:00.
6. The report notes that National Planning Policy Framework (NPPF) Planning Practice Guidance sets out that *'for any operations during the period 22.00 – 07.00 noise limits should be set to reduce to a minimum any adverse impacts, without imposing unreasonable burdens on the mineral operator. In any event the noise limit should not exceed 42dB(A) LAeq,1h (free field) at a noise sensitive property.*

*Where the site noise has a significant tonal element, it may be appropriate to set specific limits to control this aspect. Peak or impulsive noise, which may include some reversing beepers, may also require separate limits that are independent of background noise (eg Lmax in specific octave or third-octave frequency bands – and that should not be allowed to occur regularly at night).*

*Care should be taken, however, to avoid any of these suggested values being implemented as fixed thresholds as specific circumstances may justify some small variation being allowed.'*

7. In order to determine the representative background sound levels to inform the acoustic modelling, sound level monitoring was undertaken in a free-field position in the rear garden of 2 Witham Road Thistleton (Location 1) and in the rear garden of 25 Harold Road, South Witham (Location 2). The representative background sound level values are taken to be 35dB LA90 at Location 1 (which also accords with the applicant's survey) and 38dB LA90 at Location 2.
8. The potential impact of HGV activity was set against the background data and incorporated into the noise survey. For acoustic modelling assigned source sound data from British Standards for sources was used. The acoustic model is considered to be sufficiently robust for consideration of the potential impact of the proposed activity.
9. The assessment report sets out that, on the basis of a projected worst-case scenario, the Witham Road, Location 1 sound levels may slightly exceed the NPPF level reaching 48dB for around half of the readings, but these would still comply with the existing 50dB LAeq, 1hour limit required by the Rutland County Council planning permission. Sound levels at Mill Lane, Location 2 (within Lincolnshire County Council area) were projected to fall within with the 42dB LAeq, 1hour minerals night-time limit as required by the NPPF.
10. The report recommends that HGVs should be restricted such that they cannot enter the site until 0700 hours at the earliest, to prevent the pre-0600 hours anticipation risk. This restriction is already a conditional restriction in place for the Quarry, however LCC is not the planning authority for the southern haul road and only when a vehicle crosses the County boundary can action be taken under the terms of the Council's permission and as such cannot require any further planning controls in this respect. As previously stated, the proposal does however accord with the extant Rutland County Council planning permission.
11. It is proposed that to further manage these potential impacts planning condition no 8 attached to the South Witham Quarry permission will be amended to require that the noise from vehicle movements prior to 07:00 shall not exceed 42dB when measured at the nearest noise sensitive locations in Lincolnshire as specified in the Blue Tree Acoustics Sound Assessment Report as set out below:-

- ‘8. *Except for temporary operations, the free-field Equivalent Continuous Noise Level, dB LAeq, 1 hour free field, due to the daytime operations on the site, shall not exceed the site noise limits at the noise sensitive locations specified in the report “Noise Assessment of the Proposed Western Extension” contained in the Environmental Statement. Noise from vehicle movements prior to 07:00 shall not exceed 42dB when measured at the nearest noise sensitive locations in Lincolnshire as specified in the Blue Tree Acoustics Sound Assessment Report document ref: 03807-790101 dated 23/02/2024’*

### **Further Consultation and Additional Comments Received**

12. Subsequent to the Council’s noise report being received the views of Rutland County Council have been sought and whilst no comments were received at the time this report was prepared any comments received prior to the Committee will be drawn to the attention of the Committee.
13. Since the November Committee a further representation has been received from a resident of South Witham and is summarised below:
- What local markets have been considered by planning officers, are these local to the quarry or south down the A1?
  - Unaware that trucks have permission to park in the quarry overnight;
  - Dust and noise are of concern to residents, particularly in relation to out of hours working, no mention of existing noise or dust monitoring;
  - Unclear how Human Rights Implications have been applied to this application;
  - No confidence in Planning Enforcement;
  - Doesn’t consider that the following are relevant to this application:
    - NPPF Paragraph 174 (Conserving and Enhancing the Natural Environment)
    - NPPF Paragraph 185 (Ensuring Development Appropriate for Its location)
    - South Kesteven Local Plan Policy EN4 (Pollution Control); and
  - No meeting held with Parish Council and residents.
14. The Supporting Statement that was submitted as part of the application indicates that the proposal seeks to allow tipper trucks parked at the site, to leave earlier to serve a local market, particularly construction sites, without the site operator having to rely on loads being brought from more remote operating centres. These construction sites could be located within the region, resulting in the site serving the local market. The use of an area of the quarry as an overnight parking area for HGVs does not require a separate permission and is viewed as an ancillary activity connected to the principal permission for the quarry activity.

15. The quarry is monitored as part of the Councils monitoring regime of active quarries and is subject to four monitoring visits per year. Noise monitoring is carried out by the applicant in accordance with the approved scheme pursuant to Condition 23 of Planning Permission Ref: S68/1533/11, and dust monitoring is carried out in accordance with the approved scheme pursuant to Condition 1 of Planning Permission Ref: S19/0636.
16. This planning application has been considered in accordance with Articles 1 & 8 of the Human Rights Act and the Council have met its obligation to have due regard to its public sector equality duty under Section 149 of the Equality Act 2010 as set out in the substantive report at Appendix B and in this supplementary report.
17. The Council's Planning Enforcement team received a complaint raising concerns of outside of approved hours of working at South Witham Quarry. Officers have undertaken an investigation and identified that there had been an instance of HGV's leaving the site before 7:00am. In the first instance the Council seeks to resolve any breach of planning control via negotiation. Officers undertook an unannounced site visit in January 2024 before the approved operating hours of 07:00am and observed staff on site carrying out checks on HGV's, however, no HGV's were observed to be entering or leaving the site before 07:00am.
18. The condition would not restrict staff arriving at the site before 07:00am and undertaking the checks that were observed. The operator also provided business records to show compliance with the approved working times and had taken measures regarding this alleged breach of planning control by providing guidance to drivers and staff. Based on the findings at the unannounced site visit, and the records provided by the operator, Planning Enforcement did not consider it appropriate to escalate the matter further. However, the enforcement case has been left open until the determination of this planning application.
19. NPPF Paragraph 174 (Conserving and Enhancing the Natural Environment) - despite the comments made in the representation, this paragraph is relevant to both new and existing development and does not exclude quarry operations. The purpose of the paragraph is to ensure that planning decisions contribute to and enhance the natural and local environment, minimise impact on biodiversity and prevent new and existing development from contributing to unacceptable levels of soil, air, water or noise pollution.
20. NPPF Paragraph 185 (Ensuring Development Appropriate for Its Location) - taking into account the likely effects on health, living conditions, and the natural environment through mitigation and reduction of potential adverse impacts. The representation states that this planning application is not new development, suggesting that this paragraph of the NPPF is irrelevant in this instance. However, this planning application is proposing changes to the developments operating hours which could have impacts on health, living conditions, and the natural

environment and therefore it is considered appropriate to assess the planning application against this paragraph of the NPPF.

21. South Kesteven Local Plan Policy EN4 (Pollution Control) - the representation received suggests that this policy is irrelevant to quarry operations and that it is solely for new developments that should consider and demonstrate the design of new buildings. However, Policy EN4 states that development should seek to minimise pollution and where possible contribute to the protection and improvement of the quality of air, land and water. Development, on its own or cumulatively, that would result in significant air, light, noise, land, water or other environmental pollution or harm to amenity, health well-being or safety will not be permitted. Development will only be permitted if the potential adverse effects can be mitigated to an acceptable level by other environmental controls, or by measures included in the proposals. This policy is relevant to applications to consider impacts from the development on quality of air, noise and land.
22. Finally, whilst the NPPF encourages engagement with the local community by the applicant in relation to planning applications, it is not mandatory.

### **Conclusions**

23. The noise assessment carried out on behalf of LCC has demonstrated that the proposed HGV movements at the Quarry before 07:00 meet the 42dB nighttime noise limit criteria set out in the NPPF. Projected noise impacts for the southern access may on occasion slightly exceed this level but this is not a matter for this Council and if Rutland County Council considered this was unacceptable they could have imposed a time restriction but have chosen not to do this, preferring to control the activities by setting a noise standard that should not be breached. This slight variation may be considered acceptable, taking account of the guidance in the NPPF that small variations are in some circumstances acceptable, and that it would still be within the conditional requirements of the Rutland Planning permission.
24. It is concluded that the proposed amendments to the conditions of the planning permission controlling the operations in Lincolnshire would be in accordance with NPPF and Policy DM3 of the Minerals and Waste Local Plan and be satisfactory in respect of there not being an unacceptable adverse impact from noise.

### **Human Rights Implications**

25. The Committee's role is to consider and assess the effects that the proposal will have on the rights of individuals as afforded by the Human Rights Act (principally Articles 1 and 8) and weigh these against the wider public interest in determining whether or not planning permission should be granted. This is a balancing exercise and matter of planning judgement. In this case, having considered the information and facts as set out within this report, should planning permission be granted the decision would be proportionate and not in breach of the Human Rights Act (Articles 1 & 8) and the

Council would have met its obligation to have due regard to its public sector equality duty under Section 149 of the Equality Act 2010.

## RECOMMENDATIONS

That planning permission be granted, subject to the conditions, set out in the report attached as Appendix B.

### Appendices

These are listed below and attached at the back of the report	
Appendix B	Planning and Regulation Committee Report 6 <sup>th</sup> November 2023 (with condition 8 amended)
Appendix C	Blue Tree Acoustics Sound Assessment Report document ref: 03807-790101 dated 23/02/2024

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**Open Report on behalf of Andy Gutherson - Executive Director for Place**

Report to:	<b>Planning and Regulation Committee</b>
Date:	<b>6 November 2023</b>
Subject:	<b>County Matter Application - S23/1472</b>

**Summary:**

Planning permission is sought by G Webb Haulage Ltd (Agent: Clover Planning) to vary condition 5 of planning permission S19/0636 to allow tipper trucks (HGVs), parked overnight on the site, to leave South Witham Quarry between the hours of 0600 and 0700 at South Witham Quarry, Mill Lane, South Witham.

Under the proposed revised condition HGVs would be allowed to leave the site from 0600 hours which is before the main quarrying operations begin at 0700 hours Monday to Friday. It is proposed that the HGVs would be loaded and sheeted during the permitted working hours the day before which would enable them to leave site early in the morning to serve local markets. The number of vehicles permitted to leave during this early period would be limited to no more than eight HGVs.

A number of representations have been received during the consideration of this application and many of these have raised objections on the grounds of potential adverse impacts, primarily due to traffic but also on the amenity of residents living close to the site. Although the objections and issues raised by the public are noted, the potential impacts are capable of being mitigated, minimised, and reduced through a revised condition. The terms of the other conditions and S106 Planning Obligation would continue to apply.

**Recommendation:**

Following consideration of the relevant development plan policies and the comments received through consultation and publicity it is recommended that conditional planning permission be granted.



## Background

1. South Witham Quarry (the part subject of this application) extends over an area of approximately 50ha and has a long and complex planning history with several permissions having been granted over the years. In August 2018 planning permission (S17/0563) was granted for a western extension to the quarry and the completion of operations in the existing quarry together with the relinquishment of the permitted area, north of Mill Lane, which was granted under a historic Interim Development Order (IDO). This permission effectively consolidated the operations at the site under a single permission. In May 2019 a further permission was granted (S19/0636) which allowed for a minor material amendment to vary condition 2 of planning permission S17/0563 (Approved plans and documents) to reflect amended restoration contours to the batters along the northern and eastern boundary of the site. This is now the main planning permission under which the quarry operates.
2. In addition to the above planning permissions, in June 2017, Rutland County Council granted planning permission (ref: 2017/0298/MIN) for 'Variation of conditions Nos 1 & 2 (approved plans and limitations on use) of planning permission ref: 2016/0588/MIN on the Access Road, Witham Road, Thistleton'. The effect of this permission was to allow the haul road and access off Witham Road to be retained and used in conjunction with the operations permitted by Lincolnshire County Council planning permission ref S17/0563. There are a number of conditions attached to this planning permission to protect amenity (dust, noise, illumination etc). There are no specific restrictions in terms of hours to limit the use of the haul road.
3. The eastern area of the quarry is the original working area and has been in operation since the 1950s. Much of this area has already been worked for mineral although some reserves remain and are still being extracted. This part of the site is also being restored using imported inert fill. Within the existing quarry area is the former weighbridge located adjacent to the site offices and original quarry entrance off Mill Lane. Up to eight HGVs are parked within this part of the site overnight.
4. The second part of the quarry is a new area of working granted as an extension area in 2017 (planning permission ref S17/0563). This area lies approximately 450m east of the original working area. The extension area extends westwards to Fosse Lane which is bordered by a disused railway line to the north and the county boundary to the south.
5. An existing S106 Planning Obligation attached to the permission affecting the applicants' mineral operations contains a routeing restriction which prevents HGV traffic from accessing/egressing the site via South Witham village (except for carrying out local deliveries). There is also an existing Weight Restriction Traffic Regulation Order in force within Thistleton village which lies to the west of the southern site access and therefore prevents HCV traffic from using this route.

## The Application

6. Planning permission is sought by G Webb Haulage Ltd ('the Applicant') to vary condition 5 of planning permission S19/0636 (which amended reference S17/0563) to allow tipper trucks (HGVs) parked overnight on the site to leave South Witham Quarry between the hours of 0600 and 0700.

7. Condition 5 of the permission currently states:

*'Except as may otherwise be agreed in writing by the Mineral Planning Authority, no plant or machinery shall be operated within the site (other than in connection with essential maintenance within the plant site area) and no heavy goods vehicles shall enter or leave the site except between the following times:*

*07:00 - 18:00 hours (Monday to Friday)*

*07:00 - 13:00 hours (Saturdays)*

*No such activities shall take place on Sundays, Public Holidays or Bank Holidays.'*

The applicant proposes to amend Condition 5 to the following:

*'Except as may otherwise be agreed in writing by the Mineral Planning Authority, no plant or machinery shall be operated within the site (other than in connection with essential maintenance within the plant site area) and no heavy goods vehicles shall enter or leave the site except between the following times:*

*07:00 - 18:00 hours (Monday to Friday)*

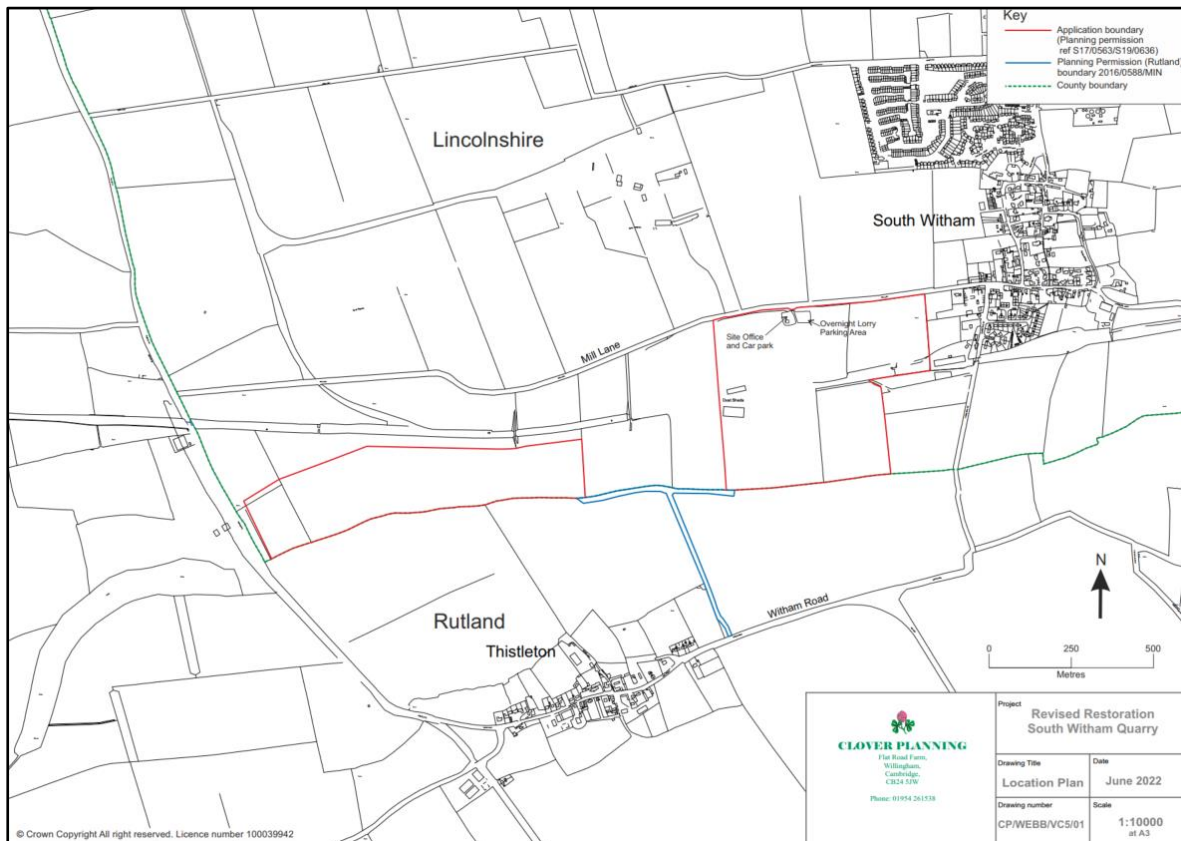
*07:00 - 13:00 hours (Saturdays)*

*Between 06:00 - 07:00 hours – Monday to Friday no more than eight heavy goods vehicles parked overnight on the site are permitted to leave the site. No such activities shall take place on Sundays, Public Holidays or Bank Holidays.'*

8. Under the proposed revised condition HGVs would be allowed to leave the site from 0600 hours before the main quarrying operations begin at 0700 hours Monday to Friday. It is proposed that the HGVs would be loaded and sheeted during the working hours the day before which would enable them to leave site early in the morning to serve local markets. The number of vehicles permitted to leave during this early period would be limited to no more than eight HGVs. Further loading of HGVs would not be permitted until 0700 hours as currently permitted. HGVs leaving the site at 0600 hours would not use flashing beacons (other than as part of a daily vehicle check before starting work), there would be no use of lighting within the quarry. HGVs would leave the site via the existing accesses with HGVs heading south and east using the quarry access located on Witham Road (avoiding the village of Thistleton) and HGVs travelling north, and west would continue to use the Mill Lane access (avoiding the village of South Witham).

## Site and Surroundings

9. South Witham Quarry is located to the southwest of South Witham village, with the towns of Grantham approximately 16km to the north and Stamford approximately 16km to the south. The site is effectively divided into two main parts linked by a haul road which runs to the south. The working quarry area is within Lincolnshire; the haul road connecting the working areas and providing the main vehicular access to Witham Road is within Rutland.



Location plan of the site and surrounding area

10. The site is bound by Mill Lane to the north and agricultural land to the east, south and west. Access to the site is gained from the north via Mill Lane as well as from the south via the access approved by Rutland County Council which connects to Witham Road.
11. The nearest residential property is located approximately 400m to the east of the site in South Witham.



Mill Lane access looking west



Mill Lane access looking east



Witham Road access looking east



Witham Road access looking west

## Main Planning Considerations

### Planning Policy Context

12. The National Planning Policy Framework (NPPF) (2023) sets out the Government's planning policies for England. It is a material consideration in determination of planning applications and adopts a presumption in favour of sustainable development. A number of paragraphs are of particular relevance to this application as summarised:

Paragraph 104 to 109 (Promoting Sustainable Transport) - states that when considering development proposals, it is necessary to ensure that there is safe and suitable access to the site and that any significant impact from the development on highway safety is mitigated and would not have severe residual cumulative impacts on the road networks.

Paragraph 174 (Conserving and Enhancing the Natural Environment) - planning decisions should contribute to and enhance the natural and local environment, minimise impact on biodiversity and prevent new and existing development from contributing to unacceptable levels of soil, air, water or noise pollution.

Paragraph 185 (Ensuring Development Appropriate for Its location) - taking into account the likely effects on health, living condition, and the natural environment through mitigation and reduction of potential adverse impacts.

Lincolnshire Minerals & Waste Local Plan (LMWLP): Core Strategy and Development Management Policies (2016) (CSDMP) - the following policies are of relevance in the determination of this application:

Policy DM3 (Quality of Life and Amenity) - states that planning permission will be granted, provided that it does not generate unacceptable adverse impacts arising from, noise, dust, vibration, odour, litter, emissions, illumination, visual intrusion, run off to protected waters or traffic to occupants of nearby dwellings and other sensitive receptors.

Policy DM14 (Transport by Road) - states that planning permission will be granted for mineral development involving transport by road where the highway network is of appropriate standard for use by traffic generated by the development and would not have an unacceptable impact on highway safety.

South Kesteven Local Plan (2011-2036) (SKLP) - the key policies of relevance in this case are as follows (summarised):

Policy EN4 (Pollution Control) - states that (amongst other matters) development that, on its own or cumulatively, would result in significant air, light, noise, land, water or other environmental pollution or harm to amenity, health well-being or safety will not be permitted. Development will only be permitted if the potential adverse effects can be mitigated to an acceptable level by other environmental controls, or by measures included in the proposals.

Policy DE1 (Promoting Good Design) - states that, amongst other matters, development proposals should ensure that there is no adverse impact on the amenity of neighbouring users in terms of noise, light pollution, loss of privacy and loss of light and have regard to features that minimise crime and the fear of crime etc.

#### Results of Consultation and Publicity

13. (a) South Witham Parish Council - Objection. The following comments have been raised.

- An increase in working hours will cause further disturbance and distress for residents;
- The quarry already operates before 7am;
- Unaware that trucks have permission to park in the quarry overnight;

- Dust and noise are of concern to residents, particularly in relation to out of hours working;
  - It is considered that granting planning permission for HGVs to leave the site from 6am would be contrary to the details set out under Section 7.50 (page 83), 7.28 (page 89), 7.29 (page 90), 7.82 (page 105) of the CSDMP;
  - The current planning permission has been assessed against the Transport Assessment that was submitted in 2015 which highlighted that the HGV movements would equate to 72 movements per day. It is suggested that increasing the working hours would increase the number of HGV vehicle movements and therefore an updated Transport Assessment should have been included in the application;
  - During Appeal ref: App/Q2500/W/17/3190663 (Dunston Quarry), the Planning Inspectorate decided that 7:00am is an early enough start for a quarry;
  - The supporting statement doesn't discuss the effect that the proposal would have on the climate and CO<sup>2</sup>.
- (b) Environment Agency (EA) - has confirmed it offers no comments in relation to this application.
- (c) Lincolnshire Police - has confirmed it has no objection.
- (d) Exolum Pipeline System Ltd - comments received which confirm that there is a pipeline that runs through the site. Officers are aware of this pipeline (which is located towards the western extension area), however, this proposal does not alter the existing permitted scheme of working or involve any works that could impact on this pipeline or lessen the protection already afforded to this apparatus.
- (e) Environmental Health Officer (SKDC) - have reviewed the application and confirm they have no objection to this application.
- (f) Highway and Lead Local Flood Authority (Lincolnshire County Council) - No objections. The proposed development is not expected to have an unacceptable impact upon highway safety or a severe residual cumulative impact upon the local highway network or increase surface water flood risk.
- (g) Local County Council Member Councillor, Mrs C Vernon - who is a member of the Planning and Regulation Committee reserves her position on the application until the date of the meeting.

The following bodies were consulted however, no representations had been received within the statutory consultation period or by the time this report was prepared:

- Local County Council Member, Councillor Mrs C Vernon
- South Kesteven District Council (Conservation Officer)
- Thistleton Parish Council
- Health and Safety Executive

14. The application has been publicised by notices posted at the site and in the local press (Lincolnshire Echo on 17 August 2023) and letters of notification were sent to the nearest neighbouring residents. A total of 12 representations have been received in response to this publicity/notification and a summary of the objections, comments and concerns raised are set out below:

- Noise Pollution - concerns have been raised in relation to the noise generated using quarry machinery from 6am and the effect that this could have on residents physical and mental wellbeing.
- Dust - concerns have been raised in relation to additional impacts from dust being caused due to extra vehicle movements.
- Highway Impacts - concerns have been raised in relation to additional HGV traffic travelling through South Witham village.

#### District Councils Observations Recommendations

15. South Kesteven District Council - no objection but has requested that should permission be granted then all other conditions of planning permission S19/0636 should be copied over to any new permission to ensure appropriate measures are in place to protect the amenity of neighbouring occupiers.

#### Conclusions

16. Planning permission is sought to vary condition 5 of planning permission ref S19/0636 to allow tipper trucks (HGVs) parked overnight on the site to leave South Witham Quarry between the hours of 0600 and 0700. The issues that need to be considered in the determination of this application relate to any increased impact on general amenity. This is in terms of potential noise and disturbance, and any impact on the highway network as a result of the proposed amended hours.

17. Policy DM3 of the LMWLP and Policy EN4 of the SKLP set out, amongst others, issues relating to noise, dust and traffic generation, which must be considered when assessing a planning application. This includes impact on highway safety, increase in vehicle movements and capacity of the highway network and potential impacts of dust and noise on the local amenity.

18. Policy DM14 seeks to ensure that traffic generated would not have an unacceptable impact on highway safety, free flow of traffic, residential amenity, and the environment.
19. The planning permission for the operation of the quarry was assessed upon the basis a total of 72 vehicle movements generated by the site per day. Although the applicant is seeking to allow a limited number of HGVs to leave the site earlier than currently permitted there is no suggestion that it is proposed to increase the overall number of HGV movements per day over and above the total of 72 movements that was assessed as part of the previous applications. However, and notwithstanding this position, even if the number of HGV movements were to increase by a further eight movements per day as a consequence of this proposal the Highways Officer has confirmed that an increase of eight vehicle movements per day would not be expected to have an unacceptable impact upon highway safety or a severe residual cumulative impact upon the local highway network or increase surface water flood risk. As a result, whilst the comments and concern regarding the potential increased traffic movements are noted, I am satisfied that should any increase occur this would be very minor and limited and any revised condition could be worded in such a way to limit the number of movements permitted to leave the site during the early period sought so as to ensure this does not give rise to any significant impacts. Therefore, I am satisfied that the proposed revised condition in relation to HGV hours would not conflict with Paragraphs 104 to 109 of the NPPF and Policy DM14 of the CSDMP.
20. In respect of potential impacts on the amenity of residents as a consequence of increased noise, light pollution, etc associated with the proposed early movements, measures are proposed by the applicant to ensure these are minimised. Such measures include ensuring that any HGVs planned to leave early will be loaded and sheeted during the permitted working hours the day before. This would ensure that any noise arising from the site is limited only to that associated with the engines of the HGVs and not from the operation of plant and equipment associated with the transfer and loading of mineral. The revised condition proposed by the applicant confirms this by continuing to make clear that the extended hours sought only apply to the movement of HGVs with no other operations. As a result, the Council would be able to take enforcement action against such activities should they occur in breach of the terms of this condition. In respect of potential impacts arising from lighting and engine noise, the site is located some distance from the nearest residential properties and so whilst it is accepted that HGVs leaving the site early could result in increased noise and light from headlights, these would be confined to the quarry and the separation distances involved mean that any impacts would be negligible. Furthermore, as vehicles leave the site they would be required to still adhere to the routes defined within the S106 routeing agreement which directs traffic away from the villages and so therefore avoids the risk of any disturbance to residents in the early hours as a result of traffic.



21. Finally, whilst comments have been made regarding the hours imposed on another quarry within the County (Dunston Quarry) it should be noted that all cases need to be assessed on their own merits and so the hours at one site should not be taken as setting a precedent for hours on all sites. Although it is accepted and typical that the hours of operation on quarry's tend to not commence until 0700 hours this is not universal and there is nothing to say extended hours cannot be accepted so long as they do not give rise to demonstrable adverse effects. For the reasons explained above, I am satisfied that the extended hours sought for a limited number of HGV movements is acceptable given the specific circumstances in this case and this view is supported by the lack of any objection from the Environmental Health Officer and District Council. Therefore, the development would not give rise to a conflict with paragraphs 174 and 185 of the NPPF, Policy DM3 of the CSDMP or Policy EN4 of the SKLP.

#### Human Rights Implications

22. The Committee's role is to consider and assess the effects that the proposal will have on the rights of individuals as afforded by the Human Rights Act (principally Articles 1 and 8) and weigh these against the wider public interest in determining whether or not planning permission should be granted. This is a balancing exercise and matter of planning judgement. In this case, having considered the information and facts as set out within this report, should planning permission be granted the decision would be proportionate and not in breach of the Human Rights Act (Articles 1 & 8) and the Council would have met its obligation to have due regard to its public sector equality duty under Section 149 of the Equality Act 2010.

#### Final Conclusion

23. A number of representations have been received during the consideration of this application and many of these have raised objections on the grounds of potential adverse impacts, primarily due to traffic but also on the amenity of residents living close to the site. Although the objections and issues raised by the public are noted, the potential impacts are capable of being mitigated, minimised, and reduced through a revised condition. The terms of the other conditions and S106 Planning Obligation would continue to apply. Therefore, and for clarity and the avoidance of any doubt, it is recommended that the decision notice be issued with a comprehensive set of conditions which consolidates and (where relevant) recites the conditions attached to planning permission S19/0636.

<b>RECOMMENDATIONS</b>
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That planning permission be granted subject to the following conditions:

1. The development hereby permitted shall be commenced within three years of the date of this permission. Written notification of the date of commencement of

development shall be sent to the Mineral Planning Authority within seven days of commencement.

*Reason: To comply with Section 91 of the Town and Country Planning Act 1990.*

2. The development hereby permitted shall continue to be carried out and operated in accordance with the following documents and plans unless otherwise modified by the conditions attached to this planning permission or details subsequently approved pursuant to those conditions. The approved documents and plans are as follows:

- Planning Application Form, Planning and Environmental Statement (February 2017) and supporting technical appendices (received 3 March 2017)
- Specification for Scheme of Archaeological Strip, Map and Record dated November 2019 (Date stamped received 5 December 2019)
- BRE-001-M-LP1 - Location Plan (received 1 March 2019)
- 17-019-D-001 Rev.1 - Proposed Quarry Development (received 10 March 2017)
- 17-019-D-002 Rev.1 - Proposal Plans - Block Phased Extraction (received 10 March 2017)
- 17-019-D-003 Rev.2 - Phase 1 Development (received 1 March 2019)
- 17-019-D-004 Rev.2 - Phase 2 Development (received 1 March 2019)
- 17-019-D-005 Rev.2 - Phase 3 Restoration Works within Current Permitted Area (received 1 March 2019)
- 17-019-D-006 Rev.1 - Proposed Extension Phase 4A (received 10 March 2017)
- 17-019-D-007 Rev.1 - Proposed Extension Phase 4B (received 10 March 2017)
- 17-019-D-008 Rev.1 - Proposed Extension Phase 4C (received 10 March 2017)
- 17-019-D-009 Rev.1 - Proposed Restoration Phase 4 (received 10 March 2017)
- 17-019-D-010 Rev.1 - Proposed Extension Phase 5A (received 10 March 2017)
- 17-019-D-011 Rev.1 - Proposed Extension Phase 5B (received 10 March 2017)
- 17-019-D-012 Rev.1 - Proposed Restoration Phase 5 (received 10 March 2017)
- 17-019-D-013 Rev.2 - Phase 6A - Remaining Permitted Reserves (received 1 March 2019)
- 17-019-D-014 Rev.2 - Phase 6B - Final Restoration of Current Permitted Area (received 1 March 2019)
- 1 Rev.B - Restoration Concept (received 1 March 2019)
- CP/WEBB/SW/C - Condition 21 Pipeline Protection

3. The continued deposition and use of imported inert wastes to help achieve the restoration works and profiles associated with Phases 1, 2, 3, 6A and 6B shall be restricted to those phases only.

*Reasons: For the avoidance of doubt and to reflect existing operations authorised by previous planning permissions and to ensure that the development is completed in accordance with the approved details.*

4. Nothing in this determination shall be construed as permitting the removal of topsoil, subsoil or overburden from the site.

*Reason: To ensure that materials remain on site for use for restoration purposes.*

5. Except as may otherwise be agreed in writing by the Mineral Planning Authority, no plant or machinery shall be operated within the site (other than in connection with essential maintenance within the plant site area) and no heavy goods vehicles shall enter or leave the site except between the following times:

07:00 - 18:00 hours (Monday to Friday)

07:00 - 13:00 hours (Saturdays)

Between 06:00 - 07:00 hours – Monday to Friday, no more than eight heavy goods vehicles per day parked overnight are permitted to leave the site.

No such activities shall take place on Sundays, Public Holidays or Bank Holidays.

6. Except as may otherwise be agreed in writing by the Mineral Planning Authority, essential maintenance work may only take place during the normal hours of working for the quarry (set out in the above condition), and between the hours of 13:00 - 17:00 Saturdays provided it is confined to the plant site area.

*Reasons: To enable the Mineral Planning Authority to adequately control the development and to minimise its impacts on the amenities of the local area.*

7. (a) All archaeological works undertaken shall be carried out in accordance with the Specification for Scheme of Archaeological Strip, Map and Record dated November 2019 (Date stamped received 5 December 2019) and approved on 8 January 2020.
- (b) The archaeological site work shall be undertaken only in full accordance with the approved written scheme. The applicant will notify the Mineral Planning Authority of the intention to commence at least fourteen days before the start of archaeological work in order to facilitate adequate monitoring arrangements. No variation shall take place without prior consent of the Mineral Planning Authority.
- (c) A copy of the final report will be submitted within three months of the work to the Mineral Planning Authority for approval (or according to an agreed programme). The material and paper archive required as part of the written scheme of investigation shall be deposited with an appropriate archive in accordance with guidelines published in The Lincolnshire Archaeological Handbook.

*Reason: To ensure that satisfactory arrangements are made for the investigation, retrieval, and recording of archaeological deposits within the site.*

8. Except for temporary operations, the free-field Equivalent Continuous Noise Level, dB LAeq, 1 hour free field, due to the daytime operations on the site, shall not exceed the site noise limits at the noise sensitive locations specified in the report "Noise Assessment of the Proposed Western Extension" contained in the Environmental Statement. Noise from vehicle movements prior to 07:00 shall not exceed 42dB when measured at the nearest noise sensitive locations in Lincolnshire as specified in the Blue Tree Acoustics Sound Assessment Report document ref: 03807-790101 dated 23/02/2024.
9. For temporary operations such as soil stripping, replacement and bund formation, the noise level shall not exceed 70dB(A) LAeq, 1 hour free field, at any noise sensitive property. Temporary operations which exceed the normal daytime criterion (set out in the above condition) shall be limited to a total of eight weeks in any twelve month period at any individual noise sensitive property; the dates of these occurrences shall be notified in writing to the Mineral Planning Authority.
10. In the event of any substantiated complaint being notified to the operator by the Mineral Planning Authority relating to noise arising as a result of the operations undertaken at the site, the operator shall provide the Mineral Planning Authority with a scheme of noise monitoring for its written approval. Following the written approval of the Mineral Planning Authority the noise monitoring scheme shall be carried out within one month of this written approval and the results of the survey and details of any additional mitigation measures to be implemented as part of the development shall be submitted for the attention of the Mineral Planning Authority. Any additional mitigation measures identified as part of the survey shall be implemented within one month of the survey and thereafter implemented for the duration of the development.
11. All plant, machinery, and vehicles (excluding delivery vehicles which are not owned or under the direct control of the operator) used on the site shall incorporate white noise reversing warning devices and be fitted with silencers maintained in accordance with the manufacturer's recommendations and specifications to minimise noise disturbance.

*Reasons: To enable the Mineral Planning Authority to adequately control the development and to minimise its impacts on the amenities of the local area.*

12. No commercial vehicles shall enter the public highway unless they are sheeted and, when necessary, their wheels and chassis have been cleaned to prevent material being deposited on the public highway.
13. No mud, debris or other deleterious materials shall be deposited on the public highway and any accidental deposition of such materials shall be removed immediately.

*Reasons: To prevent mud, dust and other extraneous material being deposited on the public highway, in the interests of highway safety and safeguarding the amenities of the area.*

14. Mineral extraction shall not proceed below a level of 104m AOD in the Western Extension area as outlined on Drawing Nos. 17-019-D-006 Rev.1 to 17-019-D-011 Rev.1 (inclusive).
15. Any facilities for the storage of oils, fuels or chemicals shall be sited on impervious bases and surrounded by impervious bund walls. The volume of the bunded compound shall be at least equivalent to the capacity of the tank plus 10%. If there is multiple tankage, the compound shall be at least equivalent to the capacity of the largest tank, or the capacity of interconnected tanks, plus 10%. All filling points, vents, gauges and site glasses must be located within the bund. The drainage system of the bund shall be sealed with no discharge to any watercourse, land or underground strata. Associated pipework shall be located above ground and protected from accidental damage. All filling points and tank overflow pipe outlets shall be detailed to discharge downwards into the bund.
16. No dewatering of the site shall be carried out.

*Reasons: To prevent pollution of the water environment and reduce flood risk to the area.*

17. The existing trees and shrubs around the boundary of the site shall be retained except where provision for their removal has been made in the approved scheme of working and shall not be felled, lopped, topped or removed without the prior written consent of the Mineral Planning Authority. Any such vegetation removed without consent, dying, being severely damaged or becoming severely diseased as a result of operations permitted by this permission, shall be replaced with trees or shrubs of such size and species as may be specified by the Mineral Planning Authority in the planting season immediately following such occurrence.
18. Outside the approved hours of working, floodlighting shall be restricted to security lights activated by intruder sensors.
19. Site clearance operations that involve the destruction and removal of vegetation on site shall not be undertaken during the months of March to August inclusive, except when approved in writing by the Mineral Planning Authority.
20. Prior to any quarrying operations or restoration works taking place in the immediate vicinity (i.e. 15m) of the north-eastern corner of the existing quarry face situated to the south of the former railway line (as shown during Phase 2 on Drawing No. 17-019-D-004 Rev.2) a reassessment survey of the potential for this area to support bats shall be undertaken and the results submitted for the approval of the Mineral Planning Authority. No works or operations shall take place until that approval has been secured and, if necessary, the follow up action identified within the submitted scheme completed.

*Reasons: To reflect the existing conditional requirements imposed by the earlier mineral planning permission in the interests of protecting bats and their habitats*

*and in the interests of amenity and wildlife conservation and to protect the amenity of the local area.*

21. The measures to protect and ensure the integrity of the pipeline running across the site, as set out in the details previously submitted and approved pursuant to Condition 21 of planning permission S19/0636 (as confirmed by the Council's decision notice dated 25 November 2022) shall continue to be implemented, retained and maintained for the duration of the development hereby permitted.
22. Notwithstanding any details approved by Condition 20 above, no mineral extraction operations shall take place closer than 10m from the pipeline as shown on Drawing No. 17-019-D-008 Rev.1.
23. No blasting shall be carried out within the approved application site boundary.

*Reasons: To ensure that adequate measures are taken to protect the pipeline that crosses the extension area.*

24. All plant and buildings shall be removed from the site on completion of quarrying and restoration.

*Reason: To ensure the restoration of the site is not compromised.*

#### Informatives

Attention is drawn to:

In dealing with this application the Mineral Planning Authority has worked with the applicant in a positive and proactive manner by processing the application efficiently so as to prevent any unnecessary delay. This approach ensures the application is handled in a positive way to foster the delivery of sustainable development which is consistent with the requirements of the National Planning Policy Framework and as required by Article 35(2) of the Town & Country Planning (Development Management Procedure)(England) Order 2015.

#### Appendix

These are listed below and attached at the back of the report	
Appendix A	Committee Plan

#### Background Papers

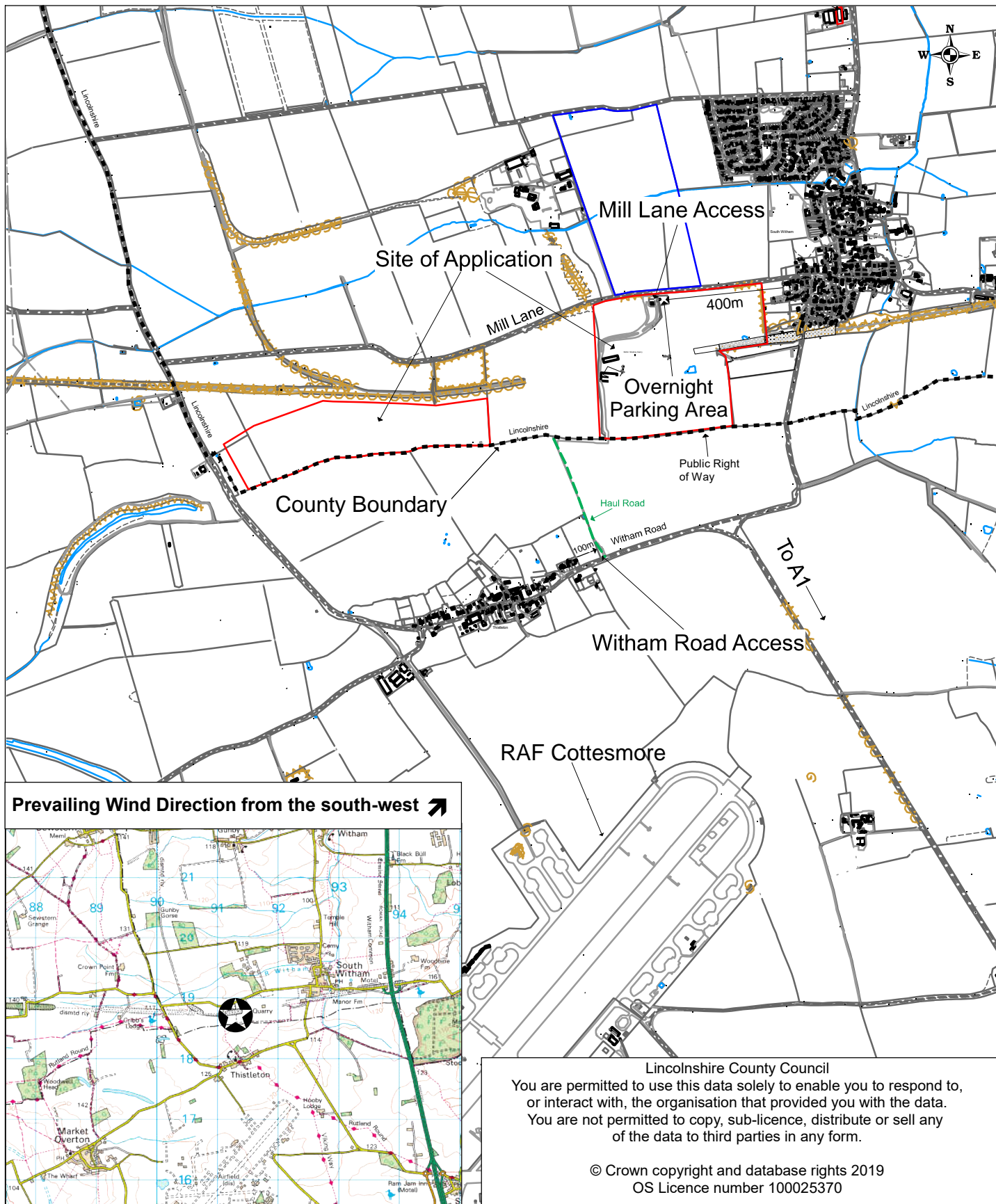
The following background papers as defined in the Local Government Act 1972 were relied upon in the writing of this report.

Document title	Where the document can be viewed
Planning Application File S23/1472	Lincolnshire County Council's website <a href="https://lincolnshire.planning-register.co.uk/">https://lincolnshire.planning-register.co.uk/</a>
National Planning Policy Framework (2021)	The Government's website <a href="http://www.gov.uk">www.gov.uk</a>
Lincolnshire Minerals & Waste Local Plan (2016)	Lincolnshire County Council's website <a href="http://www.lincolnshire.gov.uk">www.lincolnshire.gov.uk</a>
South Kesteven Local Plan (2020)	South Kesteven District Council's website <a href="http://www.southkesteven.gov.uk">www.southkesteven.gov.uk</a>

This report was written by Eloise Shieber, who can be contacted on 01522 782070 or [dev\\_planningsupport@lincolnshire.gov.uk](mailto:dev_planningsupport@lincolnshire.gov.uk)

## LINCOLNSHIRE COUNTY COUNCIL

PLANNING AND REGULATION COMMITTEE 6 NOVEMBER 2023



**Location:**  
 South Witham Quarry, Mill Lane,  
 South Witham

**Application No:** S23/1472  
**Scale:** 1:20,000

**Description:**  
 To vary condition 5 of planning permission S19/0636 (reference S17/0563) to allow tipper trucks (HGVs) parked overnight on the site to leave South Witham Quarry between the hours of 06:00 and 07:00



BlueTreeAcoustics



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**Proposed extension of haul road hours of use,  
South Witham Quarry, South Witham**

**BS4142:2014+A1:2019 Sound Assessment Report**

**Document ref. 03807-790101**

**23/02/2024**

**On behalf of  
Lincolnshire County Council**

**Prepared by  
Richard Watson BEng(Hons) CEng MIOA MAES MIEEE**

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## 1.0 INTRODUCTION

- 1.1 Blue Tree Acoustics has been appointed by Lincolnshire County Council to carry out a noise assessment for a proposed extension of the hours of use of South Witham Quarry, South Witham.
- 1.2 The quarry site is located to the southwest of South Witham and to the northeast of Thistleton. The use of the site is currently restricted to between 0700-1800 hours Monday-Friday and to between 0700-1300 hours on Saturday. The permissions restrict plant and machinery operations between these hours, this includes HGV/tipper lorry movements. The proposal sought by the operator G Webb Haulage Ltd is to permit HGV/tipper lorries to leave the site from 0600 hours. The application states that they would be pre-loaded the day before and kept at the Mill Lane end of the site overnight, then up to 8no HGV/tipper lorries would leave the site in the period between 0600-0700 hours. Due to various limitations on routes, southbound HGVs exit the site via the haul road to the south onto Witham Road, and northbound HGVs exit the site via the Mill Lane site access point to the north.
- 1.3 We understand that planning permission is sought by G Webb Haulage Ltd (the applicant) to vary Condition 5 of planning permission ref. S19/0636 (which amended ref. S17/0563) to allow tipper trucks (HGVs) parked overnight on the site to leave South Witham Quarry between 0600-0700 hours.
- 1.4 The current Condition 5 wording states:

*“Except as may otherwise be agreed in writing by the Mineral Planning Authority, no plant or machinery shall be operated within the site (other than in connection with essential maintenance within the plant site area) and no heavy goods vehicles shall enter or leave the site except between the following times:*

*07:00 - 18:00 hours (Monday to Friday)*

*07:00 - 13:00 hours (Saturdays)*

*No such activities shall take place on Sundays, Public Holidays or Bank Holidays.”*

1.5 We understand that the applicant proposes to amend the Condition 5 wording to the following:

*“Except as may otherwise be agreed in writing by the Mineral Planning Authority, no plant or machinery shall be operated within the site (other than in connection with essential maintenance within the plant site area) and no heavy goods vehicles shall enter or leave the site except between the following times:*

*07:00 - 18:00 hours (Monday to Friday)*

*07:00 - 13:00 hours (Saturdays)*

*Between 06:00 - 07:00 hours – Monday to Friday no more than eight heavy goods vehicles parked overnight on the site are permitted to leave the site. No such activities shall take place on Sundays, Public Holidays or Bank Holidays.”*

1.6 Acoustic report ref. SEM/J3778/18532 dated January 2024 and titled ‘Environmental Noise Impact Assessment Associated with the Proposed Variation of Operating Hours at South Witham Quarry’ has been produced by Acoustic Associates Peterborough and submitted in support of the application.

1.7 In addition to the above planning permissions, Rutland County Council granted planning permission (ref. 2017/0298/MIN) for ‘Variation of conditions Nos 1 & 2 (approved plans and limitations on use) of planning permission ref. 2016/0588/MIN on the Access Road, Witham Road, Thistleton’ in June 2017. The effect of this permission was to allow the haul road and access off Witham Road to the south of the quarry to be retained and used. There appear to be no specific restrictions to limit the hours of use of this southern haul road. There is a noise limit of 50dB  $L_{Aeq,1hour}$  required to be met at nearby dwellings, which applies to quarry activity including haul road vehicles. The logic of the 50dB  $L_{Aeq,1hour}$  limit value is unknown (i.e. it does not appear to correlate with the applicable acoustic standards or guidelines), and we are not aware of any acoustic assessment relating to this variation of conditions.

1.8 This noise impact assessment has included:

- a) Inspection of the site and surroundings.
- b) Review of proposals.
- c) Background sound monitoring survey undertaken at nearby noise-sensitive receptors.

- d) Consideration of noise impact and sound control measures required to reduce haul road sound impact in accordance with *British Standard 4142:2014+A1:2019 'Methods for rating and assessing industrial and commercial sound'* (BS4142:2014).
- 1.9 A technical review of the applicant's submitted noise assessment report has also been undertaken.
- 1.10 A glossary of technical terminology and parameters used in this report is provided in Appendix 1.

## 2.0 TECHNICAL REVIEW OF APPLICANT'S SUBMITTED NOISE ASSESSMENT REPORT

- 2.1 Acoustic report ref. SEM/J3778/18532 dated January 2024 and titled 'Environmental Noise Impact Assessment Associated with the Proposed Variation of Operating Hours at South Witham Quarry' has been produced by Acoustic Associates Peterborough and submitted in support of the application.
- 2.2 The report sets out its summary, objectives, conclusions, background, policy, assessment, results, and discussions, as well as glossary, instrumentation, monitoring results, and photographs.
- 2.3 The report uses BS4142 as the primary assessment method for the proposal.
- 2.4 BS4142 requires many pieces of information to be reported. The applicant's report does not contain all of the information required by the standard, and as such, it presents an incomplete BS4142 assessment.
- 2.5 Section A3.1 of Appendix 3 of the report declares that sound pressure level data was measured at Location A on 14/11/2023. However, the chart declares that the data was measured at Location B. Figure 4.1 of the report shows Location A being positioned next to the haul road, with no Location B being marked. It appears that references to Location B are typographical errors.
- 2.6 Based on the data presented in Appendix 3, the primary purpose of the noise survey seems to have been to measure background sound levels in the vicinity of the nearest dwellings to the southern haul road. Section A3.1 shows that the measurements appear to have been made between 0550-0805 hours. The dataset comprises a series of 5-minute contiguous measurements. Paragraph 8.1.3 of BS4142 states that an assessment should, "*Ensure that the measurement time interval is sufficient to obtain a representative value of the background sound level for the period of interest. This should comprise continuous measurements of normally not less than 15 min intervals, which can be contiguous or disaggregated.*" This dataset fails to comply with BS4142, and does not give a reason for its deviation from the standard. If measurements are too short, they may be affected by events that would not normally influence the background sound level.

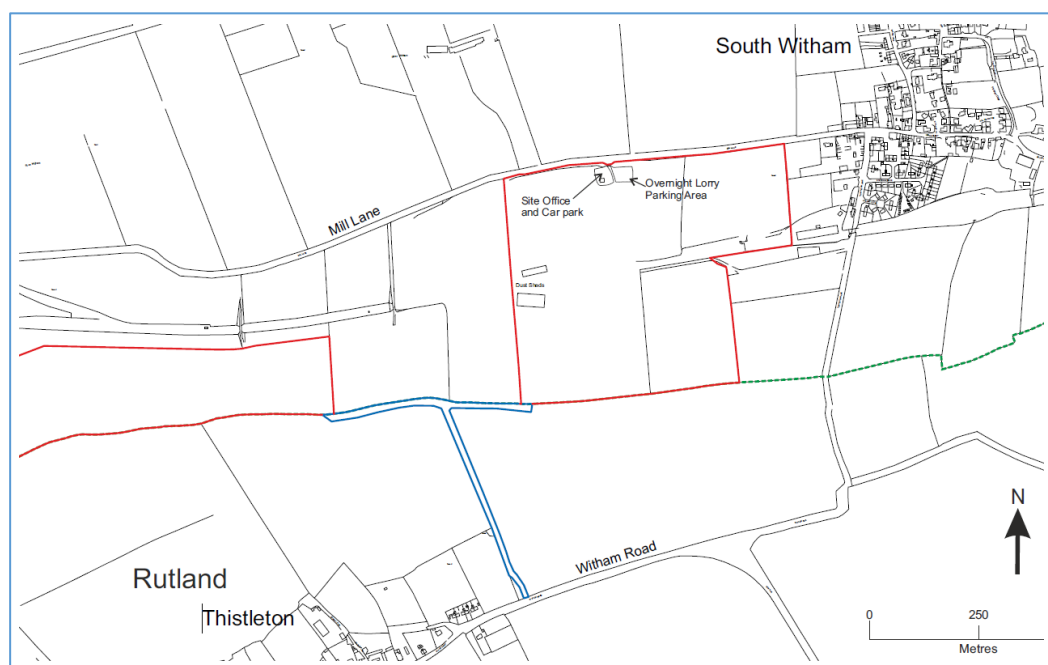
- 2.7 The period of interest is that between 0600-0700 hours. The data measured in this period shows background sound levels of between 30dB L<sub>A90</sub> and 40dB L<sub>A90</sub>. The comments section beneath the data declares that “HGV enters site” at 0601 hours. ‘Site’ here appears to mean the haul road, rather than the main quarry site. Paragraph 8.3 of BS4142 states, “*Existing specific sound source(s) not operating continuously - Measure the background sound: a) during a temporary shutdown of the specific sound source(s); or b) during a period immediately before or after the specific sound source(s) operate(s); or c) at times when the specific sound is absent but may otherwise be present over the period of interest.*” I.e., do not measure the background sound level while the specific activity is occurring. Given the 5-minute measurement period and the specific activity occurring within the background sound level data collection, there is a risk that background sound levels are artificially elevated. In addition, the report does not explain why data was not measured at the dwellings, or why the measurement location was deemed to be representative of the dwellings.
- 2.8 Section A3.2 of Appendix 3 gives similar data, but for 16/11/2023. Again, the comments section states that “HGV enters site”; again, ‘site’ appears to mean the haul road, rather than the main quarry site. Again, the data presents 5-minute measurements, and again both Location A and Location B are declared as the measurement location. In the 0600-0700 hours period of interest, the dataset shows background sound levels of between 40dB L<sub>A90</sub> and 50dB L<sub>A90</sub>.
- 2.9 Appendix 4 shows 2no sound level meters in use simultaneously at Location A. As 2no sound level meters are used during 1no visit, the report would appear to be missing data. Only 1no set of data is presented for each of the 2no monitoring dates. The most likely explanation for 2no sound level meters being used simultaneously is that HGV movement data was measured, or attempted to be measured, at the same time as the background sound survey data, with the data gathered by one of the sound level meters not being presented in the report. An alternative explanation may be that the second meter was measuring 15-minute periods (as per BS4142), but that this data is not presented in the report.
- 2.10 There are no photographs of Location B, so references to Location B are again presumed to be errors.
- 2.11 Figure 4.1 (reproduced below) shows the background measurement location (Location A) and the dwellings that it intends to represent (Assessment Location 1). The report defines the section of road marked in yellow on Figure 4.1 as the ‘southern access road’.



2.12 Based on the G Webb Haulage Ltd wording in the application, it would appear that the HGVs would travel from a position near Mill Lane via an internal road (possibly the 'northern access road'), before they move on to the 'southern access road'. Up to 8no HGVs will be parked overnight in the 'Overnight Lorry Parking Area' marked on the plan reproduced below. The Acoustic Associates Peterborough report considers only HGV movements on the section of road marked in yellow on Figure 4.1, whereas in reality the vehicles must travel from the overnight lorry parking area up to the start of the road marked in yellow on Figure 4.1, before driving down that road. Some documentation suggests that, due to planning restrictions relating to Thistleton village and South Witham village, quarry HGVs delivering to southern markets will egress from the south end of the quarry onto Witham Road and then continue east onto New Road to the A1, whereas quarry HGVs delivering to northern markets will egress from the north end of the quarry onto Mill Lane and then continue west.

2.13 The 'northern access road' referred to in Section 4 of the report is not marked up in Figure 4.1. Perhaps it is the short section of road connecting the overnight lorry parking area to the Mill Lane site entrance. Perhaps it is the track running internally within the quarry from the Mill Lane site entrance to the haul road. In either case, some HGVs appear to be routing from the overnight lorry parking area to Witham Road via the quarry land and the southern haul road.





- 2.14 The applicant's noise assessment does not consider the sound of the HGVs in approximately the first half of the travel period/route, i.e. travelling from the overnight lorry parking area to Witham Road via the site. It also does not consider any other noise events, such as HGV idling, doors closing, etc.
- 2.15 Table 4 of the report sets out the source sound level data used in the applicant's acoustic computer modelling for the proposal. 8no HGV movements between 0600-0700 hours are defined, each with a sound power level of 106dB(A), which is stated as coming from BS5228-1 Table C.10 Item 10. In the report's appendix, BS5228-1 is stated as being the 2009 version, rather than the current 2014 version. However, both versions of the standard show 'loading gravel to lorry' (which is 85dB  $L_{Aeq}$  at 10m, and thus taken as 113dB(A) sound power level) for Table C.10 Item 10. This line of data is not an HGV driving, but rather an HGV being loaded with gravel. Perhaps the Table C.10 Item 10 reference means to state 'Table C.11 Item 13' instead, but this cannot be known. As the HGV sound sources already occur onsite, and were observed during the applicant's site noise survey, these sound sources could have been measured and this data could have been used for their assessment; reasons for not undertaking this have not been stated in the report. As noted previously, 2no sound level meters are shown in the Location A photograph, so perhaps measurements were made/attempted, but not presented in the report.
- 2.16 A figure of 8no HGVs per hour is correctly stated, but as BS4142 considers a 15-minute reference period at night (0600-0700 hours is within nighttime in BS4142 terms), a representative number

of HGV movements per 15 minutes must be decided. Paragraph 7.2 of the report states that 2no HGV movements in a 15-minute period have been selected. The basis for this would apparently be that 8no HGVs per hour divided by 4no 15-minute periods comes to 2no HGVs. The reality is that only 2no HGVs per 15 minutes is unlikely to occur. It is considered very likely that at least 3no HGVs per 15 minutes will occur, as discussed later in this report.

- 2.17 Table 5 of the report sets out 'Modal Background Noise Levels', but not in the usual way expected by BS4142. It does not allow the reader to see the distribution. It also misstates the dates of the assessment, proposing that both sets of data come from 14/11/2023; the righthand column heading of the table presumably should state 16/11/2023. The data is treated as 2no separate sets rather than being combined, which is unusual. The selected representative background sound level is 34dB  $L_{A90}$ . Sensibly, the lower value is selected, presumably as a failsafe since the data was not correctly gathered over a series of 15 minutes as required by BS4142, and it contained no HGV-specific activity.
- 2.18 A figure of 37dB  $L_{Aeq}$  is found via the acoustic computer modelling for 2no HGVs in 15 minutes. As stated, the source sound level data is unknown, as the BS5228 reference is incorrect. This is stated as being 36.8dB  $L_{Aeq,1hour}$  Specific Noise Level, meaning Specific Sound Level of 37dB  $L_{Aeq,15min}$  in BS4142 terms. The 1-hour reference period stated is erroneous for nighttime BS4142 assessment.
- 2.19 The Specific Sound Level then becomes the Rating Level, with no acoustic feature correction applied. This is compared to the background sound level of 34dB  $L_{A90}$ . The result of +3dB is stated as being *"Between a 'Low' and 'Adverse Impact'"*. A result of +3dB would normally be taken to be 'adverse impact'. Paragraph 5.4.2 of the report misquotes BS4142, stating, *"A difference of +5 dB is indicative of an 'adverse impact',"* whereas in fact BS4142 states, *"A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context"* (+3dB being 'around +5dB').
- 2.20 It should also be noted that, if the calculation were adjusted from 2no HGVs in 15 minutes to 3no HGVs in 15 minutes, the finding would be +5dB 'adverse impact' in BS4142 terms.
- 2.21 The applicant's report states that it has been checked, but there are various obvious errors throughout the document. The checker holds TechIOA status, which is a low Institute of Acoustics membership grade. The IOA states that, *"The Technician Member grade is open to persons who have a suitable level of general education and who satisfy Council as being suitably"*

*qualified educationally in a limited field of acoustics with a minimum of one year's experience of work in acoustics. This grade of membership is intended for practitioners working in a limited area of acoustics who wish to be involved in the profession or to be able to access the services provided by the Institute to its members but who are not yet able to qualify for Associate Member or Member grades. This could include acoustics support staff within Local Authority Environmental Health Departments, technicians in speech and audiology departments, people involved in noise monitoring, sound insulation and vibration testing and those working in the audio industry."*

### 3.0 NOISE SURVEY

3.1 The assessment of sound from industrial and commercial sources (including BS4142 assessment) typically requires quantification and consideration of the following key aspects:

- a) Specific sound source – This is the sound source to be assessed.
- b) Specific sound level – This is the sound level of the specific sound source at the assessment location, which is typically the nearest noise-sensitive receptor, such as a nearby dwelling. The specific sound level can be derived by direct measurement of the specific sound sources, or from manufacturer's data. Described in terms of  $L_{Aeq}$ .
- c) Ambient sound level – This is the totally encompassing sound at the assessment location at a given time. This usually comprises many sources, near and far, as well as the specific sound where present. Described in terms of  $L_{Aeq}$ .
- d) Residual sound level – This is the ambient sound remaining at the assessment location in the absence of the specific sound, e.g. when the specific sound source is turned off or suppressed to such a degree that it does not contribute to the ambient sound. Residual sound levels can be used to correct ambient sound levels as a means of removing the other sound levels from the total, so as to derive the specific sound level. Described in terms of  $L_{Aeq}$ .
- e) Background sound level – This is the sound pressure level during the quietest times, in the absence of the specific sound source. It is the level exceeded for 90% of the measurement time during the period to be assessed. Described in terms of  $L_{A90}$ .
- f) Reference time interval – This is the specified interval over which the specific sound is assessed. BS4142 defines this as 1 hour during daytime (0700-2300 hours) and 15 minutes during nighttime (2300-0700 hours).

3.2 Unattended background sound level monitoring was undertaken by Blue Tree Acoustics from Tuesday 30/01/2024 into Monday 05/02/2024 at Location 1 and Location 2, which are indicated in Figure 1 of the present report.

3.3 Location 1 was in a free-field position in the rear garden of 2 Witham Road, Thistleton.

- 3.4 Location 2 was in the rear garden of 25 Harold Road, South Witham. This location was not completely free-field in the usual 3.5m definition, but can be considered to be free-field. 25 Harold Road was selected as the most free-field out of 3no different residential gardens along Harold Road that were considered for the monitoring location, and also being without pet dogs and other preclusions to noise monitoring.
- 3.5 The instruments used during the sound surveys were 2no Rion NL-52 Type 1/ Class 1 integrating sound level meters. Each meter was within a valid period of laboratory calibration. Calibration checks were carried out both before and after the measurements, with minimal variance observed and all calibration results being within 0.2dB of the stated value. A proprietary environmental windshield was fitted to each microphone. The background sound level measurements were made over a series of contiguous 15-minute periods, with each microphone being mounted on a tripod at approximately 1.5m height above local ground level.
- 3.6 Weather conditions throughout the survey periods were variable. A 1-week period of good weather would have ideally been selected, which would have given 5no 0600-0700 hours weekday morning periods to consider. However, due to time constraints and weather conditions typical of the winter season, only 2no acceptable 0600-0700 hours weekday morning periods occurred within the noise monitoring week. Sound level data affected by poor weather conditions has been excluded from this assessment, as has weekend sound level data. Archival weather data from a local station is presented in Appendix 4.
- 3.7 The measurement results are detailed in Appendix 2.
- 3.8 The prevailing sound levels were generally contributed to by local traffic movements.
- 3.9 The purpose of the noise survey was to find the representative background sound level at Location 1 and Location 2. Ideally, HGV movements would not have been occurring on the southern haul road between 0600-0700 hours throughout the survey period. However, it is unknown whether HGV movements did occur on the southern haul road during the survey. Based on the comments noted in the Acoustic Associates Peterborough survey, it is possible that they did. Audio recordings from our survey do occasionally contain what sound like HGV movements, and it is therefore possible that the true background sound levels are lower than presented.
- 3.10 The representative background sound level values are taken to be 35dB  $L_{A90}$  at Location 1 and 38dB  $L_{A90}$  at Location 2. The 35dB  $L_{A90}$  value at Location 1 is of the same order as the 34dB  $L_{A90}$

figure proposed by Acoustic Associates Peterborough. There is no comparable figure at Location 2.

## 4.0 NOISE ASSESSMENT

- 4.1 The northern access road is not well-defined in the application, and is excluded from consideration by the Acoustic Associates Peterborough report. The line of the 2no roads has been assumed as per the acoustic computer model plots shown in Appendix 3 of the present report. This is thought to be correct based on aerial images.
- 4.2 The overnight lorry parking area is not considered by the Acoustic Associates Peterborough report, but the area is well defined in the other application materials.
- 4.3 The source sound level for these HGV movements has not been measured by the applicant, or at least it has not been stated in the assessment report. The assessment states a sound power level of 106dB(A), which may well be of the right order. Table C.10 Item 10 does not contain this value, nor does it contain data that would lead to this value, but rather a value of 85dB LA<sub>eq</sub> at 10m for 'loading gravel to lorry', which would equate to a sound power level of 113dB.
- 4.4 Values from the database provided in *British Standard 5228-1:2009+A1:2014 'Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise'* (BS5228-1) have been considered for the present assessment, with Table C.11 presenting various data for 'lorry movements on access road'. Calculations have been made with data from both Item 8 and Item 13 of Table C.11 to show the range of possible results. Item 13 has a sound power level of 106dB(A), and might therefore be very similar to the values used in the Acoustic Associates Peterborough assessment; Item 8 has a sound power level of 116dB(A), which is significantly louder. The values in Table C.11 range from 77dB L<sub>Amax</sub> at 10m to 88dB L<sub>Amax</sub> at 10m, which respectively become sound power levels of 105dB(A) to 116dB(A) in accordance with BS5228, as shown in the table reproduced below.

Lorry movements on access road													
4	Lorry ж	350	44 t	82	80	78	75	76	78	75	69	83	ж
5	Lorry ж	350	36 t	92	82	77	76	77	72	68	63	80	ж
6	Lorry ж	343	29 t	92	82	76	78	77	76	74	68	83	ж
7	Lorry ж	313	44 t	87	79	77	74	73	73	70	64	79	ж
8	Lorry ж	313	40 t	81	79	79	83	84	81	76	70	88	ж
9	Lorry ж	313	32 t	99	82	81	76	78	74	71	66	82	ж
10	Lorry ж	310	32 t	91	79	77	74	71	69	64	61	77	ж
11	Lorry ж	306	44 t	96	79	75	79	82	80	72	67	86	ж
12	Lorry ж	298	44 t	96	80	75	75	74	72	67	60	79	ж
13	Lorry ж	283	44 t	84	80	76	74	73	70	67	61	78	ж
14	Lorry ж	254	32 t	93	79	76	74	73	72	69	66	79	ж
15	Lorry ж	242	32 t	86	94	81	77	80	77	75	69	85	ж
16	Lorry ж	235	26 t	86	81	74	76	73	72	69	60	79	ж
17	Lorry ж	233	32 t	91	78	74	70	72	74	66	59	78	ж
18	Lorry ж	216	32 t	85	78	83	82	86	80	73	69	88	ж
19	Lorry ж	201	26 t	87	76	73	81	79	75	68	62	83	ж
20	Lorry ж	160	18 t	91	76	79	78	80	76	70	64	83	ж

ж Drive-by maximum sound pressure level in L<sub>max</sub> (octave bands) and L<sub>Amax</sub> (overall level)

- 4.5 Considering the number of HGV movements in 15 minutes and given 8no movements in 1 hour, an occurrence of 2no HGVs is taken in the Acoustic Associates Peterborough assessment, presumably because  $8/4=2$ .
- 4.6 However, it is considered that more than 2no HGV movements in 15 minutes is in fact very likely. At least 3no HGV movements is considered likely. All that is needed is for the first 15-minute period to only contain 1no HGV, and then at least 1no of the next 3no 15-minute periods will have to contain 3no HGVs. It should also be noted that the 15-minute periods need not start at 0600 hours, and this also increases the chances of more than 2no HGVs occurring in 15 minutes. The following tables illustrate the issues around deciding on the number of movements in 15 minutes. Each count value is the number of movements from that point until 15 minutes later.

**Table 1: Possible HGV movement exploration – Spaced out HGV movements**

Time	HGV out	15-minute count from 0600 hours, 0615 hours, 0630 hours, 0645 hours	15-minute count from movement
0600 hours		2	
0601 hours	1		2
0602 hours			
0603 hours			
0604 hours			
0605 hours			
0606 hours			
0607 hours			
0608 hours			
0609 hours	1		2
0610 hours			
0611 hours			
0612 hours			
0613 hours			
0614 hours			
0615 hours		2	
0616 hours			
0617 hours			
0618 hours	1		2
0619 hours			
0620 hours			
0621 hours			
0622 hours			
0623 hours			
0624 hours			
0625 hours			
0626 hours			



Time	HGV out	15-minute count from 0600 hours, 0615 hours, 0630 hours, 0645 hours	15-minute count from movement
0627 hours	1		2
0628 hours			
0629 hours			
0630 hours		2	
0631 hours			
0632 hours			
0633 hours			
0634 hours			
0635 hours			
0636 hours	1		2
0637 hours			
0638 hours			
0639 hours			
0640 hours			
0641 hours			
0642 hours			
0643 hours			
0644 hours	1		3
0645 hours		2	
0646 hours			
0647 hours			
0648 hours			
0649 hours			
0650 hours			
0651 hours	1		
0652 hours			
0653 hours			
0654 hours			
0655 hours			
0656 hours			
0657 hours			
0658 hours	1		
0659 hours			

4.7 The above theoretical HGV movement times are chosen by the author. As can be seen above, the 'on the hour' 15-minute count shows 2no HGVs per 15 minutes, yet there are actually 3no HGV movements from 0644 hours. Counts would not start at an arbitrary time value, but rather on the basis of an actual HGV movement occurring.

**Table 2: Possible HGV movement exploration – Random time generator selection 1**

Time	HGV out	15-minute count from 0600 hours, 0615 hours, 0630 hours, 0645 hours	15-minute count from movement
0600 hours	1	2	2
0601 hours			
0602 hours			
0603 hours			
0604 hours			
0605 hours			
0606 hours	1		2
0607 hours			
0608 hours			
0609 hours			
0610 hours			
0611 hours			
0612 hours			
0613 hours			
0614 hours			
0615 hours	1	2	2
0616 hours			
0617 hours			
0618 hours			
0619 hours			
0620 hours			
0621 hours	1		1
0622 hours			
0623 hours			
0624 hours			
0625 hours			
0626 hours			
0627 hours			
0628 hours			
0629 hours			
0630 hours		1	
0631 hours			
0632 hours			
0633 hours			
0634 hours			
0635 hours			
0636 hours			
0637 hours			
0638 hours			
0639 hours			
0640 hours			
0641 hours			
0642 hours			

Time	HGV out	15-minute count from 0600 hours, 0615 hours, 0630 hours, 0645 hours	15-minute count from movement
0643 hours	1		4
0644 hours			
0645 hours	1	3	3
0646 hours	1		
0647 hours			
0648 hours	1		
0649 hours			
0650 hours			
0651 hours			
0652 hours			
0653 hours			
0654 hours			
0655 hours			
0656 hours			
0657 hours			
0658 hours			
0659 hours			

- 4.8 The above theoretical HGV movement times are generated by a randomiser. As can be seen above, the 'on the hour' 15-minute count shows 3no HGVs in one of the 15-minute periods, yet there are actually 4no HGV movements from 0643 hours.

**Table 3: Possible HGV movement exploration – Random time generator selection 2**

Time	HGV out	15-minute count from 0600 hours, 0615 hours, 0630 hours, 0645 hours	15-minute count from movement
0600 hours		2	
0601 hours			
0602 hours			
0603 hours			
0604 hours			
0605 hours			
0606 hours			
0607 hours			
0608 hours	2		4
0609 hours			
0610 hours			
0611 hours			
0612 hours			
0613 hours			
0614 hours			
0615 hours		5	
0616 hours			

Time	HGV out	15-minute count from 0600 hours, 0615 hours, 0630 hours, 0645 hours	15-minute count from movement
0617 hours			
0618 hours			
0619 hours	1		5
0620 hours	1		4
0621 hours			
0622 hours			
0623 hours			
0624 hours	1		3
0625 hours			
0626 hours			
0627 hours	1		2
0628 hours			
0629 hours	1		1
0630 hours		0	
0631 hours			
0632 hours			
0633 hours			
0634 hours			
0635 hours			
0636 hours			
0637 hours			
0638 hours			
0639 hours			
0640 hours			
0641 hours			
0642 hours			
0643 hours			
0644 hours			
0645 hours		1	
0646 hours			
0647 hours			
0648 hours			
0649 hours			
0650 hours			
0651 hours			
0652 hours			
0653 hours	1		
0654 hours			
0655 hours			
0656 hours			
0657 hours			
0658 hours			
0659 hours			

4.9 The above theoretical HGV movement times are generated by a randomiser. As can be seen above, the 'on the hour' 15-minute count shows 5no HGVs in one of the 15-minute periods, and there are also 5no HGV movements from 0619 hours.

**Table 4: Possible HGV movement exploration – Random time generator selection 3**

Time	HGV out	15-minute count from 0600 hours, 0615 hours, 0630 hours, 0645 hours	15-minute count from movement
0600 hours		1	
0601 hours			
0602 hours			
0603 hours			
0604 hours			
0605 hours			
0606 hours	1		1
0607 hours			
0608 hours			
0609 hours			
0610 hours			
0611 hours			
0612 hours			
0613 hours			
0614 hours			
0615 hours		1	
0616 hours			
0617 hours			
0618 hours			
0619 hours			
0620 hours			
0621 hours			
0622 hours			
0623 hours			
0624 hours			
0625 hours			
0626 hours			
0627 hours			
0628 hours			
0629 hours	1		1
0630 hours		0	
0631 hours			
0632 hours			
0633 hours			
0634 hours			
0635 hours			
0636 hours			
0637 hours			

Time	HGV out	15-minute count from 0600 hours, 0615 hours, 0630 hours, 0645 hours	15-minute count from movement
0638 hours			
0639 hours			
0640 hours			
0641 hours			
0642 hours			
0643 hours			
0644 hours			
0645 hours		6	
0646 hours			
0647 hours			
0648 hours			
0649 hours			
0650 hours	1		
0651 hours	1		
0652 hours			
0653 hours			
0654 hours	1		
0655 hours	1		
0656 hours	1		
0657 hours	1		
0658 hours			
0659 hours			

- 4.10 The above theoretical HGV movement times are generated by a randomiser. As can be seen above, the 'on the hour' 15-minute count shows 6no HGVs in one of the 15-minute periods.
- 4.11 The present assessment therefore takes 3no HGV movements as being representative, as it is considered that a maximum assumption of 2no HGV movements is too low. More than 3no HGV movements are certainly possible. Similarly, vehicle movements are often clustered around a given start or finish time when leaving or arriving at a yard or depot, i.e. it might be that most activity occurs in the period just after the proposed 0600 hours start.
- 4.12 The octave band sound power level values have been entered into CadnaA acoustic modelling software, applying a time correction of -1.7dB. This allows a time correction of 205 seconds for each HGV to travel the 1370m distance at 15mph, and a correction to allow for 3no HGV movements in 15 minutes. The method is imperfect, but broadly correct. The values are entered as a line source in CadnaA and modelled accordingly. It should be noted that CadnaA does not follow the BS5228-1 F.2.5 'Method for mobile plant using a regular well-defined route (e.g. haul roads)'. Our Excel calculations indicate that the F.2.5 method typically generates results 4dB(A)

higher than the CadnaA model. Nonetheless, the CadnaA model values are presented in this assessment.

- 4.13 HGV idling source sound levels are not stated in the Acoustic Associates Peterborough report. The values taken from BS5228 Table C.2 are not ideal, as they relate to 'tracked excavators' idling. Nonetheless, the values are assumed to be broadly correct. A 5-minute idling period is assumed per HGV, and again is thought to be broadly representative. HGV door slams, reversing beepers, etc. are not considered in the assessment, but there is a chance that such activity could occur and could generate significant sound.

## 5.0 UK GOVERNMENT MINERALS GUIDANCE

5.1 The UK government's minerals guidance was last updated in October 2014. It is presented online (<https://www.gov.uk/guidance/minerals>), and it is potentially fluid.

5.2 The current guidance wording states:

*"Noise emissions*

*How should minerals operators seek to control noise emissions?*

*Those making mineral development proposals, including those for related similar processes such as aggregates recycling and disposal of construction waste, should carry out a noise impact assessment, which should identify all sources of noise and, for each source, take account of the noise emission, its characteristics, the proposed operating locations, procedures, schedules and duration of work for the life of the operation, and its likely impact on the surrounding neighbourhood.*

*Proposals for the control or mitigation of noise emissions should:*

- i) consider the main characteristics of the production process and its environs, including the location of noise-sensitive properties and sensitive environmental sites;*
- ii) assess the existing acoustic environment around the site of the proposed operations, including background noise levels at nearby noise-sensitive properties;*
- iii) estimate the likely future noise from the development and its impact on the neighbourhood of the proposed operations;*
- iv) identify proposals to minimise, mitigate or remove noise emissions at source;*
- v) monitor the resulting noise to check compliance with any proposed or imposed conditions.*

*Paragraph: 019 Reference ID: 27-019-20140306"*

And:

*"How should mineral planning authorities determine the impact of noise?"*



*Mineral planning authorities should take account of the prevailing acoustic environment and in doing so consider whether or not noise from the proposed operations would:*

- vi) give rise to a significant adverse effect;*
- vii) give rise to an adverse effect; and*
- viii) enable a good standard of amenity to be achieved.*

*In line with the Explanatory Note of the Noise Policy Statement for England, this would include identifying whether the overall effect of the noise exposure would be above or below the significant observed adverse effect level and the lowest observed adverse effect level for the given situation. As noise is a complex technical issue, it may be appropriate to seek experienced specialist assistance when applying this policy.*

*Paragraph: 020 Reference ID: 27-020-20140306”*

And:

*“What are the appropriate noise standards for mineral operators for normal operations?”*

*Mineral planning authorities should aim to establish a noise limit, through a planning condition, at the noise-sensitive property that does not exceed the background noise level (LA90,1h) by more than 10dB(A) during normal working hours (0700-1900). Where it will be difficult not to exceed the background level by more than 10dB(A) without imposing unreasonable burdens on the mineral operator, the limit set should be as near that level as practicable. In any event, the total noise from the operations should not exceed 55dB(A) LAeq, 1h (free field). For operations during the evening (1900-2200) the noise limits should not exceed the background noise level (LA90,1h) by more than 10dB(A) and should not exceed 55dB(A) LAeq, 1h (free field). For any operations during the period 22.00 – 07.00 noise limits should be set to reduce to a minimum any adverse impacts, without imposing unreasonable burdens on the mineral operator. In any event the noise limit should not exceed 42dB(A) LAeq,1h (free field) at a noise sensitive property.*

*Where the site noise has a significant tonal element, it may be appropriate to set specific limits to control this aspect. Peak or impulsive noise, which may include some reversing beepers, may also require separate limits that are independent of background noise (eg*

*L<sub>max</sub> in specific octave or third-octave frequency bands – and that should not be allowed to occur regularly at night.)*

*Care should be taken, however, to avoid any of these suggested values being implemented as fixed thresholds as specific circumstances may justify some small variation being allowed.*

*Paragraph: 021 Reference ID: 27-021-20140306”*

- 5.3 If the Local Authority were to consider the HGV movements as being covered by this guidance, then the applicable noise limits should, “*reduce to a minimum any adverse impacts, without imposing unreasonable burdens on the mineral operator,*” with an ultimate limit of 42dB L<sub>Aeq,1hour</sub>.

## 6.0 BS4142:2014+A1:2019 COMMERCIAL/INDUSTRIAL SOUND IMPACT ASSESSMENT

6.1 The most relevant British Standard for assessing sound impact from commercial and industrial premises upon residential property is *British Standard 4142:2014+A1:2019 'Methods for rating and assessing industrial and commercial sound'* (BS4142:2014). This requires the level of sound radiating from the proposed, new, modified or additional source(s) of sound of an industrial and/or commercial nature (in  $L_{Aeq}$ ) to be compared with the existing Background Sound Level ( $L_{A90}$ ) at any nearby residential property.

6.2 The scope of BS4142 states:

*“1.1 This British Standard describes methods for rating and assessing sound of an industrial and/or commercial nature, which includes:*

- a) sound from industrial and manufacturing processes;*
- b) sound from fixed installations which comprise mechanical and electrical plant and equipment;*
- c) sound from the loading and unloading of goods and materials at industrial and/or commercial premises; and*
- d) sound from mobile plant and vehicles that is an intrinsic part of the overall sound emanating from premises or processes, such as that from forklift trucks, or that from train or ship movements on or around an industrial and/or commercial site.*

*The methods described in this British Standard use outdoor sound levels to assess the likely effects of sound on people who might be inside or outside a dwelling or premises used for residential purposes upon which sound is incident.*

*1.2 This standard is applicable to the determination of the following levels at outdoor locations:*

- a) rating levels for sources of sound of an industrial and/or commercial nature;*  
*and*
- b) ambient, background and residual sound levels, for the purposes of:*
  - 1) investigating complaints;*
  - 2) assessing sound from existing, proposed, new, modified or additional source(s) of sound of an industrial and/or commercial nature; and*

- 3) *assessing sound at proposed new dwellings or premises used for residential purposes.*

*1.3 The determination of noise amounting to a nuisance is beyond the scope of this British Standard.*

*Sound of an industrial and/or commercial nature does not include sound from the passage of vehicles on public roads and railway systems.*

*The standard is not intended to be applied to the rating and assessment of sound from:*

- a) recreational activities, including all forms of motorsport;*
- b) music and other entertainment;*
- c) shooting grounds;*
- d) construction and demolition;*
- e) domestic animals;*
- f) people;*
- g) public address systems for speech; and*
- h) other sources falling within the scopes of other standards or guidance.*

*The methodology set out in Clauses 7, 8, and 9 of this standard is not intended to be used to assess the extent of the impact at indoor locations. Internal sound levels can be taken into account as outlined in Clause 11.*

*The standard is not intended to be applied to the assessment of indoor sound levels.*

*The standard is not applicable to the assessment of low frequency noise.”*

- 6.3 The standard describes various methods for determining whether a correction or corrections should be applied to reflect the prominence of characteristic features in the industrial/commercial specific sound experienced at the assessment location. In subjective assessment, if the industrial/commercial sound has a tonal element that is just perceptible at the receptor, a 2dB penalty can be applied. If the tone is clearly perceptible, a 4dB penalty can be applied. If the tone is highly perceptible, a 6dB penalty can be applied. The standard also describes two objective methods for assessing tonal sound which may apply a penalty of up to 6dB.
- 6.4 Similarly, a penalty of 3dB can be applied for a sound that has impulsivity that is just perceptible. If the impulsivity is clearly perceptible, a 6dB penalty can be applied. If the impulsivity is highly

perceptible, a 9dB penalty can be applied. The standard also describes an objective method for assessing impulsivity which may apply a penalty of up to 9dB.

- 6.5 If the sound has clearly identifiable on/off conditions during the reference period and this is readily distinctive against the residual acoustic environment during the reference period, a 3dB penalty for intermittency can be applied. No objective method is given in the standard for assessing intermittency.
- 6.6 Where characteristic features of the specific sound are neither tonal nor impulsive, nor intermittent, but are readily distinctive against the residual acoustic environment, a 3dB subjective penalty can be applied.
- 6.7 Therefore, depending on the circumstances, a total penalty of between 0 and 18dB could potentially be applied to allow for characteristic features of the industrial/commercial sound. However, BS4142:2014 does state that, if any single feature is dominant to the exclusion of others, then it may be appropriate to apply a reduced or zero correction for the minor characteristic. Also, the subjective prominence of the character of the specific sound at the noise-sensitive receptor should be considered, and the extent to which such characteristics will attract attention and/or be masked by residual sound at that location.
- 6.8 The level of the industrial/commercial sound measured or calculated in  $L_{Aeq}$  terms, plus any penalty as described above, provides the Rating Level.
- 6.9 BS4142 states that:

*“The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs. An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs/will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context.*

*Obtain an initial estimate of the impact of the specific sound by subtracting the measured background sound level (...) from the rating level (...).*

*NOTE 1. More than one assessment might be appropriate.*

- a) *Typically, the greater this difference, the greater the magnitude of the impact.*
- b) *A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.*
- c) *A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context.*
- d) *The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.*

*NOTE 2. Adverse impacts include, but are not limited to, annoyance and sleep disturbance. Not all adverse impacts will lead to complaints and not every complaint is proof of an adverse impact.*

*Where the initial estimate of the impact needs to be modified due to the context, take all pertinent factors into consideration, including the following.*

- 1) *The absolute level of sound. For a given difference between the rating level and the background sound level, the magnitude of the overall impact might be greater for an acoustic environment where the residual sound level is high than for an acoustic environment where the residual sound level is low.*

*Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night.*

*Where residual sound levels are very high, the residual sound might itself result in adverse impacts or significant adverse impacts, and the margin by which the rating level exceeds the background might simply be an indication of the extent to which the specific sound source is likely to make those impacts worse.*

- 2) *The character and level of the residual sound compared to the character and level of the specific sound. Consider whether it would be beneficial to compare the frequency spectrum and temporal variation of the specific sound with that of the ambient or residual*

*sound, to assess the degree to which the specific sound source is likely to be distinguishable and will represent an incongruous sound by comparison to the acoustic environment that would occur in the absence of the specific sound. Any sound parameters, sampling periods and averaging time periods used to undertake character comparisons should reflect the way in which sound of an industrial and/or commercial nature is likely to be perceived and how people react to it.*

*NOTE 3 Consideration ought to be given to evidence on human response to sound and, in particular, industrial and/or commercial sound where it is available. (...)*

- 3) *The sensitivity of the receptor and whether dwellings or other premises used for residential purposes will already incorporate design measures that secure good internal and/or outdoor acoustic conditions, such as:*
- i) facade insulation treatment;*
  - ii) ventilation and/or cooling that will reduce the need to have windows open so as to provide rapid or purge ventilation; and*
  - iii) acoustic screening.”*

6.10 BS4142:2014 lists the following information to be reported when assessing sites to the standard.

**Table 5: BS4142:2014+A1:2019 – Required information**

a) Statement of qualifications, competency, professional memberships and experience directly relevant to the application of this British Standard of all personnel contributing to the assessment:
Richard Watson BEng(Hons) Electroacoustics, Chartered Engineer, Member of the Institute of Acoustics, has undertaken many BS4142 assessments previously.
Blue Tree Acoustics is a member of the Association of Noise Consultants (ANC).

b) Source being assessed as follows:	
1) description of the main sound sources and of the specific sound;	8no HGV/lorry movements as described in this report
2) hours of operation;	Proposed activity between 0600-0700 hours
3) mode of operation (e.g. continuous, twice a day, only in hot weather);	8no HGV movements
4) statement of operational rates of the main sound sources (e.g. maximum load setting, 50% max rate, low load setting); and	8no HGV movements
5) description of premises in which the main sound sources are situated (if applicable).	HGV movements occurring externally
c) Subjective impressions, including:	
1) dominance or audibility of the specific sound; and	The precise specific sound source does not yet exist at the site location.
2) main sources contributing to the residual sound.	The precise specific sound source does not yet exist at the site location.
d) The existing context (see Clause 4 and Clause 11), including an assessment of the sensitivity of the receptor:	
The sensitive receptors are as described in this report, being the nearest dwellings to the development site.	



e) Measurement locations, their distance from the specific sound source, the topography of the intervening ground and any reflecting surface other than the ground, including a photograph, or a dimensioned sketch with a north marker. A justification for the choice of measurement locations should also be included.

Data gathered over a number of days is preferred, and thus the logging locations must be secure and accessible.

Background sound measurements made at the following locations are taken to be representative of the sound levels at the dwelling locations in each area.

Location 1 is a free-field location in the rear garden of 2 Witham Road, Thistleton, and is marked in Figure 1 of this report. A photograph of measurement Location 1 is presented below.



Location 2 is essentially a free-field location in the rear garden of 25 Harold Road, South Witham, and is as marked in Figure 1 of this report. A photograph of measurement Location 2 is presented below. (N.B. The chair and table were moved further to the side before the measurements began.)



f) Sound measuring systems, including calibrator or pistonphone used:

	Location 1	Location 2
1) type and/or model;	Class 1/Type 1 sound level meter. Rion NL-52.	Class 1/Type 1 sound level meter. Rion NL-52.
2) manufacturer;	Rion	Rion
3) serial number (S/N); and	01021309	00620852
4) details of the latest verification test including dates.	Calibrated by ANV on 08/11/2023.	Calibrated by ANV on 22/11/2022.

g) Operational tests:

1) reference level(s) of calibrator, multi-function calibrator or pistonphone; and	94.0dB Brüel & Kjær 4230 calibrator (S/N 1411221), calibrated by ANV on 08/11/2023.	94.0dB Rion NC-74 calibrator (S/N 34425559), calibrated by ANV on 22/11/2022.
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	Location 1	Location 2
2) meter reading(s) before and after measurements with calibrator, multi-function calibrator or pistonphone applied.	93.9dB pre-measurement  93.9dB post-measurement	93.9dB pre-measurement  93.8dB post-measurement
h) Weather conditions, including:		
1) wind speed(s) and direction(s);	Sound level data used in this assessment is considered to be collected in wind conditions of <5m/s, as supported by archival weather data from a local station (reproduced in Appendix 4).	
2) presence of conditions likely to lead to temperature inversion (e.g. calm nights with little cloud cover);	Temperature inversion possible.	
3) precipitation;	Sound level data used in this assessment is considered to be collected in conditions with no precipitation.	
4) fog;	None	
5) wet ground;	Believed to be none at the times that the sound level data used was collected.	
6) frozen ground or snow coverage;	None	
7) temperature; and	As presented in Appendix 4	
8) cloud cover.	Approximately 70% cloud cover witnessed during equipment installation and collection times.	
i) Dates and times of measurements		
As set out in this report.		
j) Measurement time intervals:		
As set out in this report.		
k) Reference time interval(s).		
15 minutes in the nighttime.		

l) Measured sound level(s):	
1) residual sound level(s) and method of determination;	Precise specific sound source not operational (see below for more information).
2) ambient sound level(s) and method of determination;	Not used, as precise specific sound not occurring. See Appendix 2 for more information.
3) specific sound level(s) and method of determination;	<p>It was not possible to determine the specific sound level by measurement at the site location.</p> <p>The predicted specific sound level at the nearest residential properties has been calculated at window-height of the nearest dwellings using CadnaA acoustic modelling software.</p> <p>The predicted specific sound level at Location 1 is 39dB <math>L_{Aeq,15min}</math> between 0600-0700 hours, based on activity comprising 3no HGV movements with sound power level of 106dB(A) and 3no HGVs idling. Using the higher sound power level of 116dB(A) for HGV movement activities, the predicted specific sound level at Location 1 becomes 49dB <math>L_{Aeq,15min}</math>.</p> <p>The equivalent figures at Location 2 are 28dB <math>L_{Aeq,15min}</math> assuming a sound power level of 106dB(A), and 38dB <math>L_{Aeq,15min}</math> assuming a sound power level of 116dB(A)</p>
4) justification of methods; and	Method follows BS4142 procedure for determining specific sound level where the specific source is not in-situ. No measured data is available for HGV movements on this haul road, and BS5228 lorry movement data is therefore used.
5) details of any corrections applied.	Corrections applied in the calculation for distance, barriers, etc., as per ISO 9613-2:1996, as applied by CadnaA.

m) Background sound level(s) and measurement time interval(s) and, in the case of measurements taken at an equivalent location, the reasons for presuming it to be equivalent:	
15-minute measurements were made at Location 1 and Location 2, as described in this report. The representative background sound level at Location 1 was found to be 35dB L <sub>A90</sub> . The representative background sound level at Location 2 was found to be 38dB L <sub>A90</sub> . This data is detailed in Appendix 2.	
n) Rating level(s):	
1) specific sound level(s);	Taking the lowest calculated values: Location 1 area: 39dB L <sub>Aeq</sub> Location 2 area: 28dB L <sub>Aeq</sub>
2) any acoustic features of the specific sound; and	The intermittent activities may draw a +3dB correction. This has been applied, as movements are likely to be noticeable compared to the 'no movements' periods between 0600-0700 hours.
3) rating level(s).	Location 1 area: 42dB Location 2 area: 31dB
o) Excess of the rating level(s) over the measured background sound level(s) and the initial estimate of the impacts:	
Location 1 area: +7dB adverse impact Location 2 area: -7dB low impact	
p) Conclusions of the assessment after taking context into account:	
-7dB would be considered 'low impact' in BS4142 terms. This is desirable. +7dB would be considered 'adverse impact' in BS4142 terms, but not 'significant adverse impact'.	

q) The potential impact of uncertainty:

There is uncertainty in the source sound levels for the HGV movements. The stated findings here are potentially 10dB low; see BS5228 tables and the range of possible values. If the source sound levels are at the upper range of possible values, then the BS4142 conclusion would be 'significant adverse impact'.

3no HGV movements in a 15-minute period is assumed. Certainly, the value must be at least 2no HGV movements in a 15-minute period, but it could be as high as 8no HGV movements in a 15-minute period. The assumption of 3no HGV movements is considered reasonable, but it is not conservative.

A +3dB correction for acoustic features of the specific sound has been applied. If no correction is applied, the conclusion would be +4dB, which would also be considered 'adverse impact' in BS4142 terms.

There is uncertainty in the background sound level data, as there may be HGV-specific activity taking place during the measurement period, but it is considered that this most likely has little effect given the 15-minute measurement periods and the measurement locations being remote from the southern haul road.

BTA measurements have been undertaken in accordance with relevant standards and guidelines to minimise measurement uncertainty. Class 1/Type 1 instruments have been used for all BTA measurements.

HGV idling sound levels are assumed, but do not significantly alter the finding of the assessment, i.e. HGV movements dominate the calculations. HGV reversing beepers, door closing, etc. are not included in this assessment, and therefore the assessment might understate the impact of activity in the overnight lorry parking area.

Assumptions are inevitably made in acoustic modelling and in the assigning of source sound data from British Standards for sources used in an acoustic model. However, the acoustic model is considered to be sufficiently robust for consideration of the potential impact of the proposed activity.

## 7.0 OTHER CONSIDERATIONS

- 7.1 The UK government's 'Guidance on the planning for mineral extraction in plan making and the application process' (<https://www.gov.uk/guidance/minerals>) is akin to MPS2. This guidance wording states:

*"What are the appropriate noise standards for mineral operators for normal operations?"*

*Mineral planning authorities should aim to establish a noise limit, through a planning condition, at the noise-sensitive property that does not exceed the background noise level ( $L_{A90, 1h}$ ) by more than 10dB(A) during normal working hours (0700-1900). Where it will be difficult not to exceed the background level by more than 10dB(A) without imposing unreasonable burdens on the mineral operator, the limit set should be as near that level as practicable. In any event, the total noise from the operations should not exceed 55dB(A)  $L_{Aeq, 1h}$  (free field). For operations during the evening (1900-2200) the noise limits should not exceed the background noise level ( $L_{A90, 1h}$ ) by more than 10dB(A) and should not exceed 55dB(A)  $L_{Aeq, 1h}$  (free field). For any operations during the period 22.00 – 07.00 noise limits should be set to reduce to a minimum any adverse impacts, without imposing unreasonable burdens on the mineral operator. In any event the noise limit should not exceed 42dB(A)  $L_{Aeq, 1h}$  (free field) at a noise sensitive property."*

- 7.2 If the above guidance is considered, the above nighttime wording seeks to reduce any adverse impacts to a minimum, without imposing unreasonable burdens of the mineral operator. Defining 'unreasonable burden' is not simple. 'Adverse impacts' could be taken to consider BS4142's findings of adverse impact – i.e. the activity should be less than 'around +5dB', which is taken to be no more than +3dB compared to background.
- 7.3 Based on the above assessment, the activity generates BS4142 +7dB (based on Scenario 1 presented in Appendix 3 of this report), and so it does generate 'adverse impacts' at Location 1. The specific sound level of 39dB  $L_{Aeq}$  at Location 1 would suggest that the 42dB  $L_{Aeq, 1hour}$  limit could be met, but this assumes 3no HGVs in a 15-minute period, rather than 8no HGVs in a 1-hour period (to convert between the two a -1.8dB correction is required). Considering specific sound levels over a 1-hour period with 8no HGVs, the figure becomes 37dB  $L_{Aeq, 1hour}$ , which meets the 42dB  $L_{Aeq, 1hour}$  limit. However, higher HGV source sound power

levels (as shown in Scenario 2 presented in Appendix 3 of this report) would give 48dB  $L_{Aeq,1hour}$  (based on the Scenario 2 prediction of 49.4dB  $L_{Aeq}$  -1.8dB correction).

- 7.4 The range of possible predicted values is large, and around half of the values would exceed 42dB  $L_{Aeq,1hour}$  at Location 1. It is anticipated that the Rutland County Council limit of 50dB  $L_{Aeq,1hour}$  would not be exceeded at dwellings at Location 1 i.e. 8no HGV movements in 1 hour, with the higher sound power level values is found to generate 48dB  $L_{Aeq,1hour}$ . This is below the 50dB  $L_{Aeq,1hour}$  planning condition criterion defined by Rutland County Council for control of impact upon dwellings under their jurisdiction and therefore presumably deemed acceptable.
- 7.5 As described in the Acoustic Associates Peterborough report, HGVs appear to already be entering the haul road before 0700 hours. Some residents also mentioned this, and felt that the existing planning conditions were not being abided by. They described noise from loading, as well as HGV movements, occurring before 0700 hours.
- 7.6 As the Rutland County Council permission controls the haul road to the south and places no limits on hours of operation, it would appear that it is possible for HGVs to use the southern haul road in an unlimited manner, so long as the 50dB  $L_{Aeq,1hour}$  limit is not exceeded.
- 7.7 The Lincolnshire County Council permission controls the main quarry site, the northern entry point, and passing from the main site to the southern haul road and from the southern haul road to the main site. HGV movement leaving or entering the main site in any direction, and any main site activity, is limited by the existing Lincolnshire County Council Condition 5 and cannot occur before 0700 hours. Thus, any activity involving the main site is restricted, but use of the southern haul road is only restricted by the 50dB  $L_{Aeq,1hour}$  condition.
- 7.8 The 50dB  $L_{Aeq,1hour}$  criterion defined in the Rutland County Council condition is anticipated to under-protect residents at night (i.e. it permits significant adverse impact in BS4142 terms), and it is possible that it applies to nighttime noise in error; however, this is a Rutland County Council condition and so cannot be adjusted by Lincolnshire County Council. It is also worth noting that this under-protection primarily affects residents within Rutland County Council's jurisdiction.
- 7.9 Based on the above assessment, the activity generates BS4142 -7dB (based on Scenario 1 presented in Appendix 3 of this report), at Location 2. The specific sound level of 28dB  $L_{Aeq}$  at Location 2 would suggest that the 42dB  $L_{Aeq,1hour}$  limit could be met. This assumes 3no HGVs in a 15-minute period, rather than 8no HGVs in a 1-hour period. Considering specific sound levels



over a 1-hour period with 8no HGVs, the figure becomes 27dB  $L_{Aeq,1hour}$ , which meets the 42dB  $L_{Aeq,1hour}$  limit. The higher HGV source sound power levels (as shown in Scenario 2 presented in Appendix 3 of this report) would give 36dB  $L_{Aeq,1hour}$  (based on the Scenario 2 prediction of 38.0dB  $L_{Aeq}$  -1.8dB correction).

## 8.0 SUMMARY AND CONCLUSIONS

- 8.1 A noise assessment has been carried out for Lincolnshire County Council in relation to a potential variation of a planning permission to permit up to 8no HGV movements between 0600-0700 hours Monday-Friday at South Witham Quarry, South Witham.
- 8.2 Location 1 is within Rutland County Council control, where 50dB  $L_{Aeq, 1hour}$  is permitted. The BS4142 impact here might be +7dB for the lower sound power level HGVs or as high as +17dB for the higher sound power level HGVs. The non-BS4142 assessment finds a sound level of 37dB  $L_{Aeq, 1hour}$  to 48dB  $L_{Aeq, 1hour}$  predicted at Location 1, depending on the sound power levels used. As the upper value of 48dB  $L_{Aeq, 1hour}$  meets the Rutland County Council criterion of 50dB  $L_{Aeq, 1hour}$ , this is considered acceptable, despite a BS4142 outcome of 'significant adverse impact'.
- 8.3 Location 2 is within Lincolnshire County Council control. The BS4142 impact here might be -7dB for the lower sound power level HGVs or as high as +3dB for the higher sound power level HGVs. Given this range, a BS4142 outcome of less than 'adverse impact' is considered likely. The non-BS4142 assessment finds a sound level of 27dB  $L_{Aeq, 1hour}$  to 38dB  $L_{Aeq, 1hour}$  predicted at Location 2, depending on the sound power levels used. This meets the 42dB  $L_{Aeq, 1hour}$  night-time limit defined in the minerals guidance and is therefore considered to be acceptable.
- 8.4 It is not clear whether the UK government's minerals guidance is appropriate for this issue, which is essentially one of HGVs driving from a minerals site, but 'adverse impact' as defined by BS4142 is expected at Location 1, and this may not comply with the minerals wording at Location 1 at night. The limit of 42dB  $L_{Aeq, 1hour}$  might be met, but this depends on the source sound power level used in the calculation, and indeed the sound power levels of the HGVs in reality. The night limit of 42dB  $L_{Aeq, 1hour}$  could be exceeded by around 6dB(A) at Location 1.
- 8.5 The Rutland County Council planning permission appears to give unlimited use of the southern haul road in terms of its hours of use, but limits noise levels to 50dB  $L_{Aeq, 1hour}$ , which is unlikely to be exceeded in the 0600-0700 hours period proposed for use of the southern haul road. Use of the southern haul road is already permitted, although the use of the southern haul road will change if the permission sought is granted. HGVs currently move into place to anticipate the 0700 hours opening. It is possible that these anticipatory movements would transfer to pre-0600 hours if permission were granted for the extension of hours, with HGVs possibly using the southern haul road at 0500 hours waiting for the 0600 hours opening.

- 8.6 It is considered that planning permission could be granted on the basis that at worst, Location 1 sound levels will most likely comply with the existing 50dB  $L_{Aeq, 1hour}$  limit in the Rutland County Council area, despite being of potentially 'significant adverse impact' in BS4142 terms. In addition, at worst, sound levels at Location 2 (within Lincolnshire County Council area) will most likely comply with the 42dB  $L_{Aeq, 1hour}$  minerals night-time limit, and will most likely generate sound levels of less than 'adverse impact' in BS4142 terms. Further, HGVs should be restricted such that they cannot enter the site until 0700 hours at the earliest, to prevent the pre-0600 hours anticipation risk.

## 9.0 DISCLAIMER

- 9.1 This document is limited to addressing the specific acoustic issues contained herein, and its content is based on drawings and information provided to date by our Client/their Design Team.
- 9.2 All findings, comments, recommendations, etc., in this document are for acoustic purposes only; any and all other considerations and requirements, e.g. structural, airflow, thermal, fire safety, CDM compliance, determination of whether materials are dangerous, hazardous, deleterious, etc. (non-exhaustively), are the responsibility of other such suitably qualified specialists to check and advise on.
- 9.3 All findings, comments, recommendations, etc., in this document have been prepared with reasonable skill and care by BTA, within the scope of our Client's brief and timescales. Calculations and estimates upon which BTA's findings are elaborated are based on reasonable assumptions and industry practice that, by their nature, involve uncertainties that could cause future onsite results to differ materially from those predicted. BTA does not guarantee or warrant any calculation or estimate made, especially those based on data measured by third parties or information provided by third parties to BTA or otherwise relied upon by third parties. Any third-party information required and/or provided for the purpose of completing this document should not be considered as verified by BTA.
- 9.4 BTA's work may occasionally involve provision of acoustic performance advice and acoustic design recommendations that others may choose to regard as a "specification" under CDM 2015 (and thus others may occasionally choose to regard BTA to be a "Designer" under CDM 2015). Notwithstanding this, it is always the responsibility of others (Principal Designer) to approve/incorporate into their final design – or not – their final specification selections; although these may be based on BTA's acoustic performance advice, as BTA neither has control over how or whether BTA's acoustic advice is incorporated into the final design by others, nor any power to enforce that any such final specification selections made by others based on BTA's advice are appropriate in any regard beyond their acoustic performance qualities, it also remains the responsibility of others under CDM 2015 to ensure that any ancillary (non-acoustic) considerations in the course of selection, installation, maintenance, etc. of final specifications are advised upon by such relevantly qualified specialists (non-acoustic, and therefore non-BTA), and that any safety precautions identified in the course of their consideration by others are taken by others (the Principal Designer, Designers, Contractors, Client, etc.).
- 9.5 Products and materials that perform well acoustically tend to be heavier than standard products. Use of these products and materials may increase the weight of the element, and the CDM

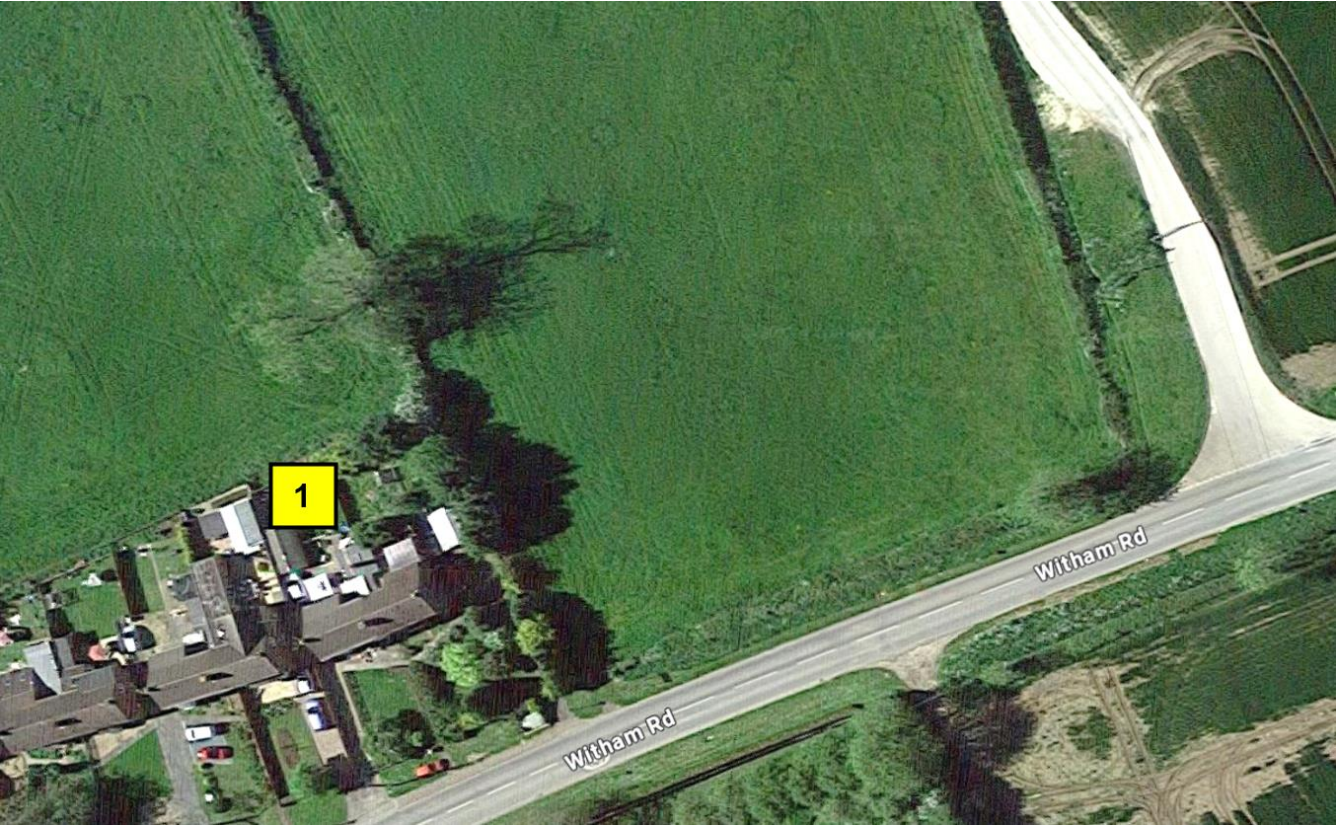
Principal Designer, Client, etc. must take care to ensure that this risk is mitigated as far as possible with appropriate changes to their design, and the Client, Principal Contractor, Contractor, Installer, Fitter, etc. must ensure that appropriate and safe lifting and installation techniques, maintenance, etc. are used to reduce any remaining risk. Wherever BTA advises that works such as acoustic barriers are desirable to attenuate noise, care must be taken by the CDM Principal Designer, Client, etc. to ensure that the risks associated with constructing and maintaining bunds, walls, fences, etc. are mitigated as far as possible with appropriate changes to their design, and the Client, Principal Contractor, Contractor, Installer, Fitter, etc. must ensure that appropriate and safe construction and installation techniques, maintenance, etc. are used to reduce any remaining risk.

- 9.6 This document has been prepared for the sole use, benefit, and information of our direct Client for the purposes agreed at the time of their formal instruction, and the information contained herein is the sole property of, and confidential to, our direct Client. The liability of BTA in respect of the information contained herein will not extend to any third party.

**FIGURE 1 – SITE AERIAL VIEW AND APPROXIMATE MEASUREMENT LOCATIONS**



Zoomed-in aerial view of Location 1



Zoomed-in aerial view of Location 2



## APPENDIX 1 – TECHNICAL UNITS AND INDICES

### a) Sound Pressure Level and the decibel (dB)

A sound wave is a small fluctuation of pressure in air. The human ear responds to these variations in pressure, producing the sensation of hearing. The ear can detect a very wide range of pressure variations. Due to the wide range of pressure variations detectable by the ear, a logarithmic scale is used to convert the values into manageable numbers. The dB (decibel) is the logarithmic unit used to describe sound (or noise) levels. The usual range of sound pressure levels is from 0 dB (threshold of hearing) to 120 dB (threshold of pain).

### b) Frequency and Hertz (Hz)

Frequency is a measure of the rate of fluctuation of a sound wave. The unit used is cycles per second, or Hertz (Hz). Sometimes large frequencies are often written as kilohertz (kHz), where 1kHz = 1000Hz.

Young people with normal hearing can hear frequencies in the range 20Hz to 20kHz. However, the upper frequency limit gradually reduces as a person gets older.

As the ear hears some frequencies better than others, the A-weighting scale is used to mimic human hearing. A-weighting applies a correction to the sound level at a given frequency depending on how well the ear hears that frequency.

### c) Glossary of Terms

In order to describe noise where the level is continuously varying, a number of other indices, including statistical parameters, are used. The indices used in this report are described below.

**L<sub>Aeq</sub>** This is the A-weighted equivalent continuous sound level which is an average of the total sound energy measured over a specified time period. In other words, L<sub>Aeq</sub> is the level of a continuous noise which has the same total (A-weighted) energy as the real fluctuating noise, measured over the same time period.

**L<sub>Amax</sub>** This is the maximum A-weighted sound level that was recorded during the monitoring period.

**L<sub>A90</sub>** This is the A-weighted sound level exceeded for 90% of the time period. L<sub>A90</sub> is used as a measure of background noise.

**L<sub>A10</sub>** This is the A-weighted sound level exceeded for 10% of the time period and is often used in the assessment of road traffic noise.



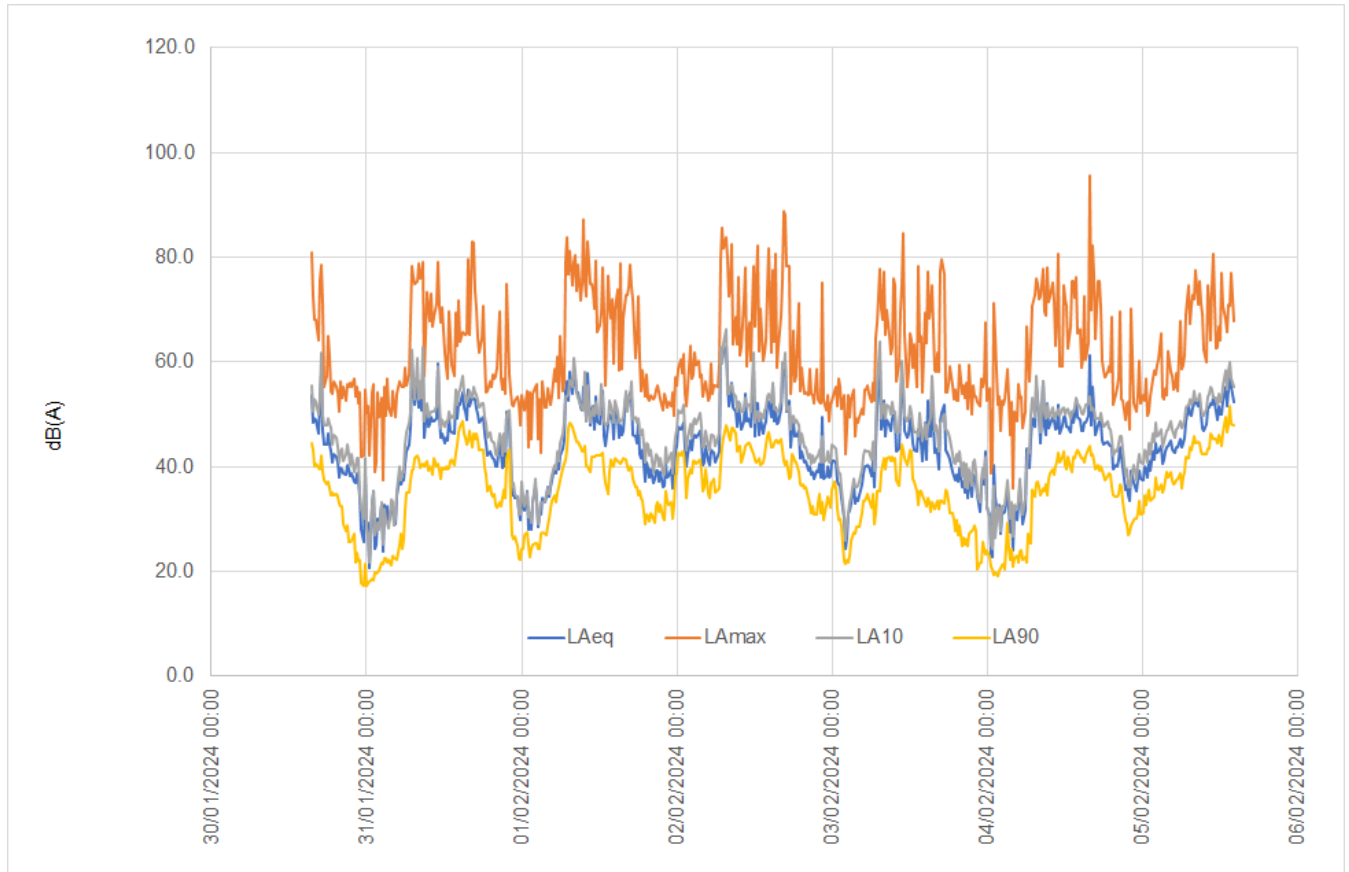
- NR Measured noise levels in each octave band are compared to the NR curve reference values. The overall NR value is the lowest NR curve that has not been exceeded.
- $D_{nT,w}$  Weighted standardised level difference, a single figure generated by comparing the  $D_{nT}$  with a reference curve. The reference curve is shifted in 1dB steps until the sum of adverse deviation of the test curve, compared to the reference curve, is as large as possible, but no more than 32.0 dB. The value of the shifted reference curve at 500Hz is taken as the  $D_{nT,w}$ . N.B. As  $D_{nT,w}$  for airborne transmission represents a level difference, an improvement generates a larger figure – used in airborne tests.
- $R_w$  Similar to the  $D_{nT,w}$  term, but a measure of the airborne sound insulation performance of a separating element, when tested in laboratory conditions. As such the build is essentially perfect, and has no flanking noise routes.  $D_{nT,w}$  values measured onsite will always be of a significantly lower value than the  $R_w$  value for a structure.

**APPENDIX 2 – NOISE SURVEY DATA**

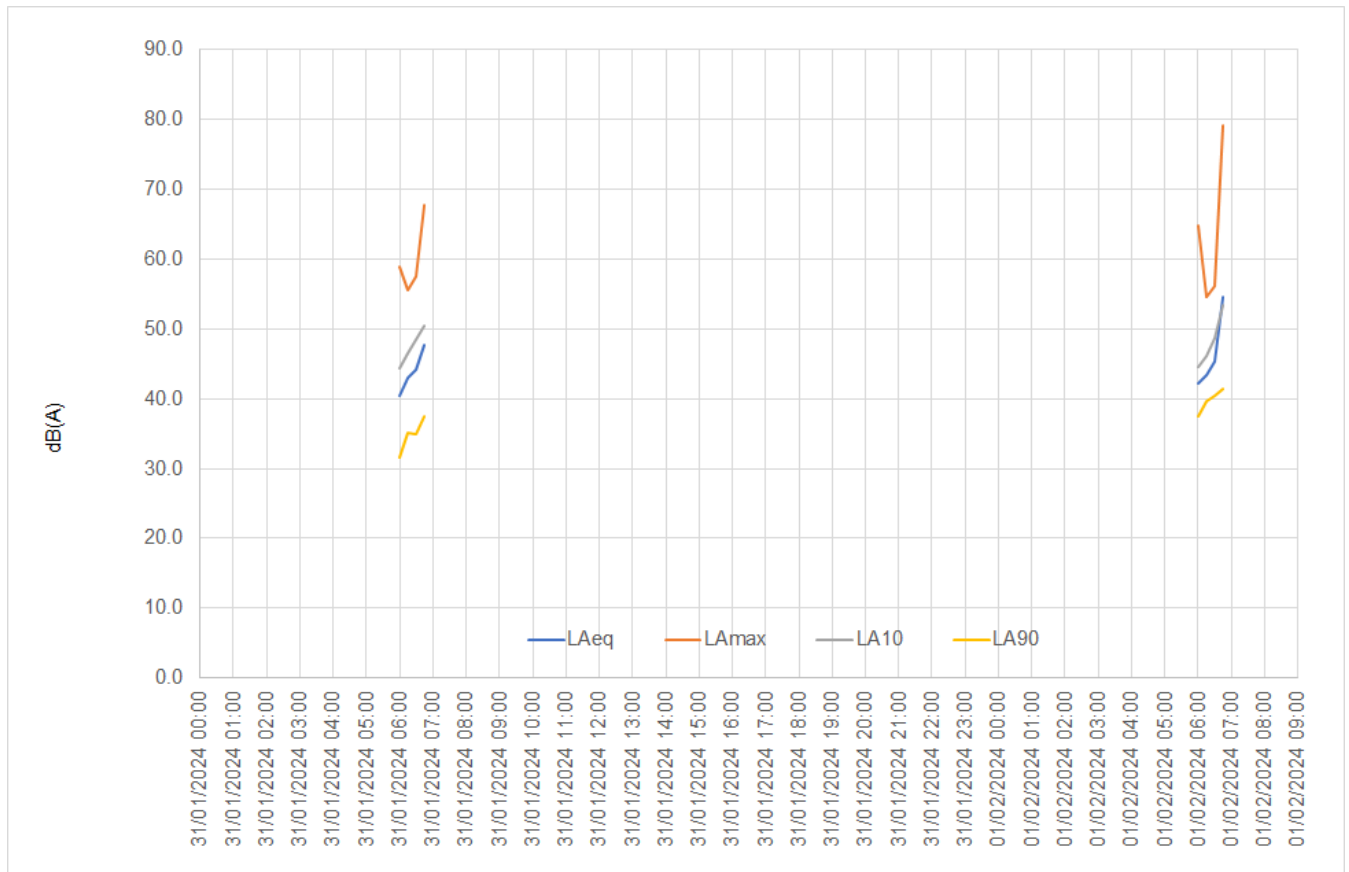
Tuesday 30/01/2024 into Monday 05/02/2024

**Location 1 – Rear garden of 2 Witham Road, Thistleton – All data**

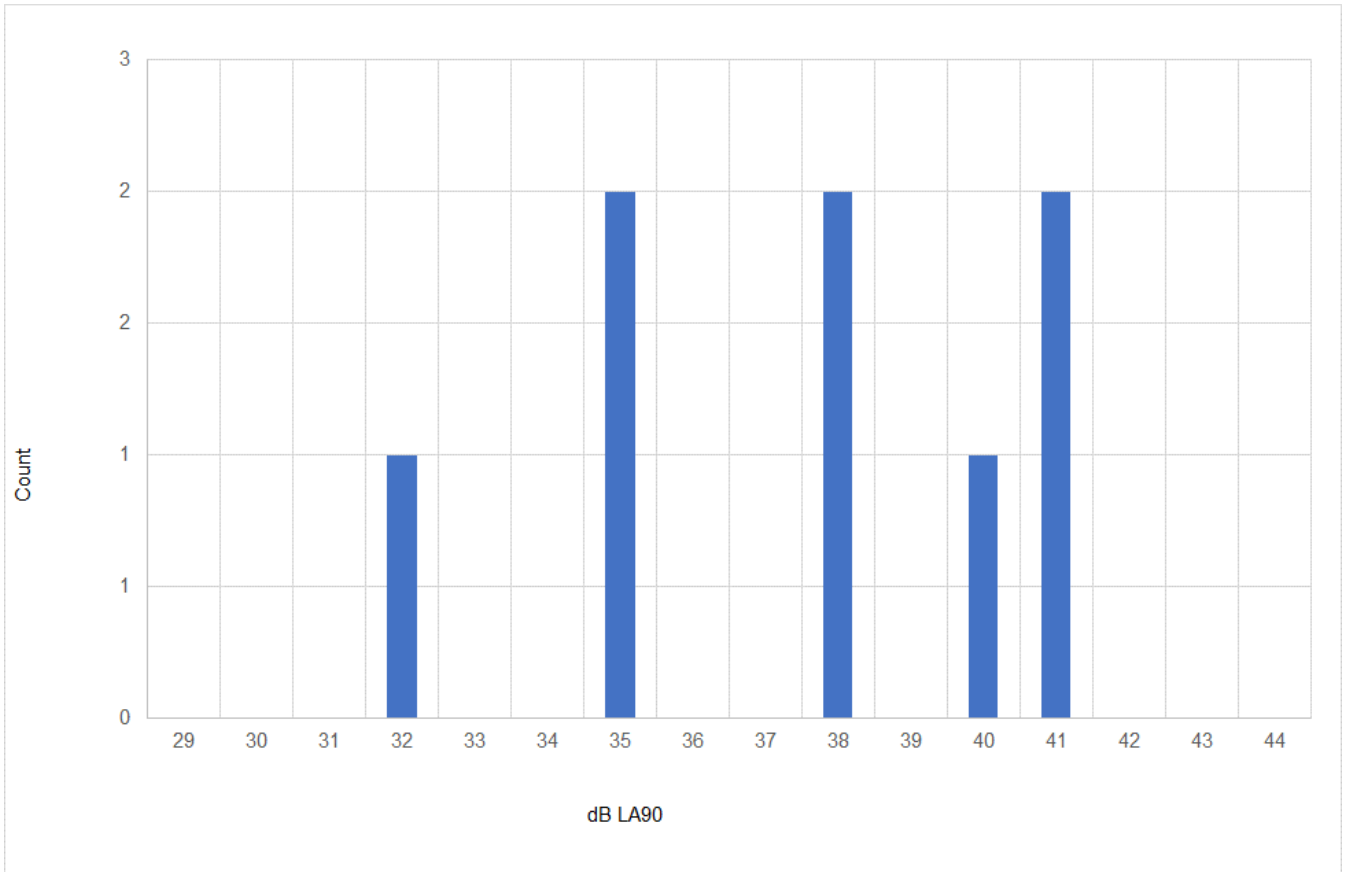
Rion NL-52 sound level meter (S/N 01021309). All values dB(A), free-field, 15-minute duration.



**Location 1 – Rear garden of 2 Witham Road, Thistleton – Weekdays only, 0600-0700 hours (adverse weather data periods excluded)**



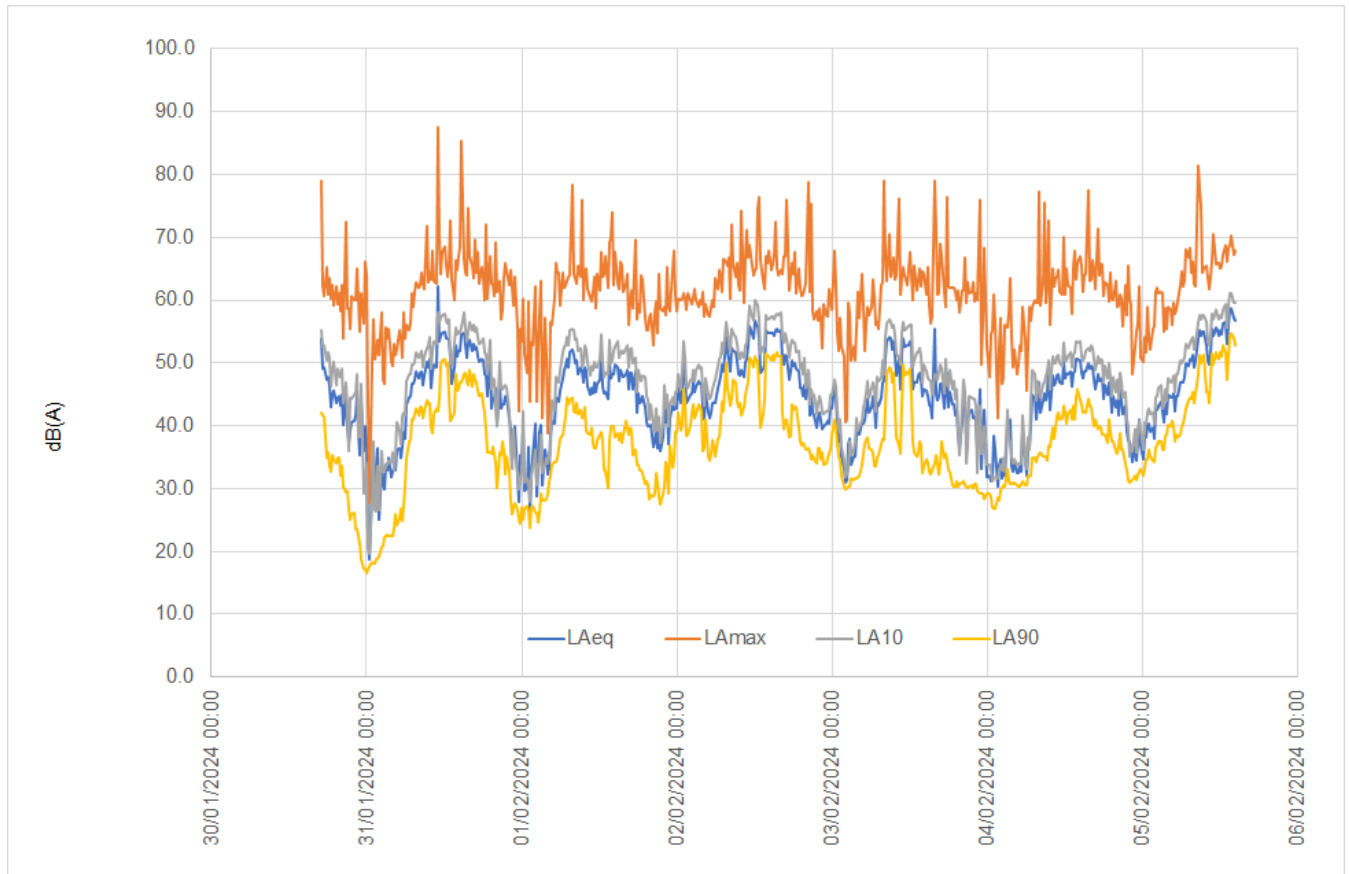
**Location 1 – Representative free-field background  $L_{A90}$  analysis – Weekdays only, 0600-0700 hours (adverse weather data periods excluded)**



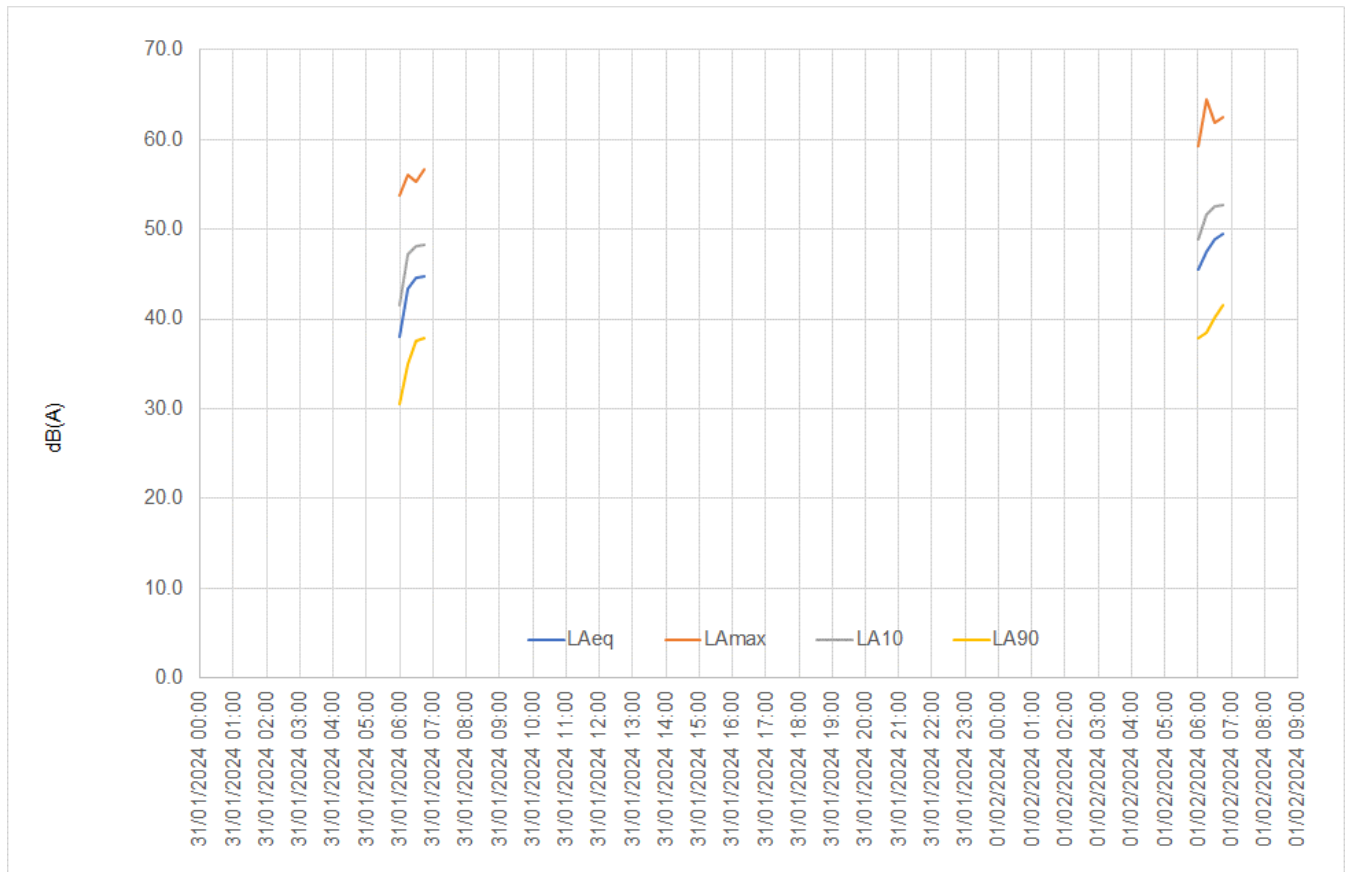
Representative background sound level = 35dB  $L_{A90}$

**Location 2 – Rear garden of 25 Harold Road, South Witham – All data**

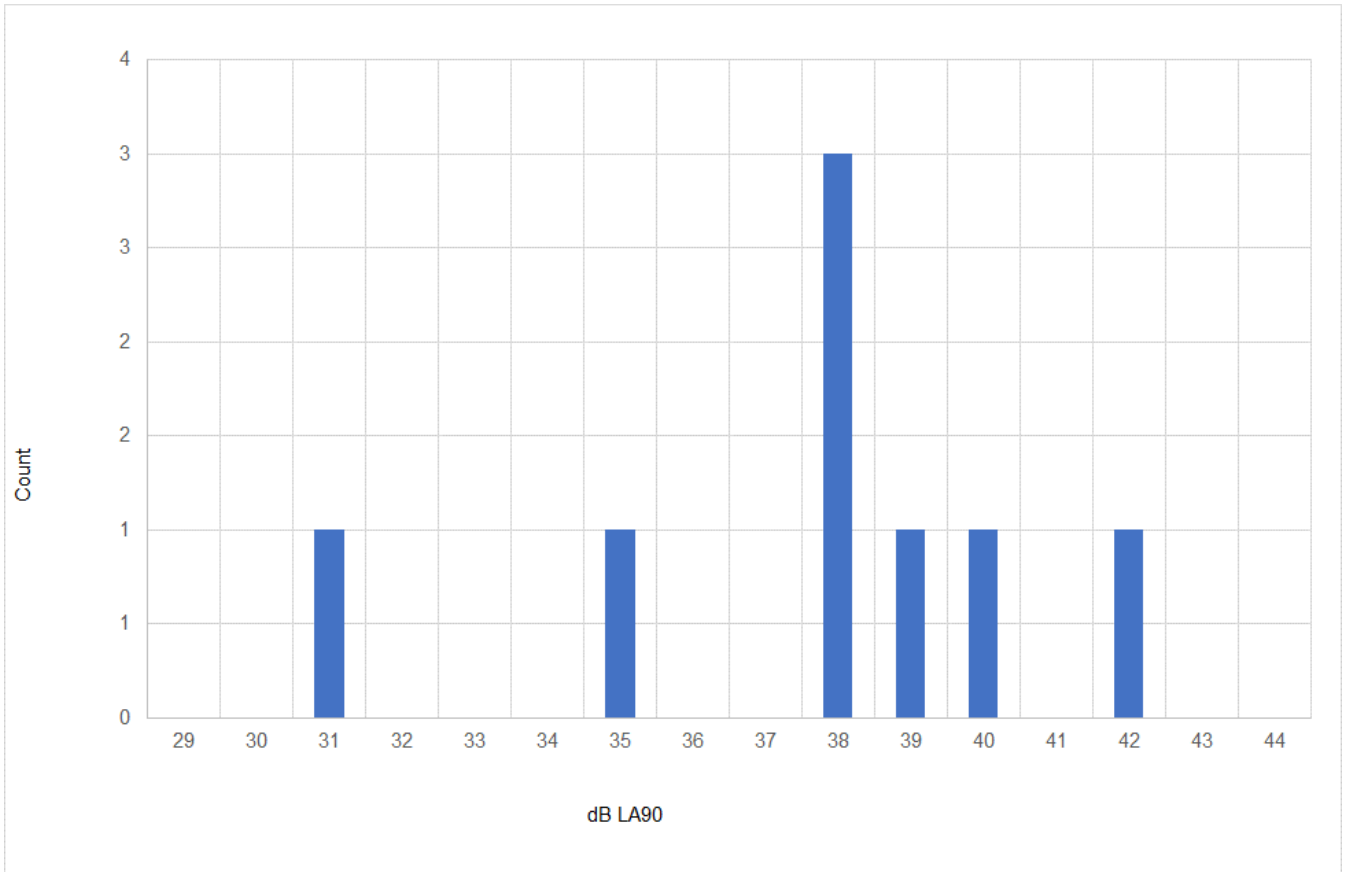
Rion NL-52 sound level meter (S/N 00620852). All values dB(A), free-field, 15-minute duration.



**Location 2 – Rear garden of 25 Harold Road, South Witham – Weekdays only, 0600-0700 hours (adverse weather data periods excluded)**



**Location 2 – Representative free-field background  $L_{A90}$  analysis – Weekdays only, 0600-0700 hours (adverse weather data periods excluded)**



Representative background sound level = 38dB  $L_{A90}$

### APPENDIX 3 – ACOUSTIC MODEL PLOTS OF PREDICTED SOUND LEVELS

The acoustic model plots below show dB  $L_{Aeq}$  plotted at 4m height above local ground level, which is window-height for the closest dwellings to the site.

#### Scenario 1 – Weekday between 0600-0700 hours

15 minutes with 3no HGV movements along the full route, and 5 minutes of idling for 3no HGVs in the overnight lorry parking area.

Values taken from BS5228 Table C.11 Item 13 (Sound Power Level of 106dB(A)) and Table C.2 Item 6 (Sound Power Level of 91dB(A)). Speed taken to be 15mph as stated.

Location 1: 39dB  $L_{Aeq,15min}$

Location 2: 28dB  $L_{Aeq,15min}$

N.B. The Acoustic Associates Peterborough report's comparable value at Location 1 is 37dB  $L_{Aeq,15min}$  for 2no HGV movements, which would be 39dB  $L_{Aeq,15min}$  if factored up for 3no HGV movements.





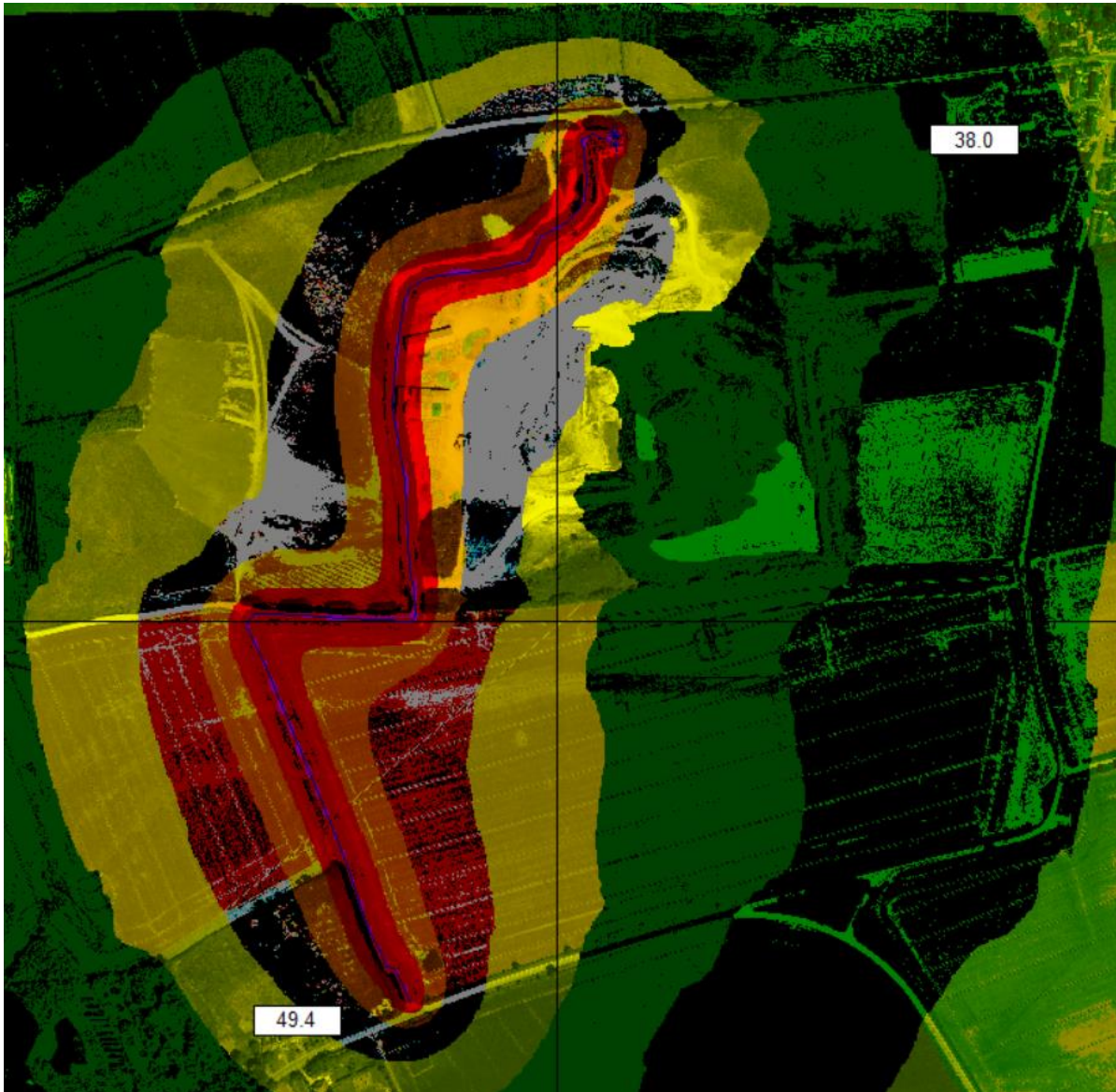
Scenario 2 – Weekday between 0600-0700 hours

15 minutes with 3no HGV movements along the full route, and 5 minutes of idling for 3no HGVs in the overnight lorry parking area.

Values taken from BS5228 Table C.11 Item 8 (Sound Power Level of 116dB(A)) and Table C.2 Item 6 (Sound Power Level of 91dB(A)). Speed taken to be 15mph as stated.

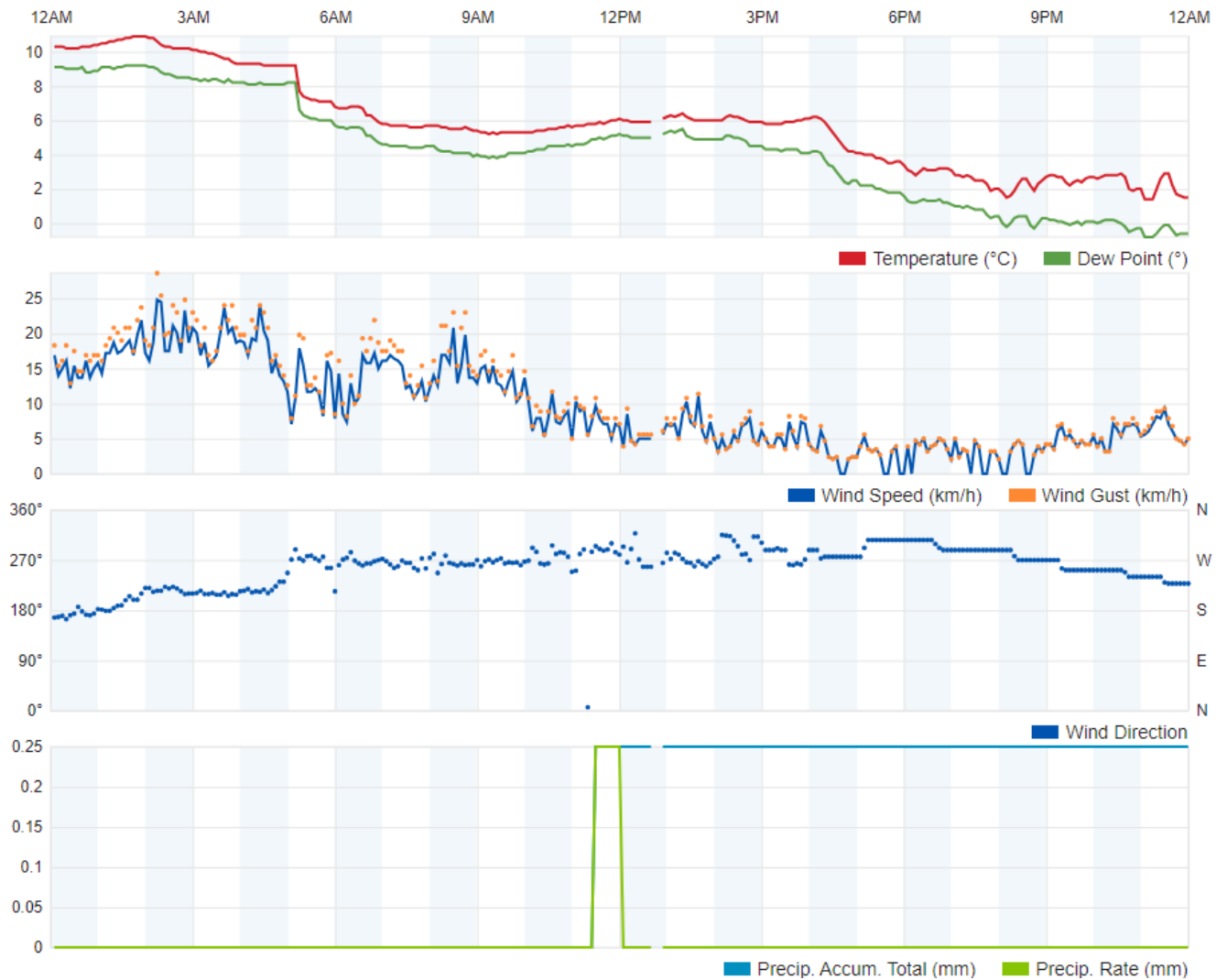
Location 1: 49dB  $L_{Aeq,15min}$

Location 2: 38dB  $L_{Aeq,15min}$

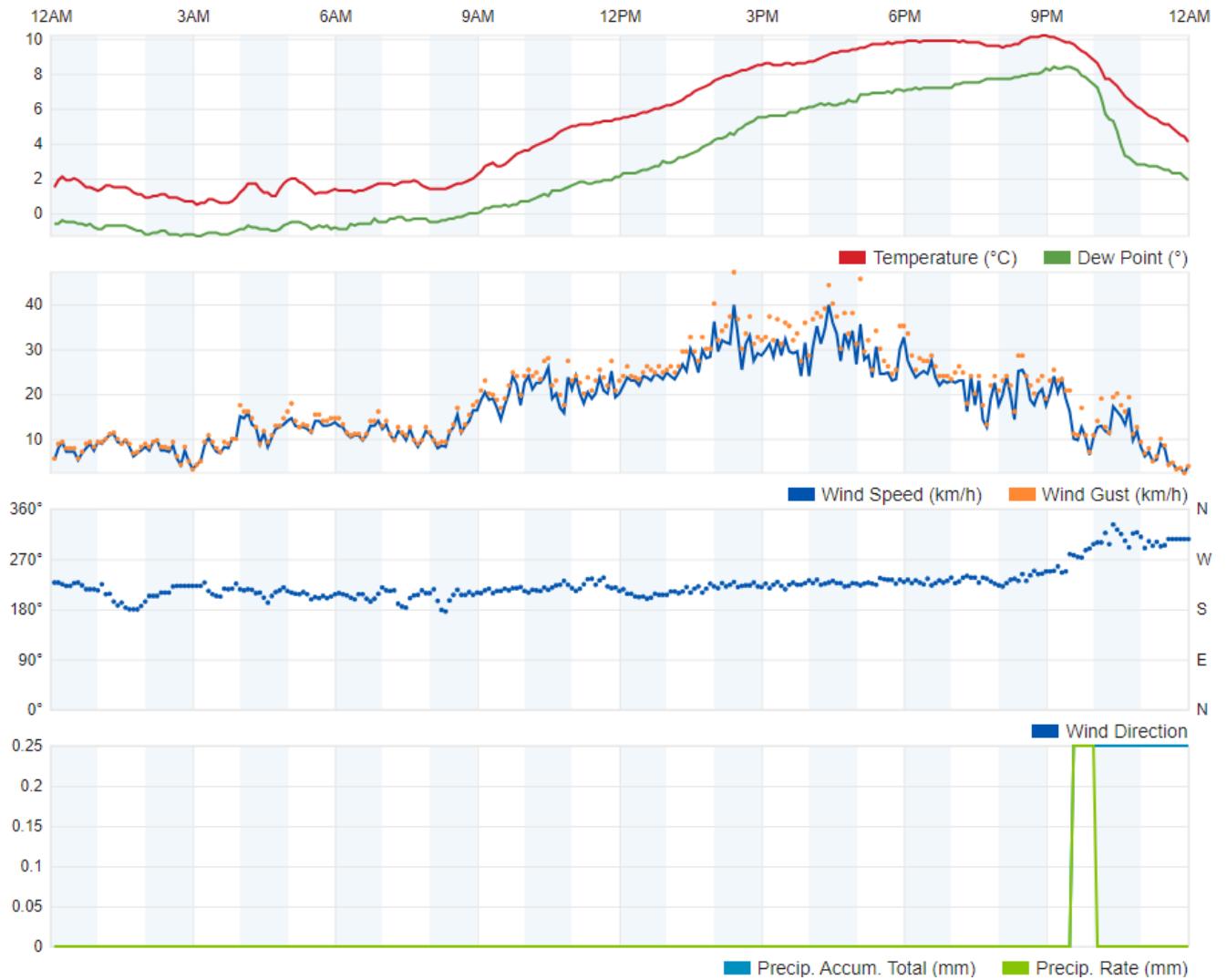


APPENDIX 4 – WEATHER DATA

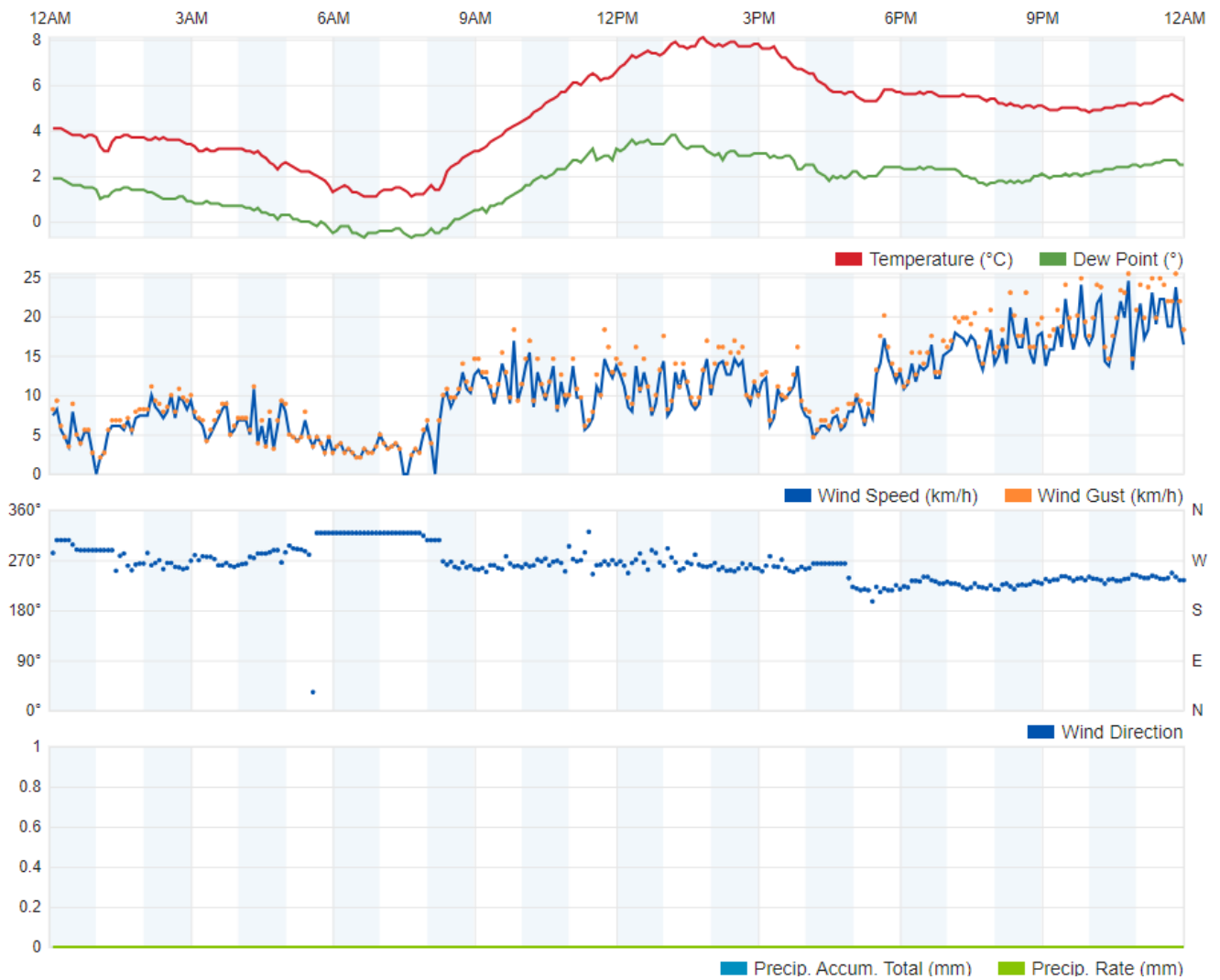
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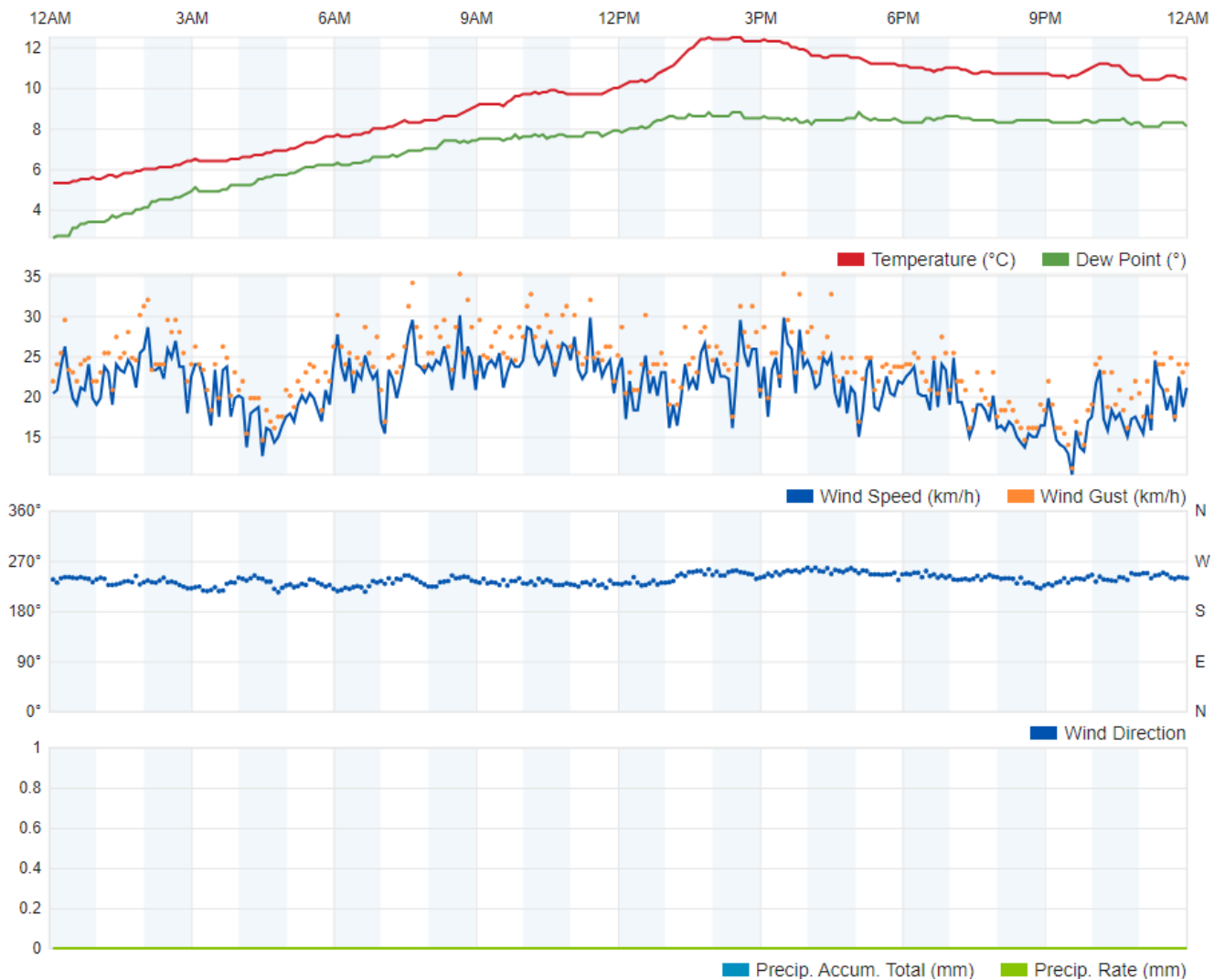
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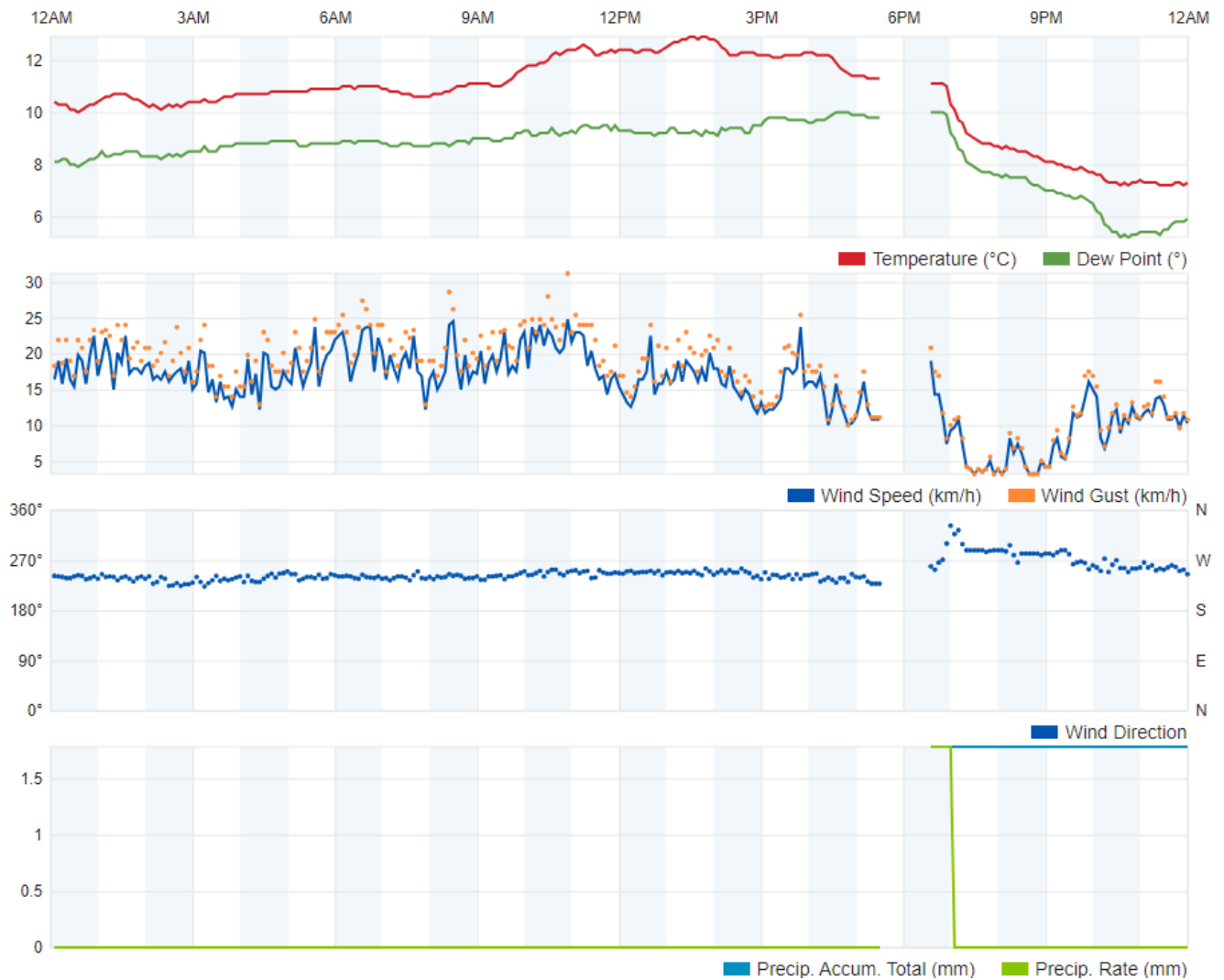
Thursday 01/02/2024



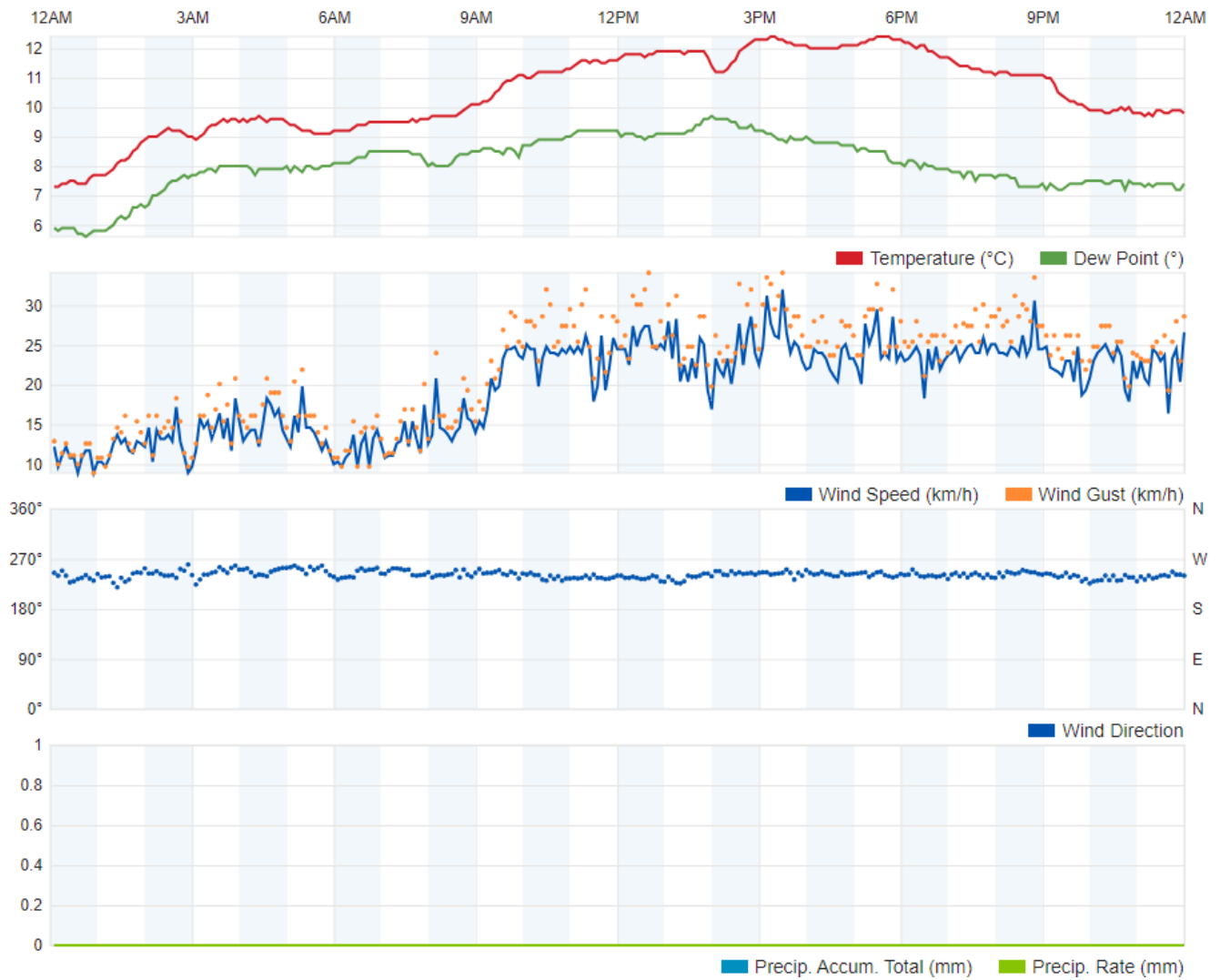
Friday 02/02/2024



Saturday 03/02/2024



Sunday 04/02/2024



Monday 05/02/2024

