General Development Applications

(5/d) Application No: PAP/2017/0340

Land Between, Rush Lane and Tamworth Road, Cliff,

Outline Application for up to 185 dwellings, public open space; landscaping; sustainable urban drainage; and associated infrastructure - all matters reserved except access, for

- Summix RLT Developments Limited

1. Introduction

1.1 This application was submitted some time ago and has been through several amendments. The applicant has now settled on the description as set out above and it is this that is reported to the Board. Given the changed application circumstances and the changed planning considerations relevant to its determination with the adoption of the 2021 Local Plan, it is proposed to provide a full determination report.

2. The Site and its Surroundings

2.1 The site is L-shaped and around 7 hectares in area located on the west side of Rush Lane and to the east of the A51 Tamworth Road. To the north is a strip of land safeguarded for a possible Dosthill By-pass and beyond that is residential estate development. To the south-west is an established B2 general industrial occupier – ("the Hunnebeck premises") – comprising both buildings and open storage areas which has two common boundaries with the application site. Beyond Rush Lane to the south and south-east of the site is land that benefits from an extant B1/B2 and B8 planning permission. The southern half of this now has detailed consent for a B2 occupier – ("Kingsbury Pallets"). Further to the east is the Birmingham/Derby rail line and the site of the Weinerberger Brickworks and its associated clay quarry. A Biffa waste landfill site is also in this general area.

2.2 The application site itself was a former mineral extraction and landfill site that has been backfilled but remains as rough land. It is generally level throughout.

2.3 A plan illustrating these features is at Appendix A.

3. The Proposals

3.1 This is an outline application for up to 185 dwellings, with all matters reserved for later approval except for the access arrangement.

3.2 Access is to be achieved via a connection to the A51 along the presently vacant land which separates the site from the established residential development to the north. The junction with the A51 has already been implemented in part, as a consequence of the approval for the industrial use of the site.

3.3 The applicant has made it clear that the proposed housing is to be for 100% affordable housing provision.

3.4 As a consequence of consideration of the potential noise impacts arising from the surrounding uses, the applicant is proposing a number of mitigation measures.

a) A 6-metre purpose built acoustic screen (to be framed as a "green" barrier) along the eastern and northern boundaries of the Hunnebeck premises.

b) A separation distance of 25 metres from this screen to the front elevation of the nearest houses together with façade insulation, acoustically rated glazing for the windows and the provision of loft mounted positive input ventilation for all habitable rooms if windows are closed.

c) Purpose built acoustic screening for properties close to the A51 – either as 2.5metre tall acoustic garden fencing, or closer to the road itself along the site boundary.

3.5 The applicant has provided a wholly illustrative layout for the site which shows how a planning permission might be set out. This shows 171 dwellings. It is at Appendix B.

3.6 Documentation that was submitted with the original submission included the following evidence.

3.7 An Ecological Statement identifies four statutory sites within 2 km of the site (e.g. Kingsbury Wood) together with other non-statutory sites (e.g. Middleton Lakes). However, the report concludes that the development would not adversely impact on any of these given the separation distances and the nature of the intervening land uses and transport corridors. No protected species would be affected. The site is dominated by short perennial vegetation with scattered shrubs and ruderal vegetation and a small reed bed and pond to the north. The site therefore has a modest flora and bird diversity. The provision of open space and the balancing pond if designed appropriately would adequately compensate and enhance the value of the area. No greater crested newts were found.

3.8 A Landscape and Visual Impact Assessment describes the site as being within the "Tamworth Urban Fringe Farmland" Landscape Character Area of the2010 North Warwickshire Landscape Assessment. This describes an "indistinct and variable landscape with relatively flat open arable fields and pasture fragmented by restored spoil heaps, large scale industrial buildings and busy roads bordering Tamworth". This is considered to be of overall low landscape value with the proposal having no adverse impacts on the wider area. In terms of visual impact

then overall the conclusion is that residential development and green infrastructure would provide visual benefit.

3.9 An Archaeology Report concludes that there is no interest in the site given its history.

3.10 A Ground Conditions Report recites the past history and concludes that there was identification of trace elements of asbestos being found and thus given the nature of the proposal, extra care is needed during any construction period. Given the landfill at the site, recommendations are made for gas migration measures to be included in the construction specifications together with monitoring measures. It is recommended that either piled foundations are used or some form of treatment in conjunction with reinforced raft foundation. Soakaways are not considered to be suitable.

3.11 A Utilities Assessment concludes that foul water would drain to existing foul sewers with a connection on the northern boundary. Surface water would drain to the enhanced balancing ponds in the north-eastern corner of the site. A new electricity sub-station may be needed on site. Reinforcement would be needed for gas supplies. Mains water connections would have to be made to the north. No issues are anticipated with telecommunication connections.

3.12 The Transport Assessment concludes that the site is reasonably well located in terms of accessibility to all local services and to bus routes. New traffic generation would be absorbed within the existing network and therefore there would be no “severe” impact to justify refusal.

3.13 A Design and Access Statement described how a potential layout of the site might be arrived at.

3.14 A Statement of Community Involvement describes a public exhibition held in Tamworth which was visited by 49 members of the public. Comments received related to, the safeguarding the Dosthill By-pass, increased traffic in Dosthill High Street as well as the impact on local services. The wildlife value of the site was also mentioned, and the provision of affordable housing generally welcomed.

3.15 The Planning Statement has been updated to reflect the latest amendment. This is attached at Appendix C.

4. Background

4.1 The application site is part of a much larger extensive area that has been used for mineral extraction in the past (both coal and particularly clay which was used in the nearby brickworks). It has been landfilled under consents granted by the Warwickshire County Council as the Minerals Planning Authority. Outline planning permissions were granted in 1997 for industrial use of the application site as well as the land immediately to the east on the other side of Rush Lane. These permissions have been extended.

4.2 These permissions safeguarded land immediately to the north of the site in order to provide the route of a possible Dosthill By-pass. This land remains free from development today. New residential development was undertaken north of this corridor and it is protected by a bund. The junction of this future by-pass with the A51 was to be a roundabout but subsequent decisions led to that being varied to a priority T-junction and the initial length of the spur is now in place. The industrial consents enabled the extension of the site eastwards so as to provide access into the industrial land and to form the first phase of the By-Pass. These consents did not have vehicular access onto the substandard Rush Lane.

4.3 Planning permission was granted in 2019 for the use of part of the site to the south-east on the other side of Rush Lane, for "the erection of a pallet business (B2) comprising of manufacture and repair unit, reprocessing shed, sorting shelter, covered pallet store and storage yard, ancillary offices and car parking with a new access from Rush Lane". This is the Kingsbury Pallets site. That permission included conditions relating to acoustic provision, including measures to enclose the wood shredding plant and equipment together with the provision of an acoustic fence along its Rush Lane boundary.

4.4 The Hunnebeck premises are occupied by a B2 General Industrial User. The Company is "involved in the supply and pre-assembly of systems related to forming and shoring material for the construction market on both a rental and sale basis.". This is taken from a more detailed letter attached at Appendix D. There are no planning conditions restricting the hours of operation within the site, nor conditions controlling noise levels or conditions limiting certain activities to specified areas of the site. Its main range of buildings fronts the A51, but the eastern half of the site is an open storage yard which directly backs onto two boundaries of the application site. The boundary is marked by a palisade fence. The Company has received complaints in the past from residents in the Ascot Drive area relating to noise and light emissions.

4.5 The Weinerberger brickworks has a lawful unrestricted B2 General Industrial Use.

4.6 The Biffa landfill site is lawful landfill site.

4.7 There have been amendments made by the applicant from the original submission as indicated in paragraph 1.1. In essence, these have been made in order to address potential noise impacts arising from the surrounding sites and in particular from the use of the Hunnebeck premises. In short, the original proposal was for up to 165 dwellings; the first amendment was a mixed development of 130 houses together with some B1 Light Industrial Use, with the second amendment as now proposed.

4.8 As a consequence of this matter, there have been a series of Noise Impact Assessments undertaken on behalf of both the applicant and Hunnebeck. These have resulted in the amendments to the proposal as outlined above. These then generated a further round of Assessments. The Board is advised that the latest

Assessment from the applicant is attached at Appendix E and that from Hunnebeck is at Appendix F. These relate to the illustrative layout at Appendix B. All previous Noise Assessments are available for Members to view on the case file. In essence, the applicant considers that the latest scheme is the result of an amalgamation of all of the previous noise assessments undertaken, responding to the concerns expressed by both Hunnebeck and the Council's Environmental Health Officer, thus leading to the comprehensive mitigation measures contained in the latest amendment and set out in paragraph 3.4 above. Hunnebeck's position is that they point to the applicant's Assessments showing potential significant adverse impacts at the frontages of the closest properties at all times of the day, adverse impact in the rear gardens during the day and significant adverse impact in the evening. It is their view that noise from Hunnebeck will be clearly audible within properties and in gardens, thus leading to complaints and possible restrictions being placed on Hunnebeck's operations.

4.9 The band of open land to the north of the site was safeguarded for a Dosthill By-Pass. However, that provision is no longer contained in either the North Warwickshire Local Plan 2021 nor is it within the Tamworth Local Plan 2016.

4.10 The application site together with the Hunnebeck premises and that of the Kingsbury Pallets site are not within the Green Belt.

4.11 The application site is within North Warwickshire, but the common administrative boundary with the Tamworth Borough Council is just to the north of the vacant land described in para 2.1. As a consequence, there are additional consultation responses recorded below from that Borough Council as well as the Staffordshire County Council.

5. Representations

There have been eleven representations submitted from local residents in connection with the various amendments for the site. These refer to the following matters:

- Increase in traffic in Dosthill
- Local Services are already at capacity and development is also occurring within Wilnecote
- Disturbance during construction
- Poor maintenance of open space and landscaping in other residential areas
- There is too much development being proposed
- The proposal should safeguard the line of the Dosthill Bypass
- Concern about boundary treatments at the rear of Ascot Drive
- Noise from neighbouring uses

One comment did express a preference for residential development on the site.

Kingsbury Parish Council – No response received

Biffa – It objects as the proposals may affect its ability to operate under its existing consents.

The Weinerberger Company has no objection in principle to the residential development of the site. However, it is not considered that the proposal sufficiently protects the business from noise complaints. The business has had to deal with noise complaints from residents in Ascot Drive and the current proposal is for development closer to the brickworks site.

Hunnebeck has objected to the proposal particularly raising concerns about the potential impact of a residential development neighbouring its premises.

6. Consultations

Warwickshire County Council as Highway Authority – No objection subject to conditions

Warwickshire County Council as Lead Local Flood Authority – No objection subject to standard conditions

Warwickshire County Council (Rights of Way) – The development should take account of nearby footpath T74.

Warwickshire County Council as Education Authority – No objection

Warwickshire County Archaeologist – No objection
Warwickshire County Ecologist – There will be a nett bio-diversity loss but an off-site, off-setting contribution will be acceptable.

Warwickshire Fire and Rescue Services – No objection subject to standard conditions
Staffordshire County Council as Highway Authority – No objection subject to conditions

Staffordshire County Council as Education Authority – No objection

Staffordshire County Council (Flood) – No objection subject to standard conditions

Tamworth Borough Council – Matters raised include highway impacts in Dosthill, education requirements for Staffordshire Schools, maintenance of the drainage systems, refuse collection and affordable housing apportionment.

UK Coal Authority – No objection subject to conditions

Network Rail – It provides detailed guidance in order to maintain the integrity of its assets, but there is no objection subject to conditions

STW Ltd – No objection subject to conditions

NWBC Environmental Health Officer – There are issues with noise emissions from neighbouring industrial concerns. The risk of landfill gas emissions has been reduced through the proposed use of conditions.

The Coventry and Warwickshire Local Enterprise Partnership – It concludes that it would be difficult to resist a change of use, given the evidence submitted in respect of the marketing undertaken and the circumstances of the location.

7. Draft Section 106 Heads of Terms

Police - £34,368
George Eliot NHS Trust - £153,215
South Staffs CCG - £165,205 for enhancements to the Heathview Practice at Glascote, Tamworth
North Warwickshire Borough Council - £133,247 for indoor facilities and £483,963 for outdoor facilities plus £429,273 for maintenance. On-site provision would reduce the outdoor contribution.
Tamworth Borough Council - £155,485 for indoor recreation facilities plus artificial pitches
Bus Stop Enhancements - £39,500 for bus stop provision/enhancement
WCC Education - £521,454 for secondary and SEND places
WCC Footpath Contribution - £7607
WCC Libraries - £4,049
WCC Road Safety - £9250
WCC Ecology - £409,487 off-site contribution

8. Development Plan

The North Warwickshire Local Plan 2021 – LP1 (Sustainable Development); LP2 (Settlement Hierarchy), LP6 (Amount of Development), LP9 (Affordable Housing Provision), LP12 (Employment Areas), LP14 (Landscape), LP15 (Historic Environment). LP16(Natural Environment), LP25 (Transport Assessment), LP31 (Development Considerations), LP32 (Built Form) and LP39 (Housing Allocations)

9. Other Material Planning Considerations

The National Planning Policy Framework – (the "NPPF")
National Planning Practice Guidance
The Tamworth Local Plan 2006 -2031 - adopted 2016

10. Observations

a) Introduction

10.1 The application site is not within any settlement boundary as defined by the Development Plan. Indeed, Dosthill is neither included within the list of settlements set out in Policy LP2 of that Plan which establishes a settlement hierarchy for the

distribution of new development in the Borough. As a consequence, the site would fall into Category 5 which applies to all other locations. However, as the site is close to the Borough boundary, it is appropriate to see if the proposal would fall under Category 2 – "settlements adjoining the outer boundary of the Borough" – because that part of Dosthill within North Warwickshire, adjoins the Borough's outer boundary. Here LP2 says that "development will be permitted directly adjacent to built-up areas of adjoining settlements" subject to four conditions. However, the site is not "directly" adjacent to the built-up residential area of Dosthill because of the intervening open land and thus the site would not fall into Category 2. For completeness, if the Board does consider the site to be "directly adjacent", then it will be necessary to look at the four conditions. The first is that site should be outside of the Green Belt. This is the case here. The second is that the development, "would integrate clearly with wider development". This is not the case here as will be explored in more detail below. The third is that there "has to be a clear separation to an existing North Warwickshire settlement". The nearest such settlement is Kingsbury which is two kilometres to the south. This condition is thus satisfied. The last condition is that "linkages are made to existing North Warwickshire settlements to ensure connectivity". This is not satisfied. As a consequence, the four conditions are not met and thus the proposal should not be dealt with under Category 2. The conclusion from the outset of this paragraph that the case is dealt with under Category 5 is thus re-enforced. Here, "development will not generally be acceptable, albeit there may be some instances where development may be appropriately located and would enhance or maintain the vitality of rural communities under this category". These matters will be looked at further below, but the starting point for consideration of this case is that the proposal is not supported in principle.

10.2 The tests under Policy LP2 for treating proposed development in Category 5 as may be being acceptable will now be considered.

b) The First Test

10.3 The tests are to consider whether the development is "appropriately located" and whether it "would enhance or maintain the vitality of rural communities".

10.4 It is not considered that the development is appropriately located. The over-arching reason for this is that the proposal would not lead to "good quality" development. There are two substantive matters which lead to this conclusion – its setting and potential noise impacts arising from that setting.

10.5 Policy LP1 of the Local Plan requires all developments, amongst other things, to be consistent with the approach to place making set out through development management policies including the demonstration of a high quality of sustainable design that positively improves the individual settlement's character and appearance as well as the environmental quality of an area. The NPPF's social objective of fostering well-designed, beautiful and safe places is amplified in its Section 12 where there is a list of development management outcomes which

include requirements to establish and maintain a strong sense of place and to promote a high standard of amenity.

10.6 It is not considered that the proposal meets these objectives for the following reasons:

i) The proposal does not clearly integrate with wider development. It is not directly adjacent to established residential development; it is separated physically, visually and spatially from it, thus leading to an isolated, self-contained and inward-looking development with no connectivity or linkage to existing residential development, or to local facilities and services and with no sense of place or community.

ii) The setting is industrial in character and appearance. In planning terms this is a B2 General Industrial area with permission also for B8 uses. These by definition are not suitable in a residential area.

iii) A high standard of amenity is not achieved. This in part is because of the measures being proposed to mitigate the impacts of off-site noise sources.

iv) The development cannot be integrated effectively with existing business facilities.

10.7 It is necessary to explore the last two of these reasons in more detail.

10.8 The applicant acknowledges that there is a noise source at the adjacent Hunnebeck premises that has the potential to cause adverse noise impacts. As such his Assessments have focused on the measures that can be included in the proposals to mitigate the worst of these impacts. Hence the inclusion of the items referred to in para 3.4 above. However, the Council's Environmental Health Officer whilst agreeing that these measures are welcomed, does not consider that they fully mitigate against noise that might be experienced by future occupiers, particularly from night-time working at the Hunnebeck premises and that noise impacts inside some of the houses depends on windows being closed. Hunnebeck's representatives, whilst agreeing with the Environmental Health Officer, also refer to the likelihood of additional complaints being made by future residents against their activities, thus possibly leading to unacceptable restrictions being placed on the business's lawful activity.

10.9 All parties agree that there is a noise impact issue here. The applicant considers that the mitigation measures proposed are suitable and proportionate. Hunnebeck and the Environmental Health Officer disagree, as they consider that there would still be a "residual" adverse noise impact. In addition, the Board is asked to consider the consequences of the measures proposed to mitigate that impact. There are visual consequences – the 6 metre acoustic screen running around two boundaries of the site. There are residential amenity consequences of having opening windows, as they may well have to be closed to reduce noise during day and night-time, the need for an alternative method of ventilation and noise issues out of doors in rear gardens. This is why a high standard of amenity is compromised.

10.10 The considerations put forward by Hunnebeck are material. This is because of para 187 of the NPPF and its references to the consequences of "agents of change". For the convenience of the Board, this paragraph is set out below.

"Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use in its vicinity, the applicant (or "agent of change") should be required to provide suitable mitigation before the development has been completed".

There are two key elements to this paragraph – whether "unacceptable restrictions" are likely to be placed on Hunnebeck's activities and secondly whether the agent of change can provide "suitable mitigation". In this case the Hunnebeck considerations carry significant weight. This is because the existing business activities at the premises are currently unrestricted and because even with mitigation, there is still likely to be an adverse noise impact. The Company has received complaints in the past from residents living to the north. Whilst the current activity at the premises is generally undertaken in "normal" working hours with intermittent weekend and night time working, there is no planning reason for that to continue to be the case. A change in working patterns may well result in a different operational regime. Hunnebeck conclude that even with the mitigation measures proposed, there would still be a strong likelihood of complaint and that that could result in restrictions being placed on its operations. As indicated above, the mitigation measures are not suitable, in that they are insufficient to remove residual adverse noise impacts and that they too have adverse consequences on the occupiers of the proposed houses. In these circumstances, it would appear that the precautionary approach set out in the NPPF paragraph should be given significant weight.

10.11 There are two other matters that need to be weighed against this conclusion to see if it is weakened in any way – in other words, are there other planning considerations arising from the proposal which might outweigh a precautionary approach.

10.12 The first is to see if the site should be developed because it might be previously developed land – ("PDL"). Members are aware of the preference for new development to be directed to such land. In other words, is there is a case here to release the land for residential development if it reduces the likelihood of greenfield land being developed. However, in this case as set out above, there is already a planning permission for the industrial use of the land which has been taken up. It is thus a matter of fact that this land can be developed in principle. The issue is what form that development might take. A residential proposal introduces other planning considerations which may not lead to the conclusion that the site is appropriate for

residential development, regardless of the fact that the site can be developed in principle.

10.13 This leads on to the second matter – one to do with housing supply. In other words, would it not be "better" to have housing here in order to meet the Council's requirements rather than on a greenfield site elsewhere. Apart from the matters raised above in respect of the specific issues at this site, Members will be aware that the Council has recently just adopted its 2021 Local Plan which sets out the approach to delivering its housing requirements throughout the plan period. Full weight should thus be given to that approach. Moreover, the Council has a five-year housing land supply. The 2019 Annual Monitoring Report showed a 6.29 year supply and an updated report prepared for the Inspector dealing with the Examination into the draft of the 2021 Local Plan, showed a 6.2 year supply as at February 2021.

10.14 It is these circumstances that it is not considered that there is sufficient weight arising from either or both of these two matters to override the conclusion expressed above under paragraph 187 of the NPPF.

c) The Second Test

10.15 This test is whether the proposal would enhance or maintain the vitality of rural communities under this category. It is firstly considered that Dosthill is not a "rural community" being part of the urban area of Tamworth and that part within North Warwickshire is essentially part of a wider housing estate. The proposal would not therefore accord with this test. Nevertheless, it is clear from the Staffordshire County Council responses that the proposal would maintain the local school capacity and that the public health contributions would go to enhance existing facilities. Additionally, some of Tamworth's affordable housing need could be accommodated here. As such there is some weight given to the general thrust of the wording of this test.

10.16 The issue is thus whether this is of sufficient weight to overcome the conclusion from the first test – para 10.6 above. It is not considered that it is.

10.17 If the site is not considered to be an appropriate location of residential development in principle, then that applies whether that is market housing or affordable housing. Additionally, the NPPF at paragraph 92, sets out an objective of having "healthy, inclusive and safe places". If the development is not inclusive, then it is unlikely to enhance or maintain vitality.

d) Other Matters

10.18 One matter not yet raised is that the site benefits from an extant planning permission for commercial development and the issue is whether this extant commercial permission should be lost. The land is not safeguarded in the Local Plan as it has the benefit of a planning permission. The Coventry and Warwickshire LEP's position is that it would be difficult to resist the loss of this

commercial land given the evidence submitted by the applicant which showed little interest in taking up the permission, mainly because of its location with poor access to the main highway network. Additionally, there is the cost associated with the provision of access arrangements into the site. The Tamworth Borough Council has not requested that the land should be safeguarded to meet its own employment needs. In these circumstances it is not considered that there is sufficient weight to support a refusal reason based on the loss of employment land.

10.19 The Dosthill By-Pass is not safeguarded in either the very recently adopted North Warwickshire Local Plan nor by the slightly earlier Tamworth Local Plan. The proposal is not considered to prejudice the line of, or the final implementation of that road should it become a material planning consideration in the future, as the line of the access road into the site would remain, but it would need to be upgraded to a different construction standard.

10.20 It can be seen from Section 6 above that there are no consultation responses from the various technical Agencies and Bodies to warrant there being significant or demonstrable adverse impacts arising from the proposals. Mitigation of impacts can be dealt with by planning conditions or through contributions which comply with the Statutory Background. There are no heritage assets in close proximity to the site or settings of such assets that might be affected by the proposals.

10.21 In the event that the recommendation below is not agreed and that a Section 106 Agreement is required as a part of supporting the proposal, then there is an issue with the final content of the contributions to be included in that Agreement. This arises because of two issues. The first is around the provision of affordable housing. Whilst the proposal is for 100% provision, the matter of apportioning that delivery between Tamworth and North Warwickshire's requirements needs to be settled as does the final mix of tenures and house types. The second revolves around the requirements made by both Councils for indoor recreation facilities and provision. The applicant has pointed out that there might well be some overlap here between the two Councils and thus there needs to be further discussion on the final total contribution and how then that is apportioned between the two Authorities. It is suggested that should the application be supported by the Board, then that is subject to further discussion between the respective Council officers to resolve these issues. If the Board agrees with the recommendation, then a Planning Inspector dealing with any appeal will also need to have an agreed solution as part of the determination. As a consequence those discussions will therefore still need to take place.

Recommendation

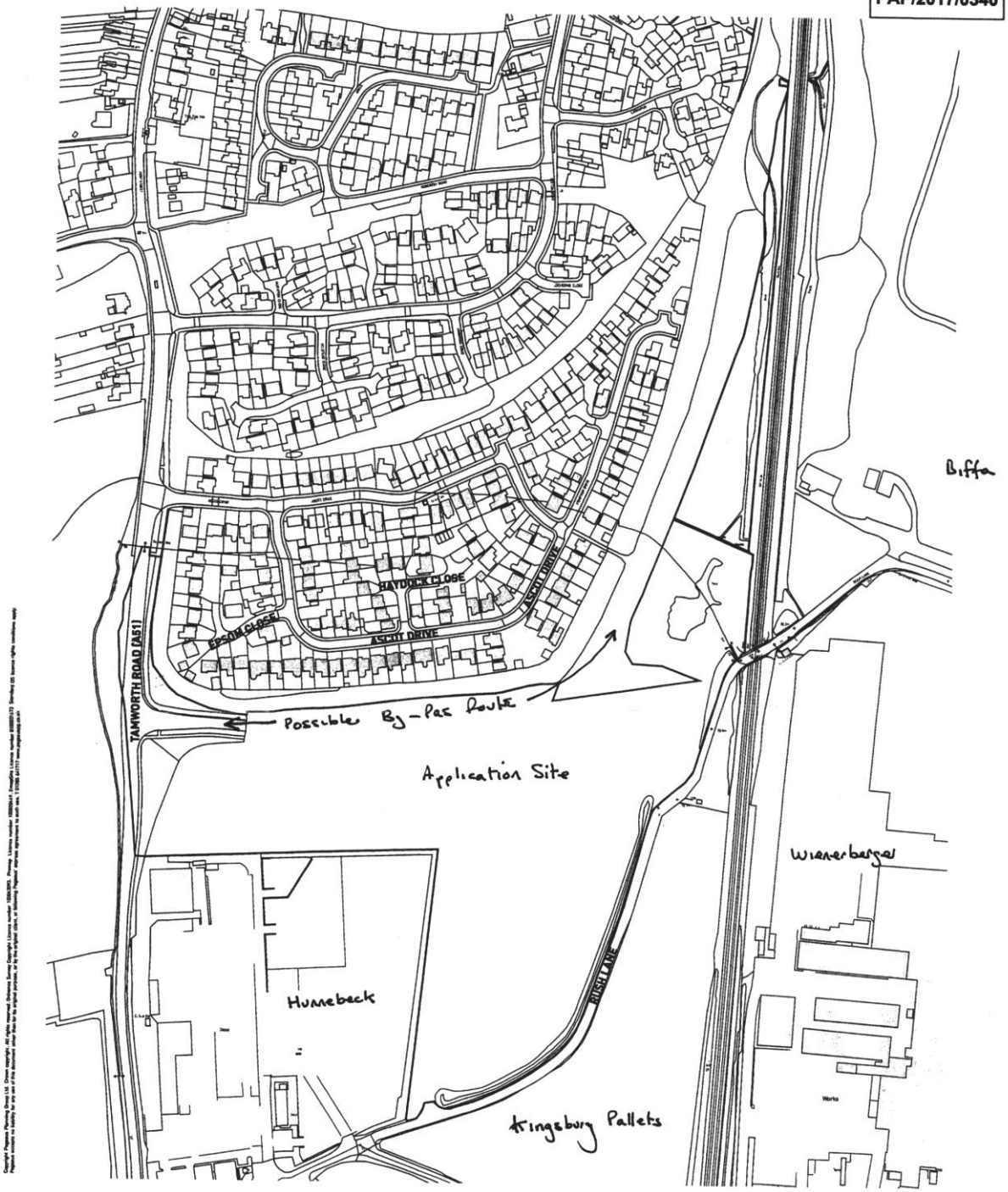
A) That planning permission be **REFUSED** for the following reason:

"It is not considered that the site is an appropriate location for new residential development as the proposal does not accord with Policies LP1, LP2 and LP 29 (9) of the North Warwickshire Local Plan 2021 as supported by Sections 12 and 15 of the NPPF 2021. This is because the proposal is not considered to result in a high quality of sustainable design which positively improves the character and appearance of Dosthill or the environmental quality of the area. The proposal does not integrate with wider development. It is separated physically, visually and spatially from existing residential development leading to an isolated, self-contained development with no connectivity or linkage to existing residential development, or to local facilities and services and with no sense of place or community. The setting is industrial in character and appearance with neighbouring lawful B2 and B8 uses. These by definition are not suitable in a residential area. A high standard of amenity is not achieved. This in part is because of the measures being proposed to mitigate the impacts of off-site noise sources and because the development cannot be integrated effectively with existing business facilities."

B) Notwithstanding the recommendation above and without prejudice to the Council's position, officers be requested to continue discussion with the applicant and appropriate Agencies in order to agree the obligations of a Section 106 Agreement should the matter be dealt with at a planning appeal.

APPENDIX A

PAP/2017/0340



KEY

SITE LOCATION
17.87 ACRES
7.23 HECTARES

LAND OF OTHER OWNERSHIP

N W E S 0 25 50 75

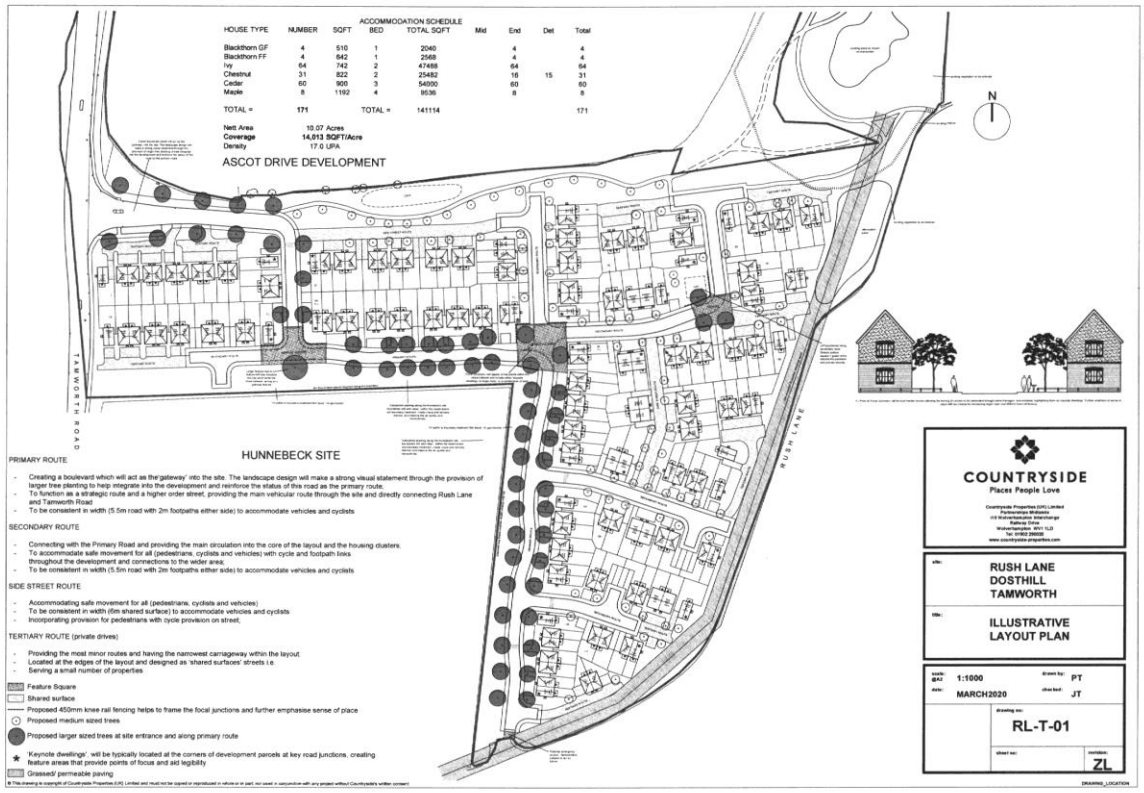
NORTH WARWICKSHIRE BOROUGH COUNCIL
RECEIVED
07/07/2017
PLANNING & DEVELOPMENT DIVISION

Pegasus Design

LAND OFF RUSH LANE, TAMWORTH - SITE LOCATION PLAN

ANNING | DESIGN | ENVIRONMENT | ECONOMICS | www.pegasuspg.co.uk | TEAM/DRAWN BY: RL | APPROVED BY: ST | DATE: 23/06/17 | SCALE: 1:2500 @ A3 | DRWG: P16-1453_011-1 REV: | CLIENT: SUMMIX DEVELOPMENTS LTD |

APPENDIX B


ACCOMMODATION SCHEDULE
HOUSE TYPE NUMBER SQFT BED TOTAL SQFT Mid End Det Total
Blackthorn GF 4 510 1 2040 4 4
Blackthorn FF 4 642 1 2568 4 4
Ivy 64 742 2 47488 64 64
Chestnut 31 822 2 25482 16 15 31
Cedar 60 900 3 54000 60 60
Maple 8 1192 4 9536 8 8
TOTAL = 171 TOTAL = 141114 171
Net Area 10.07 Acres
Coverage 14,013 SQFT/Acre
Density 17.0 UPA
ASCOT DRIVE DEVELOPMENT
TAMWORTH ROAD
RUSH LANE
N
HUNNEBECK SITE
PRIMARY ROUTE
- Creating a boulevard which will act as the'gateway' into the site. The landscape design will make a strong visual statement through the provision of larger tree planting to help integrate into the development and reinforce the status of this road as the primary route.
- To function as a strategic route and a higher order street, providing the main vehicular route through the site and directly connecting Rush Lane and Tamworth Road
- To be consistent in width (5.5m road with 2m footpaths either side) to accommodate vehicles and cyclists
SECONDARY ROUTE
- Connecting with the Primary Road and providing the main circulation into the core of the layout and the housing clusters.
- To accommodate safe movement for all (pedestrians, cyclists and vehicles) with cycle and footpath links throughout the development and connections to the wider area;
- To be consistent in width (5.5m road with 2m footpaths either side) to accommodate vehicles and cyclists
SIDE STREET ROUTE
- Accommodating safe movement for all (pedestrians, cyclists and vehicles)
- To be consistent in width (6m shared surface) to accommodate vehicles and cyclists
- Incorporating provision for pedestrians with cycle provision on street;
TERTIARY ROUTE (private drives)
- Providing the most minor routes and having the narrowest carriageway within the layout
- Located at the edges of the layout and designed as 'shared surfaces' streets i.e.
- Serving a small number of properties
Feature Square
Shared surface
Proposed 450mm knee rail fencing helps to frame the focal junctions and further emphasise sense of place
Proposed medium sized trees
Proposed larger sized trees at site entrance and along primary route
'Keynote dwellings', will be typically located at the corners of development parcels at key road junctions, creating feature areas that provide points of focus and aid legibility
Grassed/ permeable paving
COUNTRYSIDE
Places People Love
RUSH LANE
DOSTHILL
TAMWORTH
ILLUSTRATIVE
LAYOUT PLAN
1:1000
MARCH2020
PT
JT
RL-T-01
ZL

APPENDIX C

PAP/2017/0340

summix

PLANNING POLICY UPDATE STATEMENT

TO ACCOMPANY A PLANNING APPLICATION FOR

OUTLINE APPLICATION FOR UP TO 185 DWELLINGS (100% AFFORDABLE HOUSING), PUBLIC OPEN SPACE; LANDSCAPING; SUSTAINABLE URBAN DRAINAGE; AND ASSOCIATED INFRASTRUCTURE - ALL MATTERS RESERVED EXCEPT ACCESS

LAND AT RUSH LANE, DOSTHILL, TAMWORTH, B77 1LT

SUMMIX RLT DEVELOPMENTS LIMITED

APRIL 2021

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1. INTRODUCTION

1.1. This Planning Policy update statement has been prepared in relation to a planning application (PAP/2017/0340) submitted to North Warwickshire Borough Council (NWBC) by the applicant (RLT Developments Limited) on land at Rush Lane, Tamworth.

1.2. The application was submitted by Framptons as the agent for the applicant but that has now changed, as of 1st February 2021, and the agent for the application is now Summix Planning Limited. RLT Developments Limited is one of the group of companies owned by Summix Capital Limited.

1.3. It has been agreed to prepare this planning policy update statement to take account of the various changes to the planning application since its submission in July 2017.

1.4. The application was submitted on 31st July 2017 and described as an "*outline application for up to 165 dwellings, public open space, sustainable urban drainage and associated infrastructure – all matters reserved except access*". A small part of the application site in the north eastern corner is in Tamworth Borough. Accordingly, the application was also submitted to Tamworth Borough.

1.5. The applicant had been in contact with Countryside in any event as a prospective purchaser and Following discussions with Countryside Properties, and pre-application discussions between Countryside and the LPA, the scheme was revised, supported by the noise mitigation strategy put forward by Countryside's acoustic adviser, Hepworth Acoustics.

1.6. The application is now seeking outline planning permission "*for up to 185 dwellings, public open space; landscaping; sustainable urban drainage; and associated infrastructure - all matters reserved except access*". The proposal is for 100% affordable provision (as was made clear in the Countryside pre-app).

2. PLANNING POLICY ASSESSMENT

2.1. Section 38(6) of the Planning and Compulsory Purchase Act 2004 (as amended) states that the determination of planning applications should be made in accordance with the Development Plan unless Material Considerations indicate otherwise.

Principle of Development

2.2. Policy NW2 identifies a hierarchy of settlements based on their ability to accommodate development in a sustainable way; it says that development for housing will be permitted within the development boundaries of the market towns outside of the Green Belt. Tamworth is not one of those market towns listed; primarily because Tamworth has its own tightly drawn administrative area which no longer reflects the built confines of the town (the administrative boundary cuts through the centre of the Sefton Road, Ascot Drive development).

2.3. The Emerging New Local Plan acknowledges that Core Policy NW2 fails to recognise sustainable settlements abutting the Borough boundaries in the settlement hierarchy, stating "*it is considered necessary to allow developments that may be on the outer boundary of the Borough that are close to sustainable settlements outside of the Borough such as Tamworth and Nuneaton*".

2.4. The submitted Local Plan proposes to amend existing policy NW2, known as Policy LP2 in the Emerging Plan. The amended policy now states "*In Categories 1 to 4 settlements development within development boundaries will be supported in principle. Development directly adjacent to settlement boundaries may also be acceptable, which would enhance or maintain the vitality of rural communities, provided such development is proportionate in scale to the relevant settlement and otherwise complaint with the policies in the plan and national planning policy considered as a whole*"

2.5. The proposal would deliver much needed housing to meet the needs of Tamworth (which are best met close to Tamworth) and the wider district, in accordance with adopted policies NW1 and NW4. The site is sustainably located on the edge of a market town outside of the Green Belt, in accordance with policy NW2 (emerging policy LP2). Within the proposed amendment to

policy NW2 (Local Plan Policy LP2), the proposal would fall within specific Settlement Category 2, which supports development in borough boundary settlements.

2.6. The proposal therefore is in general accordance with the housing policies of the Development Plan.

Noise and vibration

2.7. It is therefore considered that noise and vibration is the only matter of concern preventing a grant of planning permission on this site. The applicant is aware that the Council has concerns over the scheme and its ability to accord with the Framework (para 180a and 182) and therefore would be unsuitable for residential development in the context of adopted Core Strategy Policy NW12. The applicant disagrees with this view for the reasons set out below.

2.8. As set out earlier, the application was revised in May 2020. The application is now seeking outline planning permission *"for up to 185 dwellings, public open space; landscaping; sustainable urban drainage; and associated infrastructure - all matters reserved except access"*. The proposal is for 100% affordable provision (as was made clear in the Countryside pre-app).

2.9. The latest illustrative layout is available at **Appendix 1**.

2.10. Policy NW12 states:

"NW12 Quality of Development

All development proposals must;

- *demonstrate a high quality of sustainable design that positively improve the individual settlement's character; appearance and environmental quality of an area;*
- *deter crime;*
- *sustain, conserve and enhance the historic environment*
- *provide, conserve and enhance biodiversity; and,*

- *create linkages between green spaces and wildlife corridors.*

Development should protect the existing rights of way network and where possible contribute to its expansion and management."

2.11. We support delivering high quality development, as required by Policy NW12. It is submitted that there is no aspect of Policy NW12 that gives rise to an objection to this outline application. Notwithstanding this, the matters identified in Policy NW12 will be tested at the Reserved Matters stage of the planning process.

2.12. It is important to also consider Framework paragraphs 180(a) and 182. Acoustics Environmental were commissioned by NWBC to prepare a report which reviewed the potential noise impacts from the proposals (**Appendix 2**).

2.13. Legal advice was sought by the applicant following the submission of the Acoustics Environmental report. The legal advice is available at **Appendix 3**.

2.14. The report does not support the conclusion that the Application proposals conflict with either NPPF 180(a) or NPPF 182. However, the report does not address the criteria and thresholds set out in either NPPF 180(a) or NPPF 182 and instead applies criteria which are too stringent and which are not supported by either NPPF or NPPG.

2.15. Framework para 180(a) reads:

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

(a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life"

2.16. As set out in Counsel's advice, NPPF 180 concerns potential adverse impacts arising from the proposed development on the wider area and location. It is not appropriate to seek to apply this paragraph 'in reverse' (i.e. to use NPPF 180 to consider impacts on the proposed development from existing development). The NPPF already provides separate policy consideration for that scenario. Notwithstanding this, it is clear that the threshold at which permission should be refused under the auspices of NPPF 180(a) is to "...avoid noise giving rise to significant adverse impacts on health and the quality of life" (emphasis added). The threshold is not 'any adverse impact' or 'some adverse impact' but 'significant adverse impact' – and that this impact be on both health and quality of life.

2.17. The conclusions of the Acoustics Environmental report are that the evidence 'does not demonstrate that planning harm would be avoided'. Nowhere in the report is it expressed that the proposals may give rise to "significant adverse impacts on health and the quality of life". A conclusion that 'planning harm has not been demonstrated to be avoided' is very far from saying that the proposals 'give rise to significant adverse impacts on health and the quality of life'.

2.18. Counsel concludes at para 21 of his advice that:

> *"21. In my view Mr. Grant's report does not justify the LPA refusing permission on the basis of NPPF 180. Were the LPA to refuse permission on this basis, I am of the view that an appeal should be lodged against the same. I would expect such an appeal to succeed."*

2.19. Paragraph 182 states:

> *"182. Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on*

new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed."

2.20. The Acoustics Environmental report sets out concerns that the evidence does not demonstrate that *"...the intended development can be effectively integrated with extant development in a manner that existing businesses will not be immune from future constraint or restrictions"*.

2.21. This is far from the policy requirements at NPPF 182. Per NPPF 182 the policy requirement is that *"new development can be integrated effectively with existing businesses and community facilities"* which NPPF 182 expressly identifies as:

> *(a) Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established; and*
>
> *(b) Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.*

2.22. As set out in Counsel's advice (para 25), it is wrong to *"suggest that existing businesses should be "immune from future constraint or restrictions" (his E.5) since this applies a threshold far beyond that which national policy applies. NPPF 182 positively envisages that existing businesses will have restrictions placed on them as a result of later development, but cautions only against unreasonable restrictions, not against any restriction. NPPF 182 does not confer 'immunity' on existing development and to construe it in such a manner would, in my view, constitute a clear error of law"*.

2.23. Moreover, Counsel is clear in stating that: *"The presence of Hünnebeck does not act as a bar to all forms of development nearby, and although Hünnebeck's land may not have relevant planning restrictions on use of the land, the existing nature and level of operations on Hünnebeck's site does not grant them carte blanche to use that lack of restriction to seek to block future development and effectively confer 'immunity' on themselves; such an approach would clearly conflict with the provisions of NPPF 182"*.

2.24. It is important to note that Framework paragraph 182 envisages and permits adverse effects on new development from the operation of existing business whilst remaining policy compliant. It is only where such existing operations 'could have a significant adverse effect on new development' that the 'agent of change' is required to provide suitable mitigation.

2.25. Further, the report does not express the view that the existing business could have a "*significant adverse effect on new development*". A conclusion that 'planning harm has not been demonstrated to be avoided' is very far from saying that existing operations could have a "significant adverse effect on new development".

2.26. It is for these reasons that the Acoustics Environmental report does not provide any basis for a refusal of planning permission on the application with regards to Framework paragraphs 180(a) or 182.

2.27. Hepworth Acoustics produced a technical note (dated 30 March 2021) (Appendix 4) providing a summary, update and clarification of noise matters relating specifically to potential noise attributable to the adjacent premises of Hunnebeck.

2.28. The technical note confirms that following further scrutiny of their own noise modelling work, there was in fact an error with the noise modelling information presented in the August 2020 report. The information presented understated the level of acoustic attenuation that will be achieved by the proposed 6m high acoustic barrier. As a result, figures A and B appended to the technical note replace figures 3 and 4 of the August 2020 report.

2.29. The technical note concludes:

> *"the proposed noise mitigation measures will secure good internal and outdoor acoustic conditions at the proposed development. Moreover, Hunnebeck operate principally during normal working daytime hours only, with no evening or overnight noise, however, even when taking account of the potential for evening and/or night-time operation, the proposed mitigation measures generally provide a reasonable standard of internal acoustic conditions even with windows open and will provide a good standard when*

windows are closed, with an alternative means of ventilation provided to residents. Utilisation of façade sound insulation treatment and alternative means of ventilation is entirely consistent with the guidelines of BS 4142 in relation to mitigation of industrial type noise, especially when part of a comprehensive package of measures. The context of this can vary between circumstances at individual sites, however fundamentally the measure is a reasonable one and can be applied where planning balance dictates.

A good standard will also be achieved in gardens, due to the secondary line of acoustic screening provided by virtue of these areas being located behind the houses."

2.30. It has been demonstrated in the Hepworth Acoustics report, that there is a mitigation scheme which is acceptable to allow for development at this site.

2.31. Paragraph 11 of the Framework is clear in stating that decisions should apply a presumption in favour of sustainable Development". For decision-taking this means (unless material considerations indicate otherwise) "*approving development proposals that accord with an up-to-date development plan without delay*".

2.32. Based on the above, it is submitted that the proposals accord with the development plan and should be approved without delay.

2.33. However, if NWBC were to disagree with the conclusions of Hepworth Acoustics (**Appendix 2**) and the view of Counsel (**Appendix 3**), it would be necessary to undertake a planning balance exercise.

Planning Balance

2.34. When undertaking the planning balance this proposal should be considered in accordance with the relevant development plan policies and other material considerations.

Principle of Development

2.35. The proposals are in accordance with the strategic aims and housing policies of the development plan as a whole.

2.36. The submitted Local Plan proposes to amend existing policy NW2, known as Policy LP2 in the Emerging Plan. The amended policy now states "*In Categories 1 to 4 settlements development within development boundaries will be supported in principle. Development directly adjacent to settlement boundaries may also be acceptable, which would enhance or maintain the vitality of rural communities, provided such development is proportionate in scale to the relevant settlement and otherwise complaint with the policies in the plan and national planning policy considered as a whole*".

2.37. The proposal would deliver much needed housing to meet the needs of Tamworth (which are best met close to Tamworth) and the wider district, in accordance with adopted policies NW1 and NW4. The site is sustainably located on the edge of a market town outside of the Green Belt, in accordance with policy NW2 (emerging policy LP2). Within the proposed amendment to policy NW2 (Local Plan Policy LP2), the proposal would fall within specific Settlement Category 2, which supports development in borough boundary settlements and should therefore be afforded substantial weight.

Brownfield Site

2.38. Policy LP31 in the submitted Local Plan (known as Policy NW10 in the Core Strategy) states that:

> *"Development should meet the needs of residents and businesses without compromising the ability of future generations to enjoy the same quality of life that the present generation aspires to. Development should:*
>
> *1. Be targeted at using brownfield land in appropriate locations reflecting the settlement hierarchy..."*

2.39. As demonstrated above, the proposals do accord with the settlement hierarchy (land directly adjacent to settlement boundaries).

2.40. Moreover, this is a brownfield location, to the immediate south of the established residential area of Dosthill, Tamworth and lies amid a mixed commercial and residential area.

2.41. This approach is also consistent with the Framework which seeks to make effective use of land to meet the need for homes, in a way that "makes as much use as possible of previously-developed or 'brownfield' land". In this context, given the Brownfield first approach at both local and national planning policy level, the proposals should be afforded substantial weight.

Affordable Housing

Local Affordable Housing Need

2.42. A recent appeal (3234056) (dated 30th April 2020) (**Appendix 5**) at Land East of Islington Farm, Tamworth Road, Wood End considered affordable housing need in North Warwickshire. The appeal was subsequently dismissed due to the Inspector considering the benefits did not outweigh the fact that the development would conflict with the spatial strategy. The Inspector dealt with affordable housing at paragraph 46, stating:

> *"...The appellant has submitted substantial evidence highlighting the borough's affordable housing needs and the lack of recent delivery. The conclusion of this is that there were 362 households on the Housing Register in need of an affordable home at 1 April 2019, with a high number of people expressing a preference for Wood End. The 2015 Strategic Housing Market Assessment (SHMA) concluded there would be a need for 92 affordable homes per annum. Since 2011, 285 homes have been built, leaving a shortfall against this 'need' of 457 dwellings. While noting this is not a policy document or adopted target, the SHMA provides some evidence of the potential scale of the issue. There is also evidence of significant issues around affordability with much higher than average house prices in North Warwickshire."*

2.43. There is a clear under delivery of affordable housing in North Warwickshire. These proposals would provide up to 185 much needed affordable dwellings which would contribute to meeting the shortfall.

National Support for Affordable Housing

2.44. In so far as national planning policy is another material consideration to which significant weight should be given, national planning policy lends weight to the granting of planning permission. Recent Ministerial Statements emphasise the Government's commitment to the delivery of more affordable housing.

2.45. The Government has reiterated its commitment to delivering much needed affordable housing. The Secretary of State for Housing, Communities and Local Government, at the time, James Brokenshire stated in his 'Written Ministerial Statement' on 27 June 2019:

> *"The Government have set an ambitious target to deliver 300,000 homes a year by the mid-2020s. Last year more homes were provided than in all but one of the last 31 years. In September 2018, the Prime Minister announced an additional £2 billion to support long-term strategic partnerships with housing associations through to 2029. Today we are launching the bidding process for £1 billion of this funding through Homes England and are working with the Greater London Authority to launch bidding for a further £1 billion for housing associations in London as soon as possible. This marks the first time any Government have invested such long-term funding in new affordable homes through housing associations, supporting the development of more ambitious long-term plans to build the homes this country needs."*
>
> *Emphasis added*

2.46. The Secretary of State in a recovered appeal (2212671) (dated 04 November 2019) (**Appendix 6**) at land off Darnhall School Lane, Winsford, Cheshire, reiterated the Governments position on affordable housing, considering the following:

> *"28. The Secretary of State agrees that the social benefits of the provision of affordable housing should be given substantial weight, for the reasons set out at IR408-411. He further agrees, for the reasons set out at IR412-414, that the social benefits of the self-build element of the scheme should attract substantial weight. He also*

agrees with the Inspector (IR415) that the local training, employment and procurement elements should attract significant weight in favour of the proposal."

2.47. In the context of the Government's commitment to tackle a lack of affordable housing and the LPA identifying the delivery of affordable housing as one of their key priorities, it is considered substantial weight should be given to the provision of much needed affordable housing, which responds to an up to date identified need in North Warwickshire.

Employment

2.48. The proposals will provide employment opportunities during construction should planning permission be granted. It is considered that moderate weight should be afforded to the employment opportunities created from these proposals.

Noise

2.49. As demonstrated by the Hepworth Acoustics report (**Appendix 2**), there is a mitigation scheme which is acceptable. It is confirmed that *"the proposed noise mitigation measures will secure good internal and outdoor acoustic conditions at the proposed development. Moreover, Hunnebeck operate principally during normal working daytime hours only, with no evening or overnight noise, however, even when taking account of the potential for evening and/or night-time operation, the proposed mitigation measures generally provide a reasonable standard of internal acoustic conditions even with windows open and will provide a good standard when windows are closed, with an alternative means of ventilation provided to residents."*

2.50. It is therefore considered that there is no aspect of the proposals that conflict with Policy NW12, moreover, matters with regard to this policy can be dealt with via reserved matters submission or conditions. There is no basis for a refusal of planning permission on the application with regards to Framework paragraphs 180(a) or 182.

2.51. It is further considered that there are no other material considerations which would give rise to any adverse impact.

2.52. Paragraph 11 of the Framework is clear in stating that decisions should apply a presumption in favour of sustainable Development". For decision-taking this means (unless material considerations indicate otherwise) "*approving development proposals that accord with an up-to-date development plan without delay*". On the basis of the above, it is submitted that the proposals accord with the development plan and should be approved without delay.

2.53. When undertaking a planning balance exercise, it is considered that the substantial weight should be given to the fact that the development is consistent with the spatial strategy; is on brownfield land; and, would provide much-needed affordable housing in North Warwickshire. Moderate weight should be given to the employment opportunities arising from the development. Overall, the benefits of the scheme outweigh the alleged conflict with Policy NW12 (should NWBC disagree with the conclusions of Hepworth Acoustics (**Appendix 2**) and the view of Counsel (**Appendix 3**)) regarding the proper interpretation of paragraphs 180 and 182 of NPPF.

2.54. As such, it is considered that planning permission should be granted for these proposals.

3. CONCLUSIONS

3.1. The proposals are considered to be in accordance with the development plan as a whole.

3.2. Paragraph 11 of the Framework is clear in stating that decisions should apply a presumption in favour of sustainable Development". For decision-taking this means (unless material considerations indicate otherwise) "*approving development proposals that accord with an up-to-date development plan without delay*".

3.3. It is submitted that the proposals accord with the development plan and should be approved without delay.

3.4. However, if NWBC were to disagree with the conclusions of Hepworth Acoustics and the view of Counsel, it would be necessary to undertake a planning balance exercise.

3.5. When undertaking a planning balance exercise, it is considered that the substantial weight should be given to the fact that the development is consistent with the spatial strategy; is on brownfield land; and, would provide much-needed affordable housing in North Warwickshire. Moderate weight should be given to the employment opportunities arising from the development. Overall, the benefits of the scheme outweigh the alleged conflict with Policy NW12 (should NWBC disagree with the conclusions of Hepworth Acoustics (Appendix 2) and the view of Counsel (Appendix 3)) regarding the proper interpretation of paragraphs 180 and 182 of NPPF.

APPENDIX D

HUNNEBECK
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22nd June 2018

Hunnebeck premises, Rush Lane, Dosthill
Summary of Operations

The Dosthill logistics centre covers all business activity for the UK and Ireland, as well as the main shipping location for all international movements for the EU and beyond.

The nature of the work is the supply and pre-assemble of systems related to forming and shoring material for the construction market on both a rental and sale basis.

Work activity involves heavy machinery, forklifts trucks and hand held power tools, and hand tools such as hammers etc.

The site also includes cleaning and repair facilities for both rental material and for third party material, this process is systemised and set in pre-planned locations and involves the entire cleaning and repair process of material which is normally covered in concrete after return from site. Front line maintenance is also carried out in the return bays which involves banging concrete off material so ear protection is widely used through the site. The cleaning and repair areas are shown outlined in red on the attached plan, operate between 06.00 and 19.00 Monday to Friday and on 1 in 3 weekends.

The site also deals with circa 100 transport movements involving 40ft trailers each week. The HGV loading areas are shown outlined in blue on the attached plan.

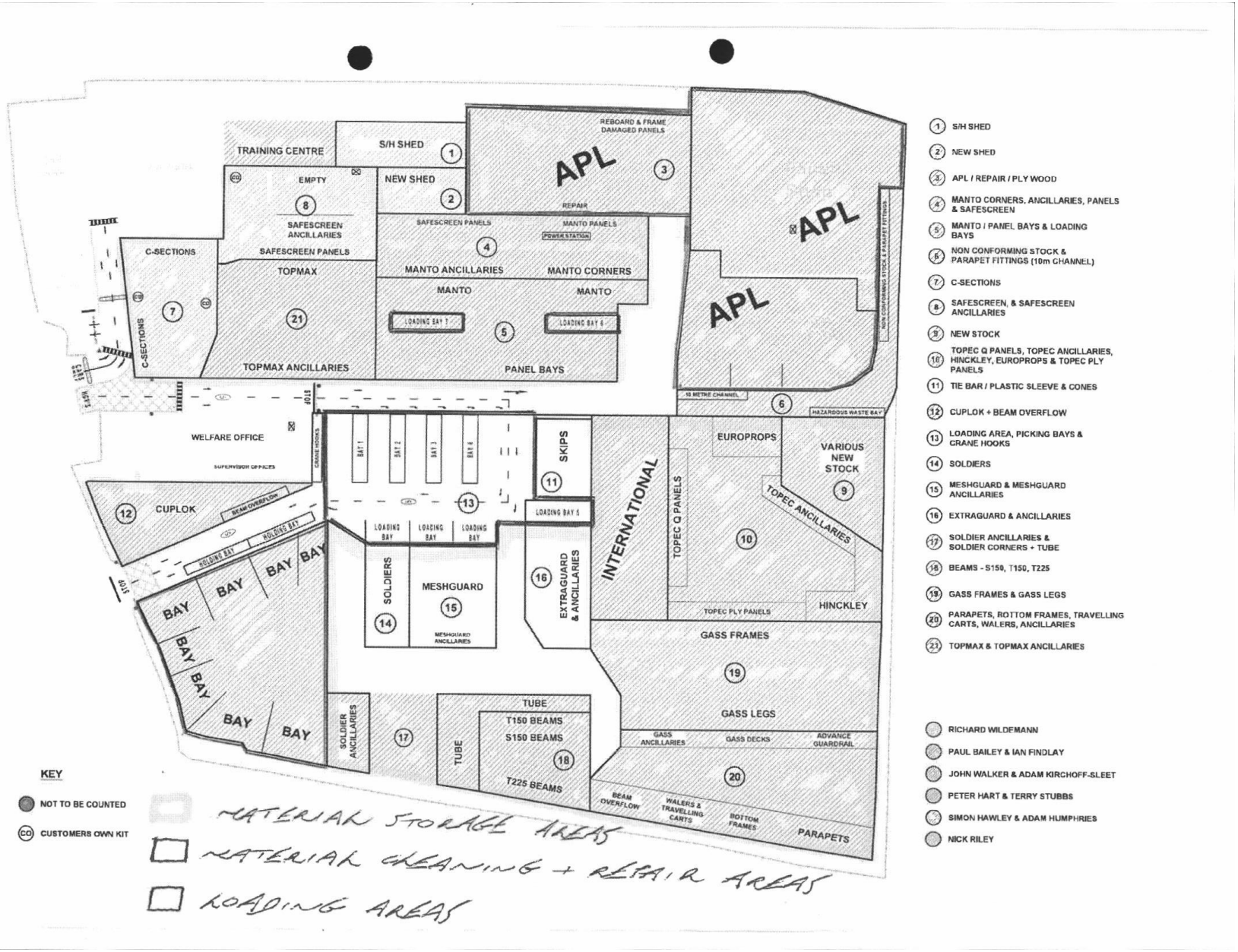
The yard area will have normally circa 30 operatives at any one time working with split shifts being common working practice. 15 forklift trucks with reversing alarms are utilised in the yard. The material storage areas are shown outlined in yellow on the attached plan.

Whilst the office is broadly 7.00 till 18.00, the logistics operation is very much 24/7 to support the logistics demands of the market and the geography to be covered by the products from one central support hub.

Due to the demand for concrete in the market and the advances in concrete (now used in low temperatures) technology, the seasonality of the business is very much an all year round activity.

David Stewart
Hunnebeck UK MD

BRAND SAFWAY


TRAINING CENTRE
S/H SHED
1
REBOARD & FRAME DAMAGED PANELS
APL
3
REPAIR
EMPTY
NEW SHED
2
8
SAFESCREEN ANCILLARIES
SAFESCREEN PANELS
MANTO PANELS
POWER STATION
4
C-SECTIONS
SAFESCREEN PANELS
TOPMAX
MANTO ANCILLARIES
MANTO CORNERS
MANTO
MANTO
APL
7
21
LOADING BAY 7
LOADING BAY 6
5
C-SECTIONS
TOPMAX ANCILLARIES
PANEL BAYS
NON CONFORMING STOCK & PARAPET FITTINGS
10 METRE CHANNEL
6
HAZARDOUS WASTE BAY
WELFARE OFFICE
SUPERVISOR OFFICES
CRANE HOOKS
BAY 1
BAY 2
BAY 3
BAY 4
SKIPS
11
EUROPROPS
VARIOUS NEW STOCK
9
INTERNATIONAL
TOPEC Q PANELS
TOPEC ANCILLARIES
12
CUPLOK
BEAM OVERFLOW
ROLLING BAY
ROLLING BAY
13
LOADING BAY 1
LOADING BAY
LOADING BAY
LOADING BAY
10
BAY
BAY
BAY
BAY
BAY
BAY
BAY
BAY
SOLDIERS
14
MESHGUARD
15
MESHGUARD ANCILLARIES
16
EXTRAGUARD & ANCILLARIES
TOPEC PLY PANELS
HINCKLEY
GASS FRAMES
19
GASS LEGS
SOLDIER ANCILLARIES
17
TUBE
T150 BEAMS
S150 BEAMS
T225 BEAMS
18
GASS ANCILLARIES
GASS DECKS
ADVANCE GUARDRAIL
20
BEAM OVERFLOW
WALERS & TRAVELLING CARTS
BOTTOM FRAMES
PARAPETS
KEY
NOT TO BE COUNTED
CUSTOMERS OWN KIT
MATERIAL STORAGE AREAS
MATERIAL CLEANING + REPAIR AREAS
LOADING AREAS
1 S/H SHED
2 NEW SHED
3 APL / REPAIR / PLY WOOD
4 MANTO CORNERS, ANCILLARIES, PANELS & SAFESCREEN
5 MANTO / PANEL BAYS & LOADING BAYS
6 NON CONFORMING STOCK & PARAPET FITTINGS (10m CHANNEL)
7 C-SECTIONS
8 SAFESCREEN, & SAFESCREEN ANCILLARIES
9 NEW STOCK
10 TOPEC Q PANELS, TOPEC ANCILLARIES, HINCKLEY, EUROPROPS & TOPEC PLY PANELS
11 TIE BAR / PLASTIC SLEEVE & CONES
12 CUPLOK + BEAM OVERFLOW
13 LOADING AREA, PICKING BAYS & CRANE HOOKS
14 SOLDIERS
15 MESHGUARD & MESHGUARD ANCILLARIES
16 EXTRAGUARD & ANCILLARIES
17 SOLDIER ANCILLARIES & SOLDIER CORNERS + TUBE
18 BEAMS - S150, T150, T225
19 GASS FRAMES & GASS LEGS
20 PARAPETS, BOTTOM FRAMES, TRAVELLING CARTS, WALERS, ANCILLARIES
21 TOPMAX & TOPMAX ANCILLARIES
RICHARD WILDEMANN
PAUL BAILEY & IAN FINDLAY
JOHN WALKER & ADAM KIRCHOFF-SLEET
PETER HART & TERRY STUBBS
SIMON HAWLEY & ADAM HUMPHRIES
NICK RILEY

APPENDIX E

hepworth
acoustics

PROPOSED RESIDENTIAL DEVELOPMENT AT RUSH LANE, TAMWORTH

NOISE ASSESSMENT

On behalf of:

Countryside Properties

hepworth
acoustics

Report No: P19-329-R03v1
July 2021

PROPOSED RESIDENTIAL DEVELOPMENT AT RUSH LANE, TAMWORTH

NOISE ASSESSMENT

Report prepared by:
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On behalf of:
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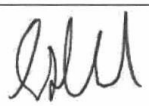
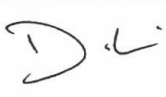
Report prepared by: Graham Bowland BSc MIOA – Technical Director	
Report checked by: Donald Quinn BSc FIOA – Managing Director	

CONTENTS

1.0 INTRODUCTION

1.1 Hepworth Acoustics was commissioned to carry out a noise assessment relating to a proposed residential development at Rush Lane, Tamworth.

1.2 The site is currently vacant brownfield land and is bounded by the A51 Tamworth Road to the west, by Rush Lane to the south and east, and by existing residences to the north.

1.3 To the south west, the site bounds the premises of Hunnebeck (formwork/scaffold supplier), which typically operates during the daytime only, but is understood to have the potential to operate 24-hours a day.

1.4 To the east of Rush Lane lies a mainline railway which carries frequent passenger services and freight traffic.

1.5 Also to the east, beyond the railway line, lies the premises of Wienerberger (masonry producer), which operates 24-hours a day.

1.6 A new pallet business has recently opened to the opposite side of Rush Lane to the southeast. It is understood that noise from this site is controlled via certain planning conditions.

1.7 A landfill waste disposal site is located further to the southeast of the site.

1.8 An aerial view of the existing site and its surroundings is provided in Figure 1.

1.9 The proposed development layout plan is provided in Figure 2.

1.10 Following the completion of noise survey work at the site in July 2019, the layout plan has been developed specifically with noise mitigation provision in mind, particularly related to noise from the Hunnebeck site. During this process we have held informal discussions with Matthew Green, Environmental Health Officer at North Warwickshire Borough Council, firstly in relation to a scheme incorporating, and reliant upon, a 6m high acoustic barrier to the boundary of the application site with the Hunnebeck site, and latterly in relation to a scheme incorporating more modest boundary screening, but focussing on distance buffering and building orientation to protect external areas, and façade insulation treatment and alternative means of ventilation to protect internal areas. However, no formal noise assessment has been submitted relating to either of those schemes.

1.11 The scheme now proposed is an amalgamation of all of the noise mitigating features of those outlined above, to hence provide the most comprehensive and robust possible approach.

1.12 The layout therefore indicates a continuous and uninterrupted 6m purpose-built acoustic barrier (i.e. to be a framed 'green' barrier, such as Eco Barrier by Gramm Barrier Systems Ltd.), constructed close to the north and west boundaries of the Hunnebeck site. Further details on this proposed solution are provided in Appendix I.

1.13 Further to this, a distance buffer is proposed, with proposed houses 'fronting-on' towards the Hunnebeck site, typically at least 25m from the boundary. This arrangement therefore allows for the private gardens of the nearest houses to be oriented to the rear of the buildings, to maximise acoustic protection of these external areas.

1.14 The acoustic protection will be maximised for internal areas by way of the provision of loft mounted positive input ventilation systems for all habitable rooms across the development. Windows will be formed of acoustically rated glazing systems to specifications as required, and although these will be operable at occupants' discretion, they may be kept closed for sound insulation purposes and ventilation achieved via alternative means.

1.15 The various noise indices referred to in this report are described in Appendix II. All noise levels mentioned in the text have been rounded to the nearest decibel, as fractions of decibels are imperceptible.

2.0 ACOUSTIC CRITERIA

2.1 The *National Planning Policy Framework* (NPPF) 2021 states at paragraph 174 that "*Planning policies and decisions should contribute to and enhance the natural and local environment by: … e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of … noise pollution …*".

2.2 Further, paragraph 185 states that "*Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should: a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life …*".

2.3 Paragraph 187 states that: "*Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.*

2.4 However, there is as yet no specific guidance on numerical acoustic assessment/design criteria for proposed new housing developments provided in the NPPF, accompanying Technical Guidance document, National Planning Practice Guidance 'Noise', nor the NPSE.

ProPG: Planning & Noise

2.5 ProPG: Planning & Noise '*Professional Practice Guidance on Planning & Noise*' 2017 provides "guidance on a recommended approach to the management of noise within the planning system in England", predominantly for proposed new residential developments on land that is exposed to transportation noise.

2.6 It is noted that the guidance has no legal status. It does not constitute an official government code of practice and does not provide an authoritative interpretation of the law or government policy.

2.7 The ProPG recommends a staged approach to assessment. Stage 1 is an initial site noise risk assessment, indicating whether the proposed site is considered to pose a negligible, low, medium or high risk from a noise perspective.

2.8 At low noise levels, the more likely the site is to be acceptable from a noise perspective provided that a good acoustic design process is followed and an ADS (Acoustic Design Statement) confirms how the adverse impacts of noise will be mitigated and minimised in the finished development.

2.9 As noise levels increase, the site is likely to be less suitable from a noise perspective and any subsequent application may be refused unless a good acoustic design process is followed and an ADS confirms how the adverse impacts of noise will be mitigated and minimised, and which clearly demonstrate that a significant adverse noise impact will be avoided in the finished development.

2.10 In cases where noise levels are high, the increased risk may be reduced by following a good acoustic design process that is demonstrated in a detailed ADS.

2.11 Stage 2 of the recommended approach in ProPG is a full assessment to consider good acoustic design. The guidelines of ProPG in terms of suitable acoustic design criteria are broadly consistent with the guidance of BS 8233, and the sound insulation recommendations made later in this report have been designed to achieve the BS 8233 guidelines, as described below.

2.12 The scope of the ProPG is restricted to sites that are exposed predominantly to noise from transportation sources. However, the recommended approach is also stated as being suitable where some industrial or commercial noise contributes to the acoustic environment provided that it is "not dominant".

BS 8233

2.13 British Standard 8233: 2014 *Guidance on sound insulation and noise reduction for buildings,* which carries the full weight of an adopted British Standard recommends guidance on design criteria for acceptable noise levels within residential accommodation. BS 8233 guidelines for the daytime (0700-2300hrs) and night-time (2300-0700hrs) periods are summarised in Table 1.

Table 1 : BS 8233 Recommended Internal Acoustic Design Criteria

Activity	Location	Internal Noise Levels	
		Daytime 0700-2300hrs	Night-time 2300-0700hrs
Resting	Living room	35 dB $L_{Aeq,16hr}$	-
Dining	Dining room / area	40 dB $L_{Aeq,16hr}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16hr}$	30 dB $L_{Aeq,8hr}$

2.14 BS 8233 states that the above levels are based on annual average data and do not have to be achieved in all circumstances.

2.15 BS 8233 also states that, "*where development is considered necessary or desirable ... the internal target levels* [i.e. those in Table 1] *may be relaxed by up to 5dB and reasonable internal conditions still achieved*".

2.16 BS 8233 clarifies that the above guidance relates only to noise without specific character (e.g. such as that which has a distinguishable, discrete and continuous tone, is irregular enough to attract attention, or has strong low-frequency content) and that where such characteristics are present, lower noise limits might be appropriate.

2.17 Further, BS 8233 states that if there is a reliance on closed windows to meet the guide values, "*there needs to be an appropriate alternative ventilation that does not compromise the façade insulation or the resulting noise level*". Further, it is stated that assessments should be based on a room with "*adequate ventilation provided (e.g. trickle ventilators should be open)*".

2.18 BS 8233 also recognises that regular individual noise events at night can cause sleep disturbance. Peaks of noise from individual events are usually described in terms of L_{Amax} values and these can be highly variable and unpredictable. ProPG states that "*in most circumstances in noise-sensitive rooms at night (e.g. bedrooms) good acoustic design can be used so that individual noise events do not normally exceed 45dB $L_{Amax,F}$ more than 10 times a night. However, where it is not reasonably practicable to achieve this guideline then the judgement of acceptability will depend not only on the maximum noise levels but also on factors such as the source, number, distribution, predictability and regularity of noise events*".

2.19 Regarding outdoor living areas, BS 8233 states that *"it is desirable that the external noise level does not exceed 50dB $L_{Aeq,T}$, with an upper guideline value of 55dB $L_{Aeq,T}$, which would be acceptable in noisier environments. However, it is recognised that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas such as city centres or urban areas adjoining the strategic transport network, compromise between elevated noise levels and other factors, such as the convenience of living in these locations or making efficient use of land resources to ensure development needs can be met, might be warranted. In such a situation, developments should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited."*

BS 4142

2.20 Further relevant guidance is provided in British Standard 4142: 2014 +A1:2019 'Methods for rating and assessing industrial and commercial sound', provides methods for rating and assessing sound of an industrial and/or commercial nature.

2.21 BS 4142 requires the 'rating' sound level for the operation to be compared with the LA90 background sound level in the absence of the operational noise.

2.22 Regarding background noise level, BS 4142 states that *"values are reliable and suitably represent both the particular circumstances and periods of interest ... the objective is not simply to ascertain a lowest measured background sound level, but rather to quantify what is typical during particular time periods."* It is also stated that *"diurnal patterns can have a major influence on background sound levels and, for example, the middle of the night can be distinctly different (and potentially of lesser importance) compared to the start or end of the night-time period for sleep purposes"*

2.23 The rating level is derived based on the 'specific' L_{Aeq} sound level attributable to the operation with an 'acoustic feature' penalty added for any sound sources which give rise to tonal, impulsive, intermittent, or other characteristics readily distinctive against the residual acoustic environment.

2.24 BS 4142 stipulates that impacts should be assessed over a reference time interval of 1-hour during the daytime (0700-2300hrs) and 15-minutes during the night-time (2300-0700hrs).

2.25 An initial estimate of the impact of the operation is determined by subtracting the background level from the rating level. BS 4142 states that:

- Typically, the greater this difference, the greater the magnitude of the impact
- A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context
- A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context
- The lower the rating level is relative to the measured background level, the less likely it is that the operation 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.

2.26 Where the initial estimate of the impact needs to be modified due to the context, BS 4142 states that all pertinent factors should be taken into account in determining whether the initial estimate of the impact needs to be modified, including:

- The absolute level of sound, including "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 background"
- The character and level of the residual sound
- The sensitivity of the receptor and whether dwellings ... will already incorporate design measures that secure good internal and/or outdoor acoustic conditions, such as: i) façade insulation treatment, ii) ventilation and/or cooling, and iii) acoustic screening.

3.0 NOISE SURVEY

3.1 A noise survey was carried out at the site on Tuesday 3 – Wednesday 4 July 2019.

3.2 All noise measurement locations are identified in Figure 1.

A51 Tamworth Road Traffic Noise Measurements

3.3 Road traffic noise measurements were undertaken in 15-minute samples during key daytime and night-time periods at Location 1, identified in Figure 1, as follows:

- Daytime: 1449-1659hrs on Tuesday 2 July 2019
- Night-time: 0420-0640hrs on Wednesday 3 July 2019

3.4 Location 1 is 8m from the nearside edge of the A51 carriageway, at grade with the road.

3.5 Overall daytime $L_{Aeq,16hr}$ road noise levels have been determined in accordance with the 'Shortened Measurement Procedure' described in the Department of Transport document 'Calculation of Road Traffic Noise' (CRTN), 1988. This procedure involves taking noise measurements in terms of $L_{A10,T}$ over representative time periods within any three consecutive hours between 1000hrs and 1700hrs.

3.6 By taking the $L_{A10,3hr}$ as the arithmetic mean of the measured L_{A10} values, the $L_{A10,18hr}$ value can then be calculated. The correction to obtain the $L_{A10,18hr}$ value from the $L_{A10,3hr}$ level is -1dB. The $L_{A10,18hr}$ values have then been converted into the equivalent $L_{Aeq,16hr}$ values by applying a correction of -2dB, as set out in paragraph 6.2.2 of BS 8233.

3.7 The measured night-time $L_{Aeq,5mins}$ values have been averaged logarithmically and taken as the highest transient road traffic noise level measured across the daytime and night-time survey periods.

3.8 The overall road traffic noise levels at Location 1 are summarised in Table 2.

Table 2 : Overall Road Traffic Noise Levels at Locations 1-2

Location	Daytime (0700-2300hrs)	Night-time (2300-0700hrs)	
	dB $L_{Aeq,16hr}$	dB $L_{Aeq,8hr}$	dB L_{Amax}
1	67	63	80

Railway Noise Measurements

3.9 Rail noise measurements were undertaken during daytime and night-time periods at Location 2, identified in Figure 1, in periods between road traffic noise samples, by way of a set of sample SEL noise measurements coinciding with individual train movements passed the site.

3.10 During the daytime, relatively frequent pass-bys of Virgin diesel high-speed trains, local DMUs and freight trains were observed, and a number of samples of each type measured.

3.11 During the night-time, specifically the early-morning period, a proliferation of double and triple Virgin trains was noted travelling southwards, assumed to be heading from a depot to terminal station(s) for the day's first departures.

3.12 The measured noise level for individual train movements are summarised in Table 3.

Table 3 : Summary of Noise levels for Individual Train Movements at Location 2

Location	Train Type	Noise Level			
		dB L_{AE}		dB L_{Amax}	
		Range	Logarithmic Average	Range	Logarithmic Average
2	Virgin	65-75	71	59-69	66
	Multiple Virgin	70-77	75	62-72	69
	DMU	62-74	69	56-66	63
	Freight	71-79	76	63-70	68

3.13 Based on observations of rail traffic activity, very cautious worst-case train pass-by frequencies have been derived for each train type, from which worst-case hourly L_{Aeq} rail noise levels at Location 2 have been calculated using the measured L_{AE} values are derived. This is set out in Table 4. Note that in reality it is likely that this represents an over-estimation of pass-by frequencies, such that overall noise levels may be lower.

Table 4: Projected Worst-Case Hourly Rail Noise Levels at Location 2

Location	Train Type	Worst-Case Hourly Noise Level			
		Daytime		Night-time	
		Potential Movements	Resulting dB $L_{Aeq,1hr}$	Potential Movements	Resulting dB $L_{Aeq,1hr}$
2	Virgin	8	45	4	42
	Multiple Virgin	0	0	8	49
	DMU	8	43	4	40
	Freight	8	49	3	45
		Overall =	**51**	**Overall =**	**51**

Ambient / Wienerberger Noise Measurements

3.14 During periods of attendance at Location 2 for the purpose of rail noise measurements, further noise measurements in periods between trains were undertaken comprising sample periods of up to 5-minutes (sometimes shortened due to an approaching train).

3.15 The noise during these periods may be characterised as general ambient noise, including residual road traffic noise from the A51, some aircraft noise and birdsong etc. However, the most distinguishable noise source, albeit at a low level, was the general industrial noise associated with the Wienerberger site. This was slightly more prominent during the night-time period than the daytime period, in part due to a lower level of noise from other sources, but also due to a slightly higher level of noise generation at the site during the night.

3.16 The ambient/Wienerberger measured noise levels at Location 2 are summarised in Table 5.

Table 5 : Summary of Ambient/Wienerberger Noise Levels at Location 2

Location	Index	Noise Level			
		Daytime (Measurements over period 1515-1734hrs)		Night-time (Measurements over period 0447-0606hrs)	
		Range	Average	Range	Average
2	dB $L_{Aeq,T}$	39-45	42 [1.]	44-46	45 [1.]
	dB L_{Amax}	50-69	62 [1.]	52-58	61 [1.]
	dB $L_{A90,T}$	36-42	39 [2.]	42-45	44 [2.]

1. Logarithmic Average, 2. Arithmetic Average

Hunnebeck Noise Measurements

3.17 Noise measurements were undertaken in key areas close to the boundary of the Hunnebeck site, comprising a combination of automated data-logging and short-term measurements.

3.18 Continuous monitoring was undertaken in sequential 15-minute samples over the period 1500hrs on Tuesday 2 July 2019 until 1300hrs on Wednesday 3 July 2019, at Location 3, identified in Figure 1, towards the south of the Hunnebeck site. This location was periodically attended throughout the survey period. It was noted that activity noise from the site was present during normal daytime working hours only, and that this comprised fork lift and other vehicle movements and other materials-handling noise.

3.19 The hourly noise levels over the daytime period of 0800-1700hrs at Location 3 are summarised in Table 6, along with overall ambient evening and night-time noise levels.

Table 6 : Summary of Hunnebeck / Ambient Noise Levels at Location 3

Location	Index	Noise Level			
		Daytime (Operational) (Measurements over periods 0800-1300hrs & 1500-1700hrs)		Evening (1900-2300hrs)	Night-time (1900-2300hrs)
		Range	Average		
3	dB $L_{Aeq,T}$	45-52	50 [1.]	44	46
	dB L_{Amax}	69-87	82 [1.]	52-63	50-68
	dB $L_{A90,T}$	36-45	40 [2.]	36-39	36-45

1. Logarithmic Average, 2. Arithmetic Average

3.20 Further to above, sample noise measurements were undertaken in fully attended 15-minute samples over the period 1011-1244hrs at Locations 4-7, identified in Figure 1, which are around the northern part of the Hunnebeck site. The majority of measurement samples were undertaken at Location 5, as this was the worst-case location with respect to the main workshop building towards the northwest of the Hunnebeck site. Only single samples were undertaken at the other locations, however it was perceived that noise generation at the Hunnebeck site was comparable across the survey period at Locations 4-7, and hence all measurements are considered representative.

3.21 Noise in this area of the site was a mix of steady plant and machinery noise, and other power tools and hand tools. As described above, this noise was most prominent at Location 5.

3.22 At Location 4, the noise was still prominent, albeit at a lower level and with higher road traffic noise levels such that it masked industrial noise to a greater extent. Here, however, the noise radiates more prominently from the entire building elevation of the workshop, hence the effective source height is at higher elevation.

3.23 At Locations 5 and 6 the noise from the workshop area was not prominent above general ambient noise.

3.24 The measured noise levels at Locations 4-7 are summarised in Table 7.

Table 7 : Summary of Noise Levels at Locations 4-7

Location	Noise Level			
	dB L_{Aeq}		dB L_{Amax}	dB L_{A90}
	Range	Logarithmic Average		
4	-	55	72	48
5	55-61	60	71-75	50-51
6	-	50	72	43
7	-	43	61	37

Survey Details

3.25 Noise measurements at all locations were undertaken using a Bruel & Kjaer 2260 Type 1 Integrating Sound Level Meter (serial no. 2467014), except those at Location 3 which were undertaken using a Norsonic 118 Type 1 Integrating Sound Level Meter (serial no. 31617).

3.26 Calibration checks were carried out before and after the survey periods using a Bruel & Kjaer Acoustic Calibrator, Type 4231 (serial no. 2389221), and no variation in the calibration levels was noted. The measurement microphone was fitted with a windshield.

3.27 All noise measurements were undertaken at 1.5m above local ground height and in free-field conditions.

3.28 The weather during the noise surveys was dry and calm.

3.29 All measured noise levels are fully detailed in Appendix III.

4.0 NOISE ASSESSMENT & RECOMMENDATIONS

Road Traffic Noise

4.1 Based on the results of the noise measurements at Location 1, a degree of noise mitigation is required for proposed dwellings in close proximity to and directly overlooking the A51 Tamworth Road.

4.2 In terms of internal noise levels, these may be adequately controlled by employing suitably specified acoustically rated glazing and ventilation systems. Indicatively, in proposed areas closest to the road, this may require a glazing system rated at about 42dB R_w, typically achievable using a system comprising a 10mm standard pane and 8.8mm thick laminated pane on a minimum 16mm air cavity (10-16-8.8_{lam}). In areas set further back form the road and/or those not directly overlooking the carriageway slightly lower specifications will be adequate.

4.3 As noted in Section 1.0, ventilation will be provided via positive input ventilation systems, and it is recommended that associated duct terminations are oriented to elevations away from the road.

4.4 In terms of external noise levels, it is noted that the A51 falls to a lower grade than the road in the area of proposed rear gardens near to, and hence some natural acoustic screening will occur. However, further purpose-built acoustic screening is also likely to be necessary, either to these garden boundaries, in which case a barrier height of up to 2.5m above local ground is likely to be required, or to the site boundary, closer to the road itself, in which case a lower barrier height will suffice.

4.5 Precise specification of noise mitigation measures is a detailed design matter and should be undertaken based on final layout and building plans.

Rail and Weinerberger Noise

4.6 Based on the results of the noise measurements at Location 2, notwithstanding that some noise form the Wienerberger site is audible, including during the night-time, it is noted that the absolute noise levels from the industrial source are lower, and when compared to the railway noise levels show that the latter is the dominant source of noise. It is therefore appropriate in accordance with ProPG guidelines to assess this area of the site based on absolute noise levels.

4.7 Accordingly, external noise levels towards the east of the site are within the upper guideline value set out in BS 8233, and hence no specific noise mitigation measures are considered necessary in this regard. Suitable internal noise levels will generally be achievable using standard thermal double glazing.

Hunnebeck Noise

4.8 Based on the results of the noise measurements at Locations 3-7, it is clear that noise from the Hunnebeck site is the most significant noise source affecting the site.

4.9 It is noted that, during the survey described herein, the noisiest area of the Hunnebeck site was found to be towards the northwest of that site, with a secondary noisy area towards the southeast of that site. However, from our observations of Hunnebeck operations and experience with similar types of industrial site, it is recognised that noise level generation may vary from one day to the next. Therefore it is possible that higher noise levels might be generated towards the southeast of the Hunnebeck site on another occasion; indeed, we are aware that other consultants have reported some slightly higher noise levels in this area of the site. Equally, lower noise levels may occur at times towards the northwest of the Hunnebeck site, and again, this is consistent with findings that have been reported by others.

4.10 Areas towards the northeast of the Hunnebeck site appear to be principally used for storage and, although some noise would hence be inevitable on occasions to place and access materials in these areas, it is considered likely based on our observations that significant noise generation in this area is infrequent.

Computerised Modelling

4.11 Computerised noise modelling has been undertaken in relation to Hunnebeck Noise using the CadnaA noise prediction software. This software enables a 3-dimensional computer model of the topography of the site and the surrounding area to be used as a basis for undertaking automated noise calculations using the algorithms set out in ISO 9613 Acoustics — Attenuation of sound during propagation outdoors.

4.12 Geographical data for the site and surroundings (including ground height data) was obtained from Ordnance Survey Terrain 5 digital data.

4.13 Noise sources have been modelled on the Hunnebeck site in two areas, as follows:

- Within the southeast area of the Hunnebeck site, a set of point noise sources have been incorporated to represent the activity noise that we have previously noted in this area, comprising fork lift and other vehicle movements, and other materials-handling noise.
- The workshop building towards the northwest of the Hunnebeck site has been modelled by way of a set of area sources representing each surface of that building envelope, with a further smaller area source, with uplifted noise emissions applied, at lower level on the east elevation of the building, representing open shutter doors

4.14 The proposed 6m acoustic barrier has been modelled as being acoustically absorptive, as per the actual physical properties of the proposed 'green' solution. The model has also taken account of reflections from all proposed development buildings.

4.15 The model has been calibrated to provide noise levels of 60dB $L_{Aeq,T}$ in areas closest to each source area, on the proposed development site. This is consistent with the operational noise levels that we measured close to the workshop building during our survey work described herein. This level is higher than any hourly noise level that we measured at Location 3 during the daytime operating hours of Hunnebeck. That level was $L_{Aeq,1hr}$. During that hour, the highest single 15-minute sample noise measurement was 56dB $L_{Aeq,15min}$. For this reason, the adoption of the assessment reference level of 60dB $L_{Aeq,T}$ is particularly robust. The noise levels included in the model may therefore be an over-estimate of actual worst-case conditions that would occur during normal operation. This approach therefore offers a degree of comfort margin and future proofing with regard to the avoidance of introducing constraints upon Hunnebeck operations.

4.16 To note, some of the noise sources at the Hunnebeck site are mobile, and others are basically static but can occur in varying locations. The model therefore provides a 'snapshot' scenario, for which worst-case results can be identified in a certain specific area nearest to the adopted source locations, with lower noise levels showing for other areas. Certainly, if the actual source locations are different to those adopted for the model, then the noise results will vary, insofar a slightly different plot / group of plots will be shown as the worst-case area, but the extent of this would not be expected to vary to any appreciable degree. Critically, the mitigation scheme put forward in relation to Hunnebeck is based on the worst-case areas, but is proposed to be applied to all potentially affected areas.

4.17 Each of the four noise sources modelled towards the southeast part of the Hunnebeck site are at a height of 1m above local ground and are each assigned a sound power level of 91dB L_{WA}, calibrated thus to achieve a sound pressure level of 60dB L_{pA} (representative here of $L_{Aeq,T}$) at Location 3, as defined in the report. The ground topography in the model is flat and all intervening ground is modelled as acoustically reflective. All buildings are modelled as being acoustically reflective. The proposed 6m high acoustic barrier is modelled as being acoustically absorptive, due to the nature of the barrier proposed.

4.18 Iterations of the model have been run separately with receiver heights at 1.5m and 4.0m above local ground, to represent ground and first floor levels respectively.

4.19 The noise modelling output, i.e. the noise contour plans, are provided in Figures 3 and 4 for 1.5m and 4.0m above local ground respectively.

BS 4142

4.20 As noise from the Hunnebeck site is the dominant noise source in areas of the boundary between the two sites, it is appropriate to consider noise from the Hunnebeck site with reference to BS 4142.

4.21 Using the results of the noise modelling, hence taking account of the proposed 6m high acoustic barrier at the boundary of the Hunnebeck site and the Application site, the initial estimates of impact for daytime operating hours of Hunnebeck, based on the worst-case areas on the model, are set out in Table 8.

Table 8 – BS 4142 Initial Estimate of Impact – Daytime Operating Hours of Hunnebeck

	Daytime (at worst-case frontage at 1.5m height)	Daytime (in worst-case garden at 1.5m height)
Specific Level	44 dB $L_{Aeq,1hr}$	39 dB $L_{Aeq,1hr}$
Feature Correction	+10 dB [1.]	+5 dB [1.]
Rating Level	54 dB $L_{Ar,1hr}$	44 dB $L_{Ar,1hr}$
Background Noise Level	40 dB $L_{A90,1hr}$	40 dB $L_{A90,1hr}$
Difference	+14 dB	+4 dB

1. The +10dB correction at the frontage is based on +6dB for impulsivity and +4dB for tonality. The lower +5dB correction for gardens is based on +3dB for impulsivity and +2dB for tonality. The reduced correction is due to the reasonable expectation of a lower extent of perceptibly of these features in the proposed gardens, which will be further protected by virtue of being behind the houses.

4.22 From Table 8, without further mitigation, the initial estimates in line with BS 4142 indicate that daytime noise from the Hunnebeck site is likely to be of a 'significant adverse impact', depending on the context, at the nearest frontages.

4.23 The worst-case initial estimate for daytime Hunnebeck noise in garden areas indicates an 'adverse impact' (though not amounting to a 'significant adverse impact'), depending on the context.

4.24 The above assessment relates to daytime operating hours of Hunnebeck and this is because, based on our noise survey and our understanding of normal occurrences, Hunnebeck do not operate during the evening or at night. That being the case (i.e. based on Hunnebeck not being operational), the results of the evening and night-time noise monitoring at the site indicate that no mitigation is required to control prevailing noise levels during those periods.

4.25 However, to be very robust, acknowledging that despite normal practice Hunnebeck are currently not constrained in terms of operating during the evening or night-time, we have also undertaken an initial assessment of impact, as per BS 4142, for these periods. This is set out, based on the worst-case areas of the proposed development, in Table 9.

Table 9 – BS 4142 Initial Estimate of Impact – Evening / Night-time Operating Hours of Hunnebeck

	Evening (at worst-case frontage at 1.5m height)	Evening (at worst-case gardens at 1.5m height)	Night-time (at worst-case frontage at 4.0m height)
Specific Level	44 dB $L_{Aeq,1hr}$	39 dB $L_{Aeq,1hr}$	45 dB $L_{A90,15min}$
Feature Correction	+10 dB [1.]	+5 dB [1.]	+10 dB [1.]
Rating Level	54 dB $L_{Ar,1hr}$	44 dB $L_{Ar,1hr}$	55 dB $L_{Ar,15min}$
Background Noise Level	38 dB $L_{90,1hr}$	38 dB $L_{A90,1hr}$	36 dB $L_{90,15min}$
Difference	+16 dB	+6 dB	+19 dB

1. As applied to Table 8.

4.26 From Table 9, without further mitigation, the initial estimates indicate that evening and night-time noise from the Hunnebeck would be likely to be of a 'significant adverse impact', depending on the context, at the nearest frontages. Although the difference between rating and background levels grows incrementally greater into the evening and night-time periods, primarily due to decreasing background noise level, this indicates no fundamental difference to the initial estimate of impact, compared to daytime operating hours.

4.27 Similarly, the worst-case initial estimate for potential evening Hunnebeck noise in garden areas indicates an 'adverse impact' (though not amounting to a 'significant adverse impact'), depending on the context. Therefore the situation is essentially the same as during the normal operational daytime hours. Again, the difference between rating and background levels grows is slightly greater in the evening period, but just due to a slightly lower background noise level. The actual noise levels attributable to the noise source in the assessment of course remain unchanged.

4.28 As set out in our report, where the BS 4142 initial estimate of impact needs to be modified due to the context, BS 4142 states that all pertinent factors should be taken into account. The most relevant elements of context to this assessment are as follows:

- The predicted absolute level of the sound, once mitigated by the substantial proposed acoustic barrier and distance buffer, is relatively low; and
- There is good scope to incorporate further noise mitigation measures, to secure good internal acoustic conditions.

4.29 In terms of absolute noise levels at dwellings, as noted herein, the relevant BS 8233 guidance relates only to noise without specific character, and where characteristics are present, lower noise limits might be appropriate. Given the characteristics of the Hunnebeck site noise, it is therefore appropriate to adopt lower noise limits. Noise mitigation measures in this assessment therefore consider internal and external noise levels at least 5dB below the 'standard' guidelines of BS 8233.

Mitigation of Hunnebeck Noise

4.30 As per above, we recommended that noise attributable to Hunnebeck operations is controlled internally and externally at the proposed dwellings to the target levels set out in Table 10, followed by a description of suitable mitigation measures to be employed in worst-case areas.

Table 10 : Target Noise Levels Attributable to Hunnebeck Operations

Location	Noise Levels Attributable to Hunnebeck Operations	
	Daytime 0700-2300hrs	Night-time 2300-0700hrs
Living room	≤ 30 dB $L_{Aeq,1hr}$	-
Bedroom	≤ 30 dB $L_{Aeq,1hr}$	≤25 dB $L_{Aeq,1hr}$
Garden	≤ 45dB $L_{Aeq,1hr}$	-

4.31 For internal noise, based on the robust worst-case assessment, this would require an overall reduction in noise of up to 14dBA, outside to inside, for the situation of daytime operating hours. To account for potential operation at other times, an overall noise reduction of up to 20dBA, outside to inside, would be required for the night-time situation. The evening situation would be no different to the daytime situation.

4.32 The levels of noise reduction required are therefore rather modest. Typically, a partially open window will provide a noise reduction, outside to inside, of up to 15dBA, as cited by BS 8233. As such, even with windows open, internal noise levels would be within the target criterion, with Hunnebeck generating the noise levels used in the noise modelling.

4.33 During the night-time, if Hunnebeck were to operate similarly, there may be about a 5dB exceedance of the target criterion, with windows open. This is quite relevant given BS 8233 states "*where development is considered necessary or desirable … the internal target levels may be relaxed by up to 5dB and reasonable internal conditions still achieved*". Application of this clause is a matter of planning balance.

4.34 On this basis, it may be concluded that, accounting for the proposed mitigation of the 6m high acoustic barrier and distance buffer, the internal acoustic conditions in rooms fronting towards Hunnebeck, would be of a generally reasonable standard, with windows open.

4.35 Nevertheless, to absolutely ensure that good internal acoustic conditions with respect to noise from Hunnebeck operations are secured, it is possible, and entirely consistent with the guidelines of BS 4142, to incorporate design measures, including, as BS 4142 suggests: "*i) façade insulation treatment, ii) ventilation and/or cooling, and iii) acoustic screening*."

4.36 Due to the low predicted noise levels at the frontages – a result of the substantial acoustic screening proposed – noise levels that are comfortably within the target criteria for indoor noise will be achieved using standard thermal double glazing. A high specification of glazing would not in fact be required, though an upgraded specification could be readily adopted to achieve even lower internal noise levels. The acoustic specification of glazing systems is a detailed design matter, but may be readily controlled by way of a suitable planning condition. To complete the proposed mitigation package, ventilation will be provided via positive input ventilation (PIV) system. Thereby, notwithstanding the above comments regarding the situation with windows open, occupants can achieve a high level of noise insulation by having windows closed, while still enjoying a commensurate level of ventilation.

4.37 Utilisation of this type of noise mitigation measure is considered appropriate in relation to industrial type noise, especially when part of a comprehensive package of measures. Use of façade insulation treatment and alternative means of ventilation and/or cooling is entirely consistent with the guidelines of BS 4142. The context of this can vary between circumstances at individual sites, however fundamentally the measure is a defensible one and can be applied where planning balance dictates.

4.38 It is also noted that, from our monitoring at the site during operational periods, notwithstanding a very small number of outlying data points, we measured 'peak' noise levels at Location 3 (as defined in our report) typically not exceeding 80dB L_{Amax}. Noting that the modelling demonstrates the L_{pA} noise level will be reduced by 15dB at the worst-case location, at 4.0m receiver height, a corresponding value of 65dB L_{Amax} is predicted at the worst-case frontage. As established above, to account for potential operation at other times, an overall noise reduction of up to 20dBA, outside to inside, would be required for the night-time situation. Based on this being achieved, an internal level typically not exceeding 45dB L_{Amax} would be anticipated. This accords with relevant WHO and ProPG: Planning & Noise '*Professional Practice Guidance on Planning & Noise*' 2017 guidelines. Consideration of 'peak' noise levels in terms of L_{Amax} therefore does not affect the overall assessment or the mitigation requirements.

4.39 For outdoor noise, as part of the proposed noise mitigation package, layout has been considered carefully to ensure that all houses front towards Hunnebeck, such that the rear gardens are provided with a secondary substantial acoustic screen, in the form of the houses themselves. As a result, predicted noise levels attributable to Hunnebeck in worst-case gardens are up to 39dB $L_{Aeq,T}$. This is therefore well within the target criterion, which is based on BS 8233, taking account of the characteristics of the Hunnebeck site noise.

4.40 Further to this, from our noise monitoring at the site, it is noted that the logarithmically averaged ambient noise level in terms of $L_{Aeq,T}$ for the evening period was 44dB $L_{Aeq,T}$, including various noise sources, notably intermittent train pass-bys. Noting, as covered in our report, that the character and level of the residual sound is an important part of the factor in consideration of the context, this adds further weight to demonstrated that good outdoor acoustic conditions will be ensured in the garden areas of this proposed development.

5.0 SUMMARY AND CONCLUSIONS

5.1 Hepworth Acoustics has undertaken a noise assessment relating to a proposed residential development at Rush Lane, Tamworth.

5.2 A noise survey has been undertaken to determine the prevailing noise climate at the site and a summary of the results has been provided, with reference to relevant British Standard guidelines.

5.3 Recommendations of appropriate noise mitigation measures have been set out in order to achieve appropriate acoustic criteria in line with relevant British Standard guidelines.

Figure 1: Site Aerial Plan

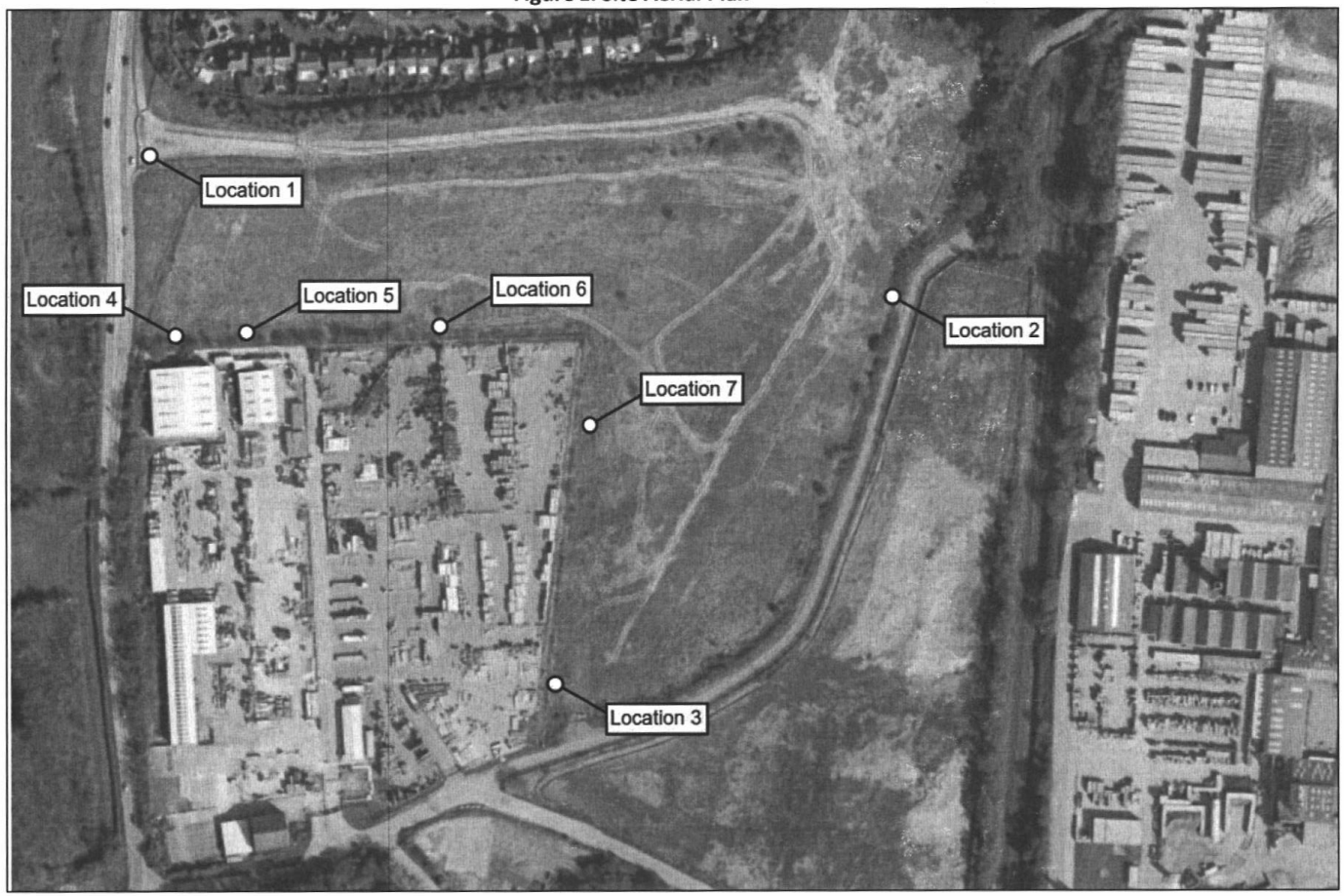


Figure 2: Proposed Site Layout

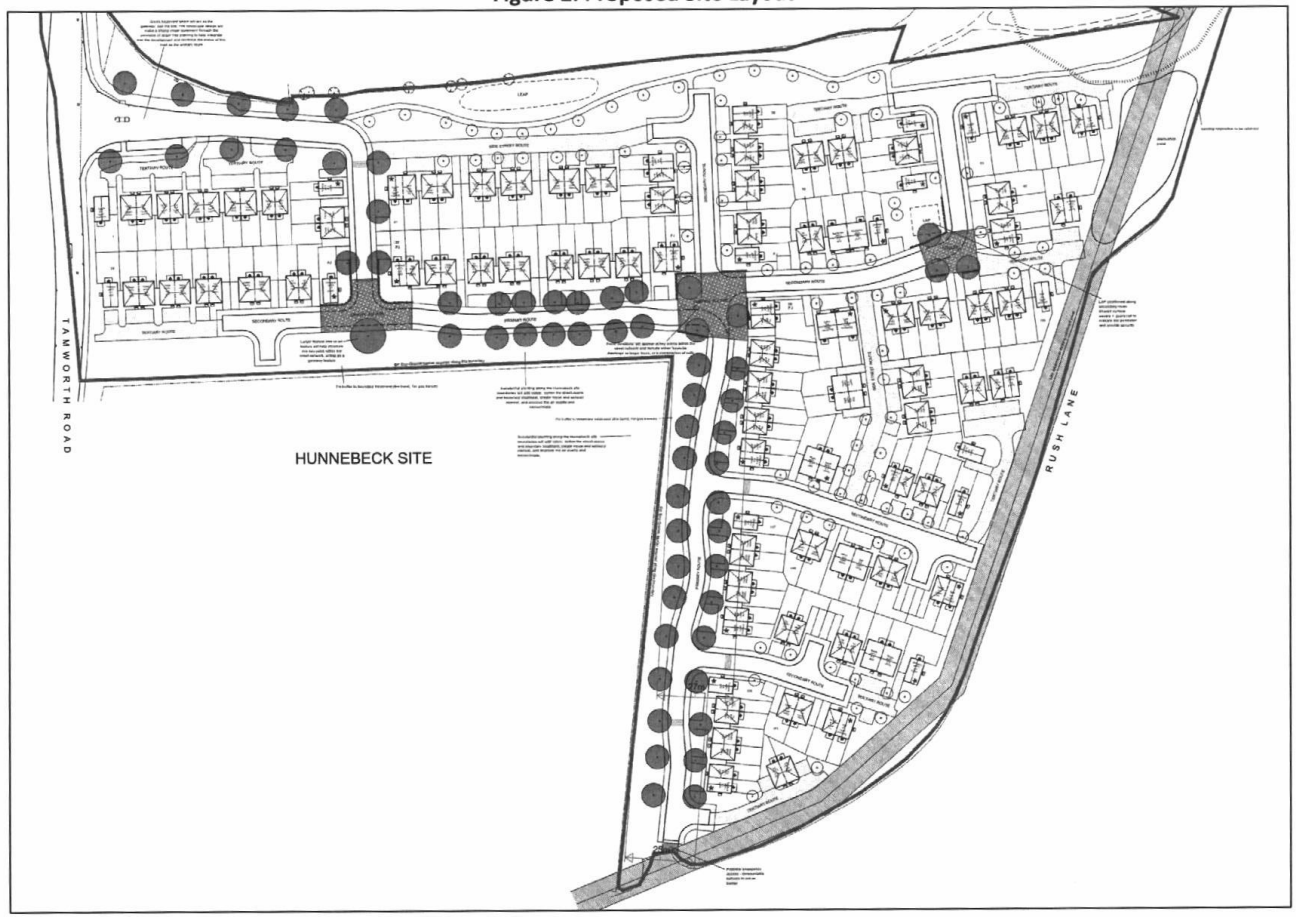


Figure 3: Predicted $L_{Aeq,T}$ Noise Contours – 1.5m Receiver Height

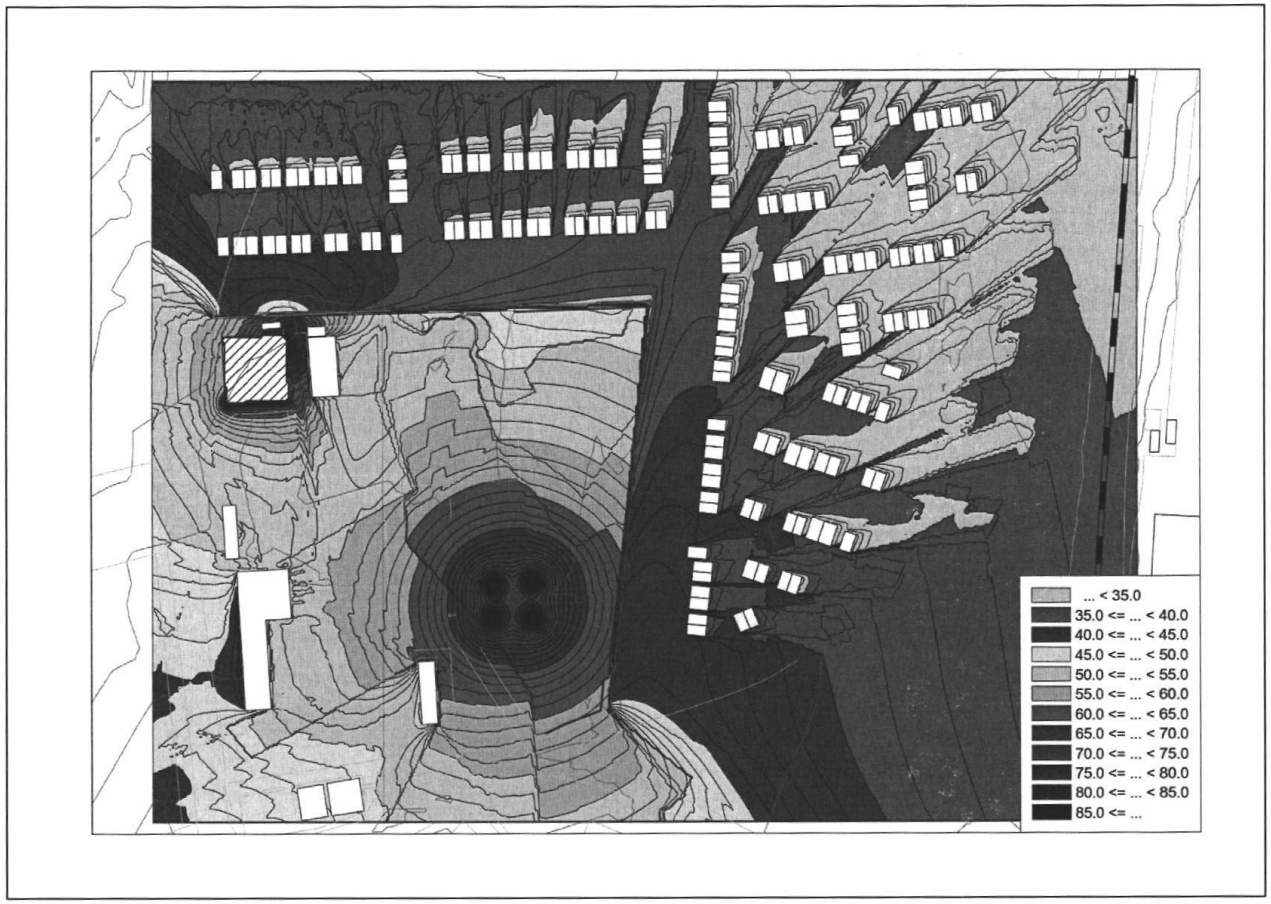
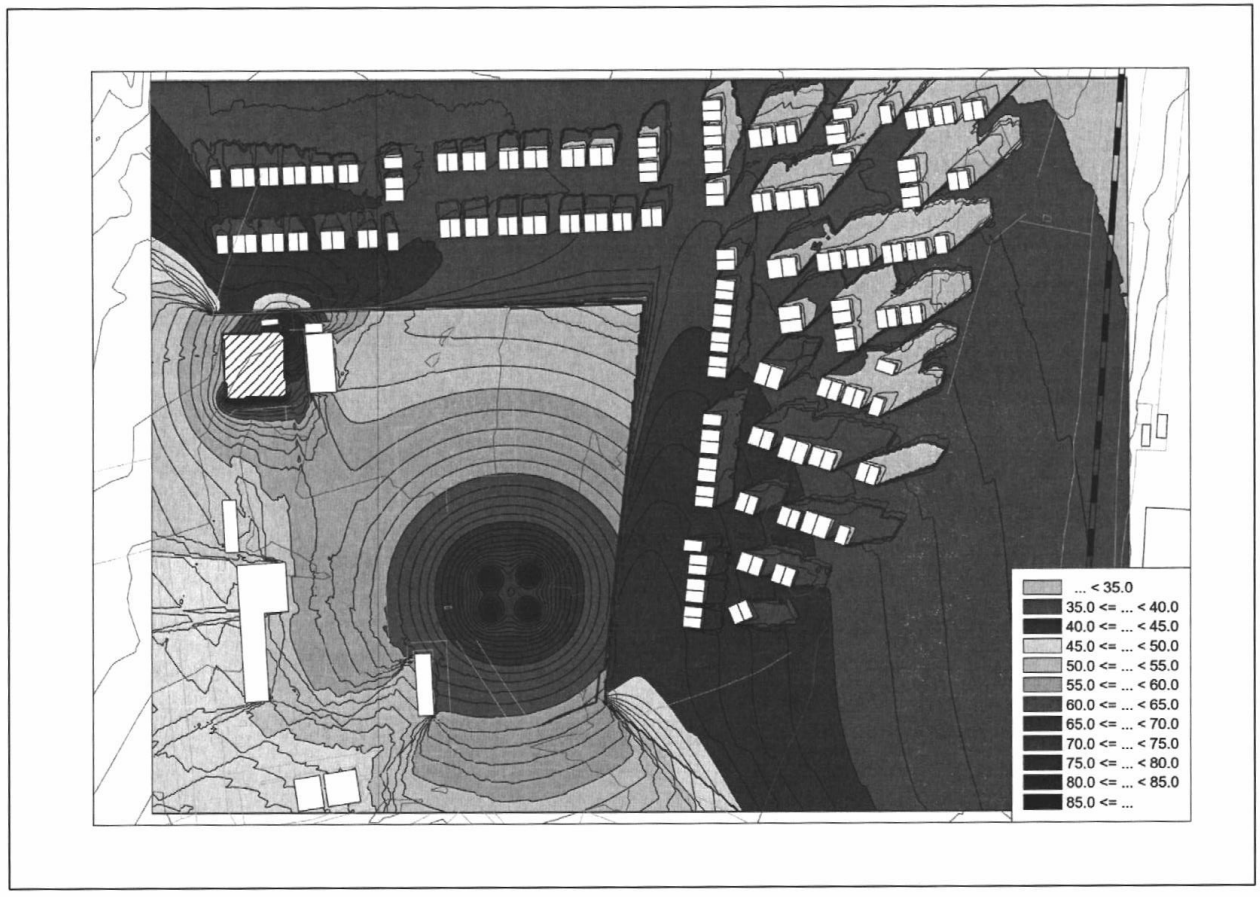


Figure 4: Predicted $L_{Aeq,T}$ Noise Contours – 4.0m Receiver Height



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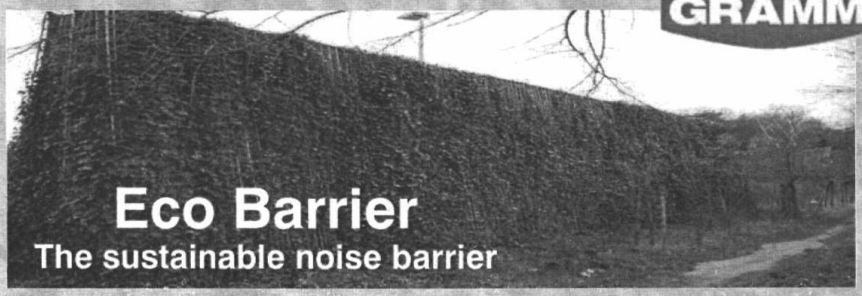
Appendix I: Gramm Eco Barrier Information

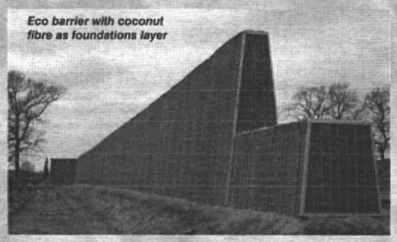
GRAMM



Eco Barrier

The sustainable noise barrier

Installation of the basic frame



Eco barrier with coconut fibre as foundations layer

Ecological noise barriers that offer effective protection against noise pollution or nuisance while also contributing positively to protecting the environment. These are barriers that blend harmoniously into the natural environment and become more attractive as the greenery grows with every year that passes. This plant growth also helps to reduce CO_2 in the atmosphere.

The extensive green wall from Gramm, called the Eco barrier, is the absolute 'top of the tree' when it comes to green noise barriers. A screen of living green is a structure that is able to save space and grow to full size without the need for any artificial edifice, thanks to natural precipitation.

The noise barrier is composed of just three components:
1) Framework trellis profiles
2) Outer mats
3) Vertical supports

These individual components are put together on site without any bolts and/or welding. This guarantees a "zero failure" system upon assembly.

The choice of covering options include:
1) Coconut fibre
2) Green fleece fibre

Advantages:

- No foundations required!
- No need to remove spoil from site as it can be used in the construction of the barrier
- Life span 50-75 years!
- Product has been tested to 67dB "Highly Absorbent" on both sides
- Low maintenance costs
- Graffiti resistant
- No requirement for any supplementary provisions in terms of irrigation installations
- Long life durability
- EU patented
- Highly absorbent
- Excellent insulator
- Adds to the quality of the environment with greenery and CO2 reduction
- Responsible landscaping
- Green and completely recyclable
- No expense of providing foundations thanks to their natural stability
- Costs savings due to the reusing of existing barriers thereby reducing transport and removal costs as well as reducing CO2 emissions
- Supplementary applications include for example solar panels, which are also possible options

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Appendix II: Noise Units & Indices

Sound and the decibel

A sound wave is a small fluctuation of atmospheric pressure. 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. In order to cope with this wide range of pressure variations, a logarithmic scale is used to convert the values into manageable numbers. Although it might seem unusual to use a logarithmic scale to measure a physical phenomenon, it has been found that human hearing also responds to sound in an approximately logarithmic fashion. 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 120dB (threshold of pain).

Due to the logarithmic nature of decibels, when two noises of the same level are combined together, the total noise level is (under normal circumstances) 3 dB(A) higher than each of the individual noise levels e.g. 60 dB(A) plus 60 dB(A) = 63 dB(A). In terms of perceived 'loudness', a 3 dB(A) variation in noise level is a relatively small (but nevertheless just noticeable) change. An increase in noise level of 10 dB(A) generally corresponds to a doubling of perceived loudness. Likewise, a reduction in noise level of 10 dB(A) generally corresponds to a halving of perceived loudness.

Frequency and Hertz (Hz)

As well as the loudness of a sound, the frequency content of a sound is also very important. 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 frequency values are written as kilohertz (kHz), where 1 kHz = 1000 Hz.

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

The ear is not equally sensitive to sound at all frequencies. It is less sensitive to sound at low and very high frequencies, compared with the frequencies in between. Therefore, when measuring a sound made up of different frequencies, it is often useful to 'weight' each frequency appropriately, so that the measurement correlates better with what a person would actually hear. This is usually achieved by using an electronic filter called the 'A' weighting, which is built into sound level meters. Noise levels measured using the 'A' weighting are denoted dB(A) or dBA.

Glossary of Terms

When a noise level is constant and does not fluctuate, it can be described adequately by measuring the dB(A) level. However, when the noise level varies with time, the measured dB(A) level will vary as well. In this case it is therefore not possible to represent the noise climate with a simple dB(A) value. In order to describe noise where the level is continuously varying, a number of other indices can be used. The indices used in this report are described below.

L_{pA} This is the A-weighted sound pressure level.

L_{WA} This is the A-weighted sound power level.

L_{Aeq} This is the A–weighted 'equivalent continuous noise level' which is an average of the total sound energy measured over a specified time period. In other words, L_{Aeq} 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. It is increasingly being used as the preferred parameter for all forms of environmental noise.

L_{Amax} This is the maximum A-weighted noise level that was recorded during the monitoring period.

L_{A10} This is the A-weighted noise level exceeded for 10% of the time period. L_{A10} is used as a measure of road traffic noise.

L_{A90} This is the A-weighted noise level exceeded for 90% of the time period. L_{A90} is used as a measure of background noise.

Appendix III: Noise Survey Results

Location 1 (Road traffic noise)

Date	Time		Noise Level dB			
	Start	End	L_{Aeq}	L_{Amax}	L_{A10}	L_{A90}
02/07/2019	14:49	15:04	65	80	70	47
02/07/2019	15:44	15:59	65	78	70	45
02/07/2019	16:44	16:59	67	78	70	51
02/07/2019	04:20	04:35	58	76	58	41
02/07/2019	05:18	05:33	64	80	68	46
02/07/2019	06:25	06:40	65	80	69	46

Location 2 (Train pass-by noise)

Train Type	Date	Time	Noise Level dB	
			L_{AE}	L_{Amax}
virgin	02/07/2019	15:15	71	67
freight	02/07/2019	15:21	71	63
freight	02/07/2019	15:26	73	67
virgin	02/07/2019	15:32	67	62
DMU	02/07/2019	15:39	62	56
DMU	02/07/2019	16:04	66	64
2x virgin	02/07/2019	16:15	75	68
freight	02/07/2019	16:24	79	70
DMU	02/07/2019	16:32	72	66
DMU	02/07/2019	16:38	69	62
DMU	02/07/2019	17:11	66	61
virgin	02/07/2019	17:15	73	69
virgin	02/07/2019	17:17	65	59
DMU	02/07/2019	17:34	67	62
DMU	02/07/2019	17:40	68	62
virgin	02/07/2019	17:42	69	63
multiple virgin	03/07/2019	04:46	76	68
multiple virgin	03/07/2019	04:56	75	68
multiple virgin	03/07/2019	05:40	70	62
DMU	03/07/2019	05:41	68	61
multiple virgin	03/07/2019	06:00	77	72
DMU	03/07/2019	06:13	74	66

Location 2 (Ambient noise, including Wienerberger noise)

Date	Time		Noise Level dB			
	Start	End	L_{Aeq}	L_{Amax}	L_{A10}	L_{A90}
02/07/2019	15:15	15:20	43	60	45	39
02/07/2019	15:22	15:24	43	58	44	40
02/07/2019	15:24	15:26	42	60	43	39
02/07/2019	15:28	15:29	45	50	47	42
02/07/2019	15:34	15:39	41	53	42	38
02/07/2019	16:06	16:10	39	59	39	36
02/07/2019	16:11	16:15	40	57	41	37
02/07/2019	16:16	16:21	40	55	42	38
02/07/2019	16:26	16:28	41	50	43	39
02/07/2019	16:33	16:36	42	59	43	40
02/07/2019	17:17	17:20	44	69	44	39
02/07/2019	17:24	17:26	42	62	42	38
02/07/2019	17:30	17:34	43	67	44	40
03/07/2019	04:47	04:52	44	54	46	42
03/07/2019	04:52	04:55	45	54	46	42
03/07/2019	04:56	05:01	44	53	46	42
03/07/2019	05:43	05:48	46	52	46	44
03/07/2019	05:49	05:54	46	68	46	44
03/07/2019	05:55	06:00	45	56	46	44
03/07/2019	06:01	06:06	46	52	48	45

Location 3 (Hunnebeck / ambient noise)

Date	Time		Noise Level dB			
	Start	End	L_{Aeq}	L_{Amax}	L_{A10}	L_{A90}
02/07/2019	15:00	15:15	47	69	49	41
02/07/2019	15:15	15:30	47	67	50	42
02/07/2019	15:30	15:45	43	60	46	38
02/07/2019	15:45	16:00	43	60	45	39
02/07/2019	16:00	16:15	48	79	47	39
02/07/2019	16:15	16:30	53	87	53	41
02/07/2019	16:30	16:45	47	72	49	42
02/07/2019	16:45	17:00	48	68	48	40
02/07/2019	17:00	17:15	45	64	47	40
02/07/2019	17:15	17:30	45	66	46	39
02/07/2019	17:30	17:45	44	62	46	40
02/07/2019	17:45	18:00	44	63	47	39
02/07/2019	18:00	18:15	44	69	46	39
02/07/2019	18:15	18:30	46	74	48	39
02/07/2019	18:30	18:45	44	69	46	39
02/07/2019	18:45	19:00	45	73	46	39

Date	Time		Noise Level dB			
	Start	End	L_{Aeq}	L_{Amax}	L_{A10}	L_{A90}
02/07/2019	19:00	19:15	44	55	46	39
02/07/2019	19:15	19:30	43	57	45	38
02/07/2019	19:30	19:45	44	61	46	38
02/07/2019	19:45	20:00	42	57	44	37
02/07/2019	20:00	20:15	42	60	44	37
02/07/2019	20:15	20:30	46	62	49	36
02/07/2019	20:30	20:45	42	55	44	36
02/07/2019	20:45	21:00	41	52	43	37
02/07/2019	21:00	21:15	43	58	43	36
02/07/2019	21:15	21:30	43	61	43	37
02/07/2019	21:30	21:45	46	62	46	37
02/07/2019	21:45	22:00	45	59	48	37
02/07/2019	22:00	22:15	46	61	48	37
02/07/2019	22:15	22:30	40	55	42	36
02/07/2019	22:30	22:45	42	59	42	37
02/07/2019	22:45	23:00	48	63	50	37
02/07/2019	23:00	23:15	45	61	45	38
02/07/2019	23:15	23:30	45	63	45	37
02/07/2019	23:30	23:45	40	53	42	37
02/07/2019	23:45	00:00	43	60	42	37
03/07/2019	00:00	00:15	48	64	49	36
03/07/2019	00:15	00:30	45	63	43	36
03/07/2019	00:30	00:45	43	59	43	37
03/07/2019	00:45	01:00	47	65	44	37
03/07/2019	01:00	01:15	47	66	44	36
03/07/2019	01:15	01:30	40	58	42	36
03/07/2019	01:30	01:45	46	64	43	36
03/07/2019	01:45	02:00	39	57	41	36
03/07/2019	02:00	02:15	39	57	42	36
03/07/2019	02:15	02:30	38	57	39	37
03/07/2019	02:30	02:45	39	53	40	37
03/07/2019	02:45	03:00	52	68	50	39
03/07/2019	03:00	03:15	40	54	41	37
03/07/2019	03:15	03:30	41	54	44	39
03/07/2019	03:30	03:45	48	65	45	39
03/07/2019	03:45	04:00	48	67	46	41
03/07/2019	04:00	04:15	44	59	48	40
03/07/2019	04:15	04:30	46	63	45	39
03/07/2019	04:30	04:45	50	68	47	41
03/07/2019	04:45	05:00	48	63	46	42
03/07/2019	05:00	05:15	44	50	45	42
03/07/2019	05:15	05:30	45	62	47	43
03/07/2019	05:30	05:45	49	61	53	44
03/07/2019	05:45	06:00	46	58	47	44

Date	Time		Noise Level dB			
	Start	End	L_{Aeq}	L_{Amax}	L_{A10}	L_{A90}
03/07/2019	06:00	06:15	47	61	48	45
03/07/2019	06:15	06:30	47	57	48	45
03/07/2019	06:30	06:45	46	59	47	44
03/07/2019	06:45	07:00	45	54	47	43
03/07/2019	07:00	07:15	45	59	47	42
03/07/2019	07:15	07:30	46	58	47	42
03/07/2019	07:30	07:45	45	59	46	42
03/07/2019	07:45	08:00	44	56	46	42
03/07/2019	08:00	08:15	44	55	46	41
03/07/2019	08:15	08:30	49	66	53	42
03/07/2019	08:30	08:45	56	86	50	42
03/07/2019	08:45	09:00	51	76	53	42
03/07/2019	09:00	09:15	52	80	51	42
03/07/2019	09:15	09:30	52	71	56	41
03/07/2019	09:30	09:45	45	69	46	40
03/07/2019	09:45	10:00	43	65	45	38
03/07/2019	10:00	10:15	44	56	48	38
03/07/2019	10:15	10:30	49	76	50	38
03/07/2019	10:30	10:45	48	72	51	39
03/07/2019	10:45	11:00	46	62	48	39
03/07/2019	11:00	11:15	46	64	49	39
03/07/2019	11:15	11:30	49	75	51	40
03/07/2019	11:30	11:45	47	69	49	40
03/07/2019	11:45	12:00	51	70	52	40
03/07/2019	12:00	12:15	51	67	55	40
03/07/2019	12:15	12:30	53	80	51	40
03/07/2019	12:30	12:45	49	73	51	40

Location 4 (Hunnebeck / road traffic noise)

Date	Time		Noise Level dB			
	Start	End	L_{Aeq}	L_{Amax}	L_{A10}	L_{A90}
03/07/2019	11:04	11:19	55	72	58	48

Location 5 (Hunnebeck noise)

Date	Time		Noise Level dB			
	Start	End	L_{Aeq}	L_{Amax}	L_{A10}	L_{A90}
03/07/2019	10:11	10:26	59	71	62	50
03/07/2019	10:48	11:03	61	75	65	51
03/07/2019	11:20	11:35	60	73	64	51
03/07/2019	11:56	12:11	59	73	62	50

Location 6 (Hunnebeck / ambient noise)

Date	Time		Noise Level dB			
	Start	End	L_{Aeq}	L_{Amax}	L_{A10}	L_{A90}
03/07/2019	11:38	11:53	50	72	52	43

Location 7 (Hunnebeck / ambient noise)

Date	Time		Noise Level dB			
	Start	End	L_{Aeq}	L_{Amax}	L_{A10}	L_{A90}
03/07/2019	10:29	10:44	43	61	45	37