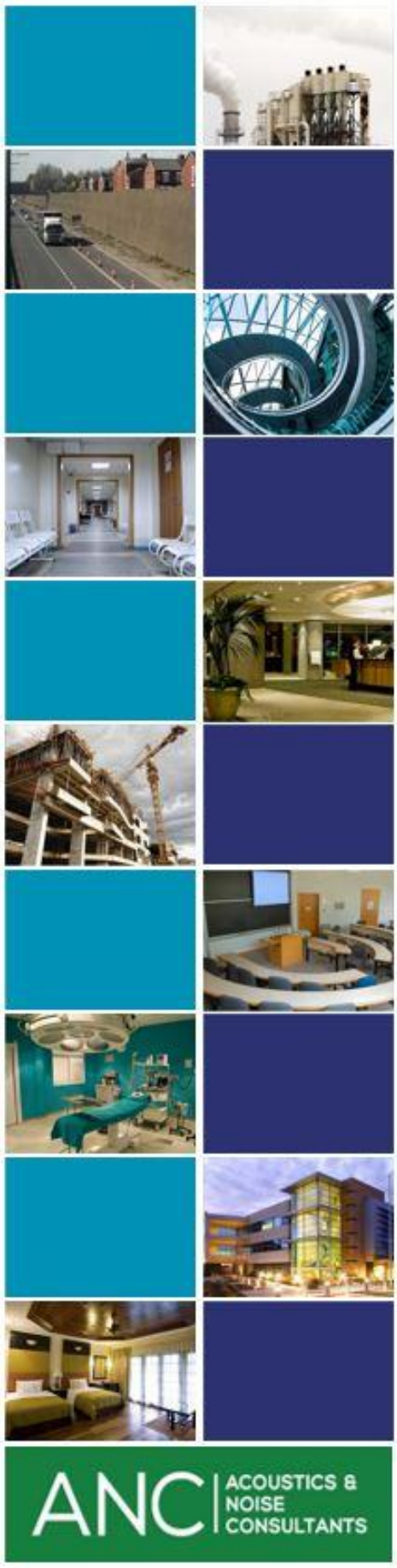


MILLER GOODALL
ACOUSTICS AND AIR QUALITY

NOISE SCREENING ASSESSMENT

on behalf of

GLADMAN DEVELOPMENTS

for the site at

FRYATTS WAY, BEXHILL

REPORT DATE: 14TH JUNE 2021

REPORT NUMBER: 102252-3

Miller Goodall Ltd
Ground Floor
Ashworth House
Deakins Business Park
Blackburn Road
Egerton
Bolton
Lancashire
BL7 9RP

Tel: 01204 596166

www.millergoodall.co.uk

Company registration number 5201673

ANC | ACOUSTICS & NOISE CONSULTANTS

Summary

Miller Goodall Ltd (MGL) has, on behalf of Gladman Developments, undertaken a noise screening assessment to review the potential issues associated with noise on a proposed development at Fryatts Way, Bexhill. The study has been undertaken to support an outline planning application for up to 210 dwellings.

The study concludes that existing transportation and industrial noise sources identified around the site will not form a barrier to residential development. The site should be considered low risk.

Traffic generated by the operational site is likely to substantially raise the traffic flows on a portion of Fryatts Way, however careful design and appropriate traffic management should serve to limit the level and special extent of and significant effects, with the understanding that some adverse effects can occur as long as all reasonable steps have been taken to mitigate and minimise the effects.

Record of changes

Version 2 Prepared By	Matt Wilson MIOA	Reviewed By	Jo Miller MIOA
Signed		Signed	
Date	14th June 2021	Date	14th June 2021

Version	Date	Change	Author	Reviewer
1	15th January 2020	Draft issue	MW	JM
2	10th January 2020	Final	MW	JM
3	14th June 2021	Revised framework	JLM	MR

This page is left blank intentionally

Contents

1 Introduction

1.1 This noise screening report is submitted in support of a proposed housing development within the administrative boundary of Rother District Council.

1.2 A residential development of up to 210 dwellings with associated infrastructure is proposed for land to the west of Fryatts Way, Bexhill. The area of land is currently green field agricultural land of approximately 11.6 Ha.

1.3 To the north and west of the site is the Highwoods Golf Course. To the east of the site is an existing residential area, inclusive of schools and sporting facilities. To the south is Broad Oak Park, an open area of parkland with associated parking facilities, accessible to the public.

1.4 The site is naturally delineated by existing trees and hedgerows into three parcels of land. The current high-level development framework shows these natural features being retained.

1.5 Proposed site access will be off Fryatts Way, through an existing vacant plot between numbers 11 and 15.

1.6 Appendix 1 provides the Development Framework for the site, showing the redline boundary and proposed site access.

2 Policy Context

2.1 Noise Policy Statement for England

2.1.1 The Noise Policy Statement for England (NPSE[1]), published in March 2010, sets out the long-term vision of Government noise policy. The Noise Policy aims, as presented in this document, are:

"Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- avoid significant adverse effects on health and quality of life;
- mitigate and minimise adverse effects on health and quality of life; and
- where possible, contribute to the improvement of health and quality of life."

2.1.2 The NPSE makes reference to the concepts of NOEL (No Observed Effect Level) and LOAEL (Lowest Observed Adverse Effect Level) as used in toxicology but applied to noise impacts. It also introduces the concept of SOAEL (Significant Observed Adverse Effect Level) which is described as the level above which significant adverse effects on health and the quality of life occur.

2.1.3 The first aim of the NPSE is to avoid significant adverse effects, taking into account the guiding principles of sustainable development (as referenced in Section 1.8 of the Statement). The second aim seeks to provide guidance on the situation that exists when the potential noise impact falls between the LOAEL and the SOAEL, in which case:

[1] Noise Policy Statement for England, Defra, March 2010

"…all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development".

2.1.4 Importantly, the NPSE goes on to state:

"This does not mean that such adverse effects cannot occur".

2.1.5 The Statement does not provide a noise-based measure to define SOAEL, acknowledging that the SOAEL is likely to vary depending on the noise source, the receptor and the time in question. NPSE advises that:

"Not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available"

2.1.6 It is therefore likely that other guidance will need to be referenced when applying objective standards for the assessment of noise, particularly in reference to the SOAEL, whilst also taking into account the specific circumstances of a proposed development.

2.2 National Planning Policy Framework

2.2.1 The National Planning Policy Framework (NPPF[2]) initially published in March 2012, was updated in July 2018. One of the documents that the NPPF replaces is Planning Policy Guidance Note 24 (PPG 24) "Planning and Noise"[3].

2.2.2 The revised NPPF advises that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives). One of these is an environmental objective which is described in par. 8 (c):

"to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."

2.2.3 At par. 170 we are advised 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 soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans.

2.2.4 Par. 180 goes on to state:

"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

[2] National Planning Policy Framework, Ministry of Housing, Communities and Local Government, July 2018

[3] Planning Policy Guidance 24: Planning and Noise, DCLG, September 1994

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;

b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

2.3 Planning Practice Guidance – Noise

2.3.1 As of March 2014, a Planning Practice Guidance[4] for noise was issued which provides additional guidance and elaboration on the NPPF. It advises that when plan-making and decision-taking, the Local Planning Authority should consider the acoustic environment in relation to:

- Whether or not a significant adverse effect is occurring or likely to occur;
- Whether or not an adverse effect is occurring or likely to occur; and
- Whether or not a good standard of amenity can be achieved.

2.3.2 In line with the Explanatory Note of the NPSE, the PPG goes on to reference the LOAEL and SOAEL in relation to noise impact. It also provides examples of outcomes that could be expected for a given perception level of noise, plus actions that may be required to bring about a desired outcome. However, in line with the NPSE, no objective noise levels are provided for LOAEL or SOAEL although the PPG acknowledges that:

"…the subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation".

2.3.3 Examples of these factors include:

- The source and absolute noise level of the source along with the time of day that it occurs;
- Where the noise is non-continuous, the number of noise events and pattern of occurrence;
- The frequency content and acoustic characteristics of the noise;
- The effect of noise on wildlife;
- The acoustic environment of external amenity areas provided as an intrinsic part of the overall design;
- The impact of noise from certain commercial developments such as night clubs and pubs where activities are often at their peak during the evening and night.

2.3.4 The PPG also provides general advice on the typical options available for mitigating noise. It goes on to suggest that Local Plans may include noise standards applicable to proposed developments within the Local Authority's administrative boundary, although it states that:

"Care should be taken, however, to avoid these being implemented as fixed thresholds as specific circumstances may justify some variation being allowed".

[4] Planning Practice Guidance – Noise, http://planningguidance.planningportal.gov.uk/blog/guidance/noise/, 06 March 2014

2.3.5 The PPG was amended in December 2014 to clarify guidance on the potential effect of noise from existing businesses on proposed new residential accommodation. Even if existing noise levels are intermittent (for example, from a live music venue), noise will need to be carefully considered and appropriate mitigation measures employed to control noise at the proposed accommodation.

3 Acoustic Standards and Guidance

3.1 BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings

3.1.1 This standard provides recommended guideline values for internal noise levels within dwellings which are similar in scope to guideline values contained within the World Health Organisation (WHO) document, Guidelines for Community Noise (1999)[5]. These guideline noise levels are shown in Table 1, below.

Table 1: BS 8233: 2014 guideline indoor ambient noise levels for dwellings

Location	Activity	07:00 to 23:00	23:00 to 07:00
Living Room	Resting	35 dB $L_{Aeq,16hr}$	-
Dining room/area	Dining	40 dB $L_{Aeq,16hr}$	-
Bedroom	Sleeping (daytime resting)	35 dB $L_{Aeq,16hr}$	30 dB $L_{Aeq,8hr}$

BS 8233:2014 advises that:

> *"regular individual noise events…can cause sleep disturbance. A guideline value may be set in terms of SEL[6] or $L_{Amax,F}$ depending on the character and number of events per night. Sporadic noise events could require separate values".*

3.1.2 BS 8233:2014 adopts guideline external noise values provided in WHO for external amenity areas such as gardens and patios. The standard states that it is "desirable" that the external noise does not exceed 50 dB $L_{Aeq,T}$ with an upper guideline value of 55 dB $L_{Aeq,T}$ whilst recognising that development in higher noise areas such as urban areas or those close to the transport network may require a compromise between elevated noise levels and other factors that determine if development in such areas is warranted. In such circumstances, the development should be designed to achieve the lowest practicable noise levels in external amenity areas.

[5] World Health Organisation Guidelines for Community Noise, 1999

[6] Sound exposure level or L_{AE}

3.2 World Health Organisation (WHO) Guidelines for Community Noise 1999

3.2.1 The WHO Guidelines 1999 recommends that to avoid sleep disturbance, indoor night-time guideline noise values of 30 dB L_{Aeq} for continuous noise and 45 dB L_{AFmax} for individual noise events should be applicable. It is to be noted that the WHO Night Noise Guidelines for Europe 2009[7] makes reference to research that indicates sleep disturbance from noise events at indoor levels as low as 42 dB L_{AFmax}. The number of individual noise events should also be taken into account and the WHO guidelines suggest that indoor noise levels from such events should not exceed approximately 45 dB L_{AFmax} more than 10 – 15 times per night.

3.2.2 The WHO document recommends that steady, continuous noise levels should not exceed 55 dB L_{Aeq} on balconies, terraces and outdoor living areas. It goes on to state that to protect the majority of individuals from moderate annoyance, external noise levels should not exceed 50 dB L_{Aeq}.

3.3 BS 4142: 2014 'Methods for rating and assessing industrial and commercial sound'

3.3.1 BS 4142: 2014[8] provides guidance on the assessment of the likelihood of complaints relating to noise from industrial sources. It replaced the 1997 edition of the Standard in October 2014. The key aspects of the Standard are summarised below.

3.3.2 The standard presents a method of assessing potential noise impact by comparing the noise level due to industrial sources (the Rating Level) with that of the existing background noise level at the nearest noise sensitive receiver in the absence of the source (the Background Sound Level).

3.3.3 The Specific Noise Level - the noise level produced by the source in question at the assessment location - is determined and a correction applied for certain undesirable acoustic features such as tonality, impulsivity or intermittency. The corrected Specific Noise Level is referred to as the Rating Level.

3.3.4 In order to assess the noise impact, the Background Sound Level is arithmetically subtracted from the Rating Level. The standard states the following:

- *Typically, the greater this difference, the greater the magnitude of the impact,*
- *A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context,*
- *A difference of around +5 dB 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 Sound Level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the Rating Level does not exceed the Background Sound Level, this is an indication of the specific sound source having a low impact, depending on the context.*

[7] WHO Night Noise Guidelines for Europe 2009

[8] BS 4142:2014 Methods for rating and assessing industrial and commercial sound

3.3.5 In addition to the margin by which the Rating Level of the specific sound source exceeds the Background Sound Level, the 2014 edition places emphasis upon an appreciation of the context, as follows:

> *An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs/will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context.*

3.3.6 The 2014 edition of BS 4142 also introduces a requirement to consider and report the uncertainty in the data and associated calculations and to take reasonably practicable steps to reduce the level of uncertainty.

4 Impact of Existing Noise Sources on the Development

4.1 Noise Mapping

4.1.1 Environmental noise in urban areas mainly consists of noise from transport sources, such as road, rail and aviation. Department for Environment, Food and Rural Affairs (DEFRA) is responsible for creating noise maps and drawing up Action Plans under the Environmental Noise (England) Regulations 2006 (as amended), which requires Defra to:

- adopt noise maps which show people's exposure to environmental noise;
- adopt action plans based on the results of noise mapping;
- aims to preserve environmental noise quality where it is good; and
- provides information to the public on environmental noise and its effects.

4.1.2 The Fryatts Way site is not within the published noise contours for any identified main road or rail noise source. In this case a main transport route is one with annual vehicle movements of 3,000,000 cars or 30,000 trains. The closest road and rail sources identified are the A269 1.1 km to the north of the site, the A259 0.42 km to the south of the site and the rail line through Collington station 1.3 km to the south of the site.

4.2 Road Traffic Noise

4.2.1 Nearby main roads are discussed above. Turkey Road, approximately 300m to the north of the proposed development site provides access to the Ibstock Brickworks, Ashdown facility. Turkey Road is only likely to be utilised by local traffic at a relatively low flow. It is unlikely that the traffic levels along the road will be sufficient to result in a noise level at the site that would require closed window mitigation during the day and night.

4.2.2 It is likely that the existing road network in residential developments to the east and south of the site will be audible across the proposed development site. Existing building massing will form a substantial barrier to local road traffic noise.

4.2.3 The magnitude of impact from road noise due to the existing road network will be negligible.

4.3 Existing Industrial and Commercial Noise

4.3.1 The Ibstock Brickworks, Ashdown facility is located off Turkey Road, approximately 300m to the north of the proposed development site. This is the only potentially significant non-transportation noise source identified. It is unlikely that any operations relating to the adjacent golf course or parkland would require further consideration.

4.3.2 The Ibstock Brickworks site consists of quarrying operations and associated processing facility. The site operations are subject to a number of planning conditions, the most recent available are associated with planning application reference RR/811/CM. The following conditions are likely to affect the noise levels from the site:

- Condition 5: A belt of woodland, at least 15 m wide shall be retained and maintained between the Turkey Road frontage of the site and the area of excavation…
  - whilst this condition is not strictly related to noise and the belt of trees will not reduce noise from the site, the reduction in visual impact from the quarry site can have a beneficial psychological effect.

- Condition 6: Except in certain defined situations, mineral extraction operations shall take place between 0700 and 1900 Monday to Friday and 0700 to 1300 on a Saturday and at no time on Sundays or Public Holidays. No servicing of plant required for mineral extraction shall take place between 2200 and 0700 on any day and at no time on Sundays or Public Holidays.
  - operations within the quarry site, will not be undertaken at night

- Condition 16: No vehicles, plant and machinery shall be operated on site unless fitted with silencing equipment to a standard not less than the manufacturers standard specification and all vehicles, plant or machinery shall be operated in accordance with the manufacturer's specification at all times.
  - mobile and fixed items of plant will be treated to reduce operational noise levels and subsequently operated according to the manufacturers best practice.

- Condition 17: The level of noise emitted from the site from mineral extraction operations or other activities related to the winning of clay shall not exceed a rated level of 49dB $L_{Aeq,1hr}$ in any of the measurement locations identified in the Environmental Statement (Wardell Armstrong, Job No. SH02572, 0001) June 2002…
  - Whilst the monitoring locations are not identified at the time of writing, it is likely they will be associated with the local residential receptors on Turkey Road, Peartree Lane and off St Mary's Lane. A 49dB $L_{Aeq,1hr}$ limit at receptors in close proximity to the works would likely require noise levels at the Fryatts Way site to be below this and therefore below levels where mitigation may be needed.

4.3.3 Considering the above planning conditions that are incumbent on the Ibstock Brickworks site, it is unlikely that noise from the works will be at a level that will exceed those detailed in section 3.1 internally, and therefore the magnitude of impact from industrial noise due to the Ibstock Brickworks will be negligible.

4.3.4 It is understood that the site will, in time, be decommissioned as an active mining and industrial facility, with plans to restore the site to create a wetland habitat in the main void, with a range of accessible mosaic of grassland and woodland habitat.

5 Impact of Noise from the Proposed Development

5.1 Construction Noise and Vibration Impacts

5.1.1 It is common for the control of construction noise, vibration and dust emission to be addressed by the application of Best Practicable Means (BPM) and detailed within a Construction and Environmental Management Plan (CEMP).

5.1.2 Prior to commencement of works, a quantitative noise impact assessment using guidance in BS 5228[9] on site may also be required but in our experience is usually unnecessary, unless there are nearby high risk or noise sensitive receptors, provided a robust CEMP is in place and agreed upon by the Local Authority.

5.1.3 Rother District Council are likely to have their own recommended wording for planning conditions relating to the control of noise and vibration from construction works.

5.2 Operational Transport Noise

5.2.1 New residential developments and infrastructure developments of this size will result in additional vehicles on the local road network. At this stage traffic data is not available to allow an assessment to evaluate the extent of noise increase as a result of this development. If there are any roads with a 25% increase in traffic flow this may necessitate the requirement for a detailed noise assessment.

5.2.2 The transport consultant for the development, Tetra Tech Limited, advises that, in the worst-case scenario of 210 dwellings being built on the land, the development is expected to introduce an increase in AADT of approximately 1043 LDV and 8 HDV (0.8% of AADT) movements on Fryatts Way. After Fryatts Way, circa 32% (334 LDV AADT) trips will proceed to/from the north along Ellerslie Lane and the remaining 68% (709 LDV AADT) trips will proceed to/from the south along Ellerslie Lane. Traffic will quickly disperse across the road network thereafter.

5.2.3 The traffic flows along Fryatts Way are likely to increase by more than 25% in the short term and potentially by at least 100% in the long term (opening +15 years). This is an indication of a potential significant effect at receptors around the site access, however this does not take into consideration the traffic noise levels from the existing flows on Ellerslie Lane.

5.2.4 The NPSE states: "…*all reasonable steps be taken to mitigate and minimise adverse effects on health and quality of life whilst also taking into account the guiding principals of sustainable development. This does not mean that such adverse effects cannot occur*." It is well understood that localised traffic levels will be increased around the access points to new residential development, however careful design and appropriate traffic management should serve to limit the level and special extent of and significant effects.

5.2.5 LA111[10]defines an operational SOAEL or daytime as 68dB $L_{A10,18h}$. This level of noise is highly unlikely to be exceeded on Fryatts Way as a result of the operational site.

[9] BS 5228 Noise and Vibration Control on Construction and Open Sites - Part 1: Noise: 2009+A1:2014

[10] Design Manual for Road and Bridges, LA111 Noise and Vibration, Nov2019

6 Summary and Conclusions

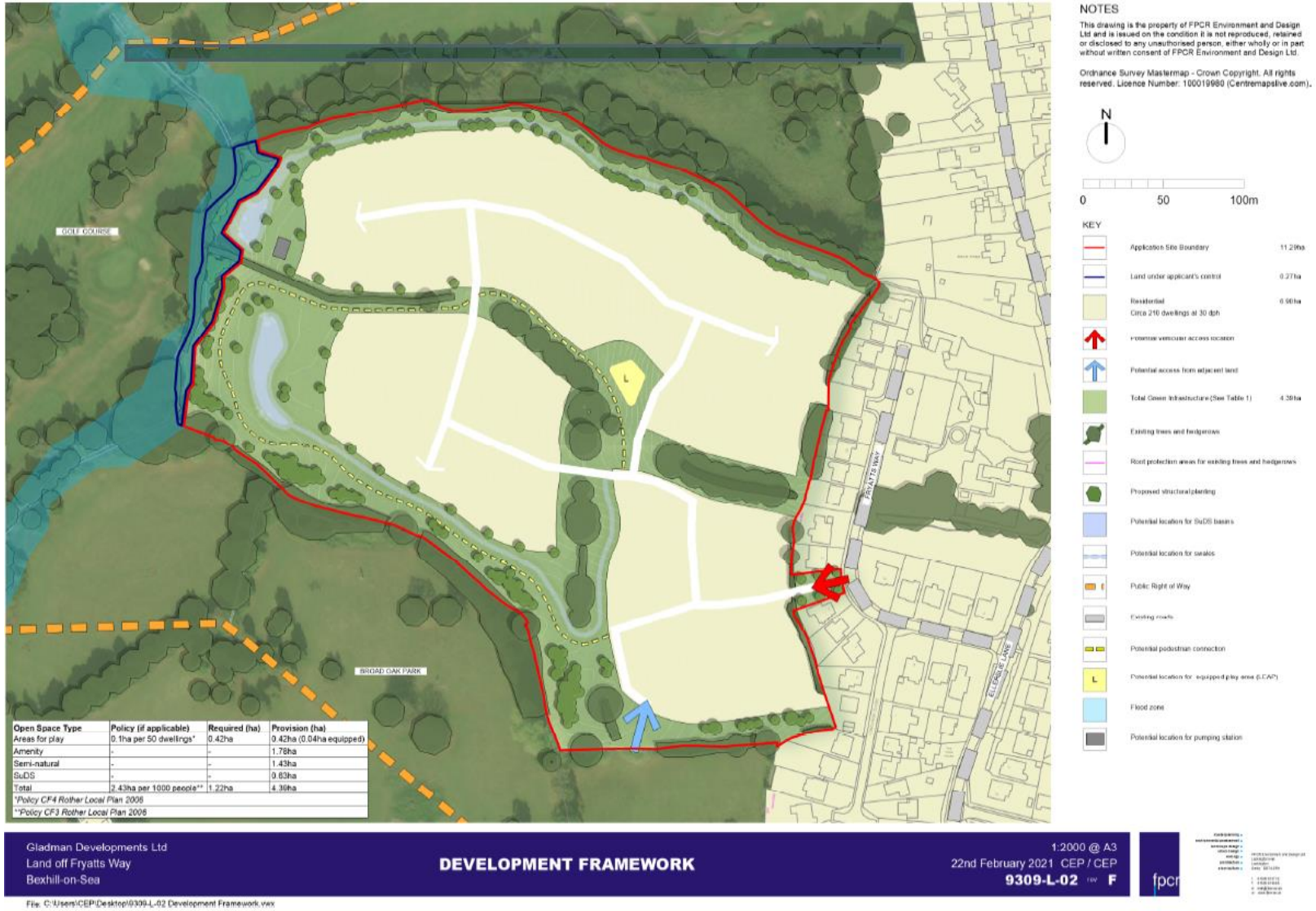
6.1 A noise screening assessment has been undertaken to identify any potential noise sources which are likely to have an impact on the development of a site for a significant housing and infrastructure development. The information indicates that noise should not pose a barrier to residential development in the site.

6.2 There are commercial noise sources to consider, however incumbent planning conditions on the active operations and the distance to the proposed site, should serve to protect the proposed development site from noise effects

6.3 Considering the existing noise sources in the area, the site should be considered as low risk for residential development and not require additional noise mitigation measures.

6.4 Future traffic flows on existing residential roads could potentially result in an increase in traffic noise levels at existing receptors along Fryatts Way, however careful design and appropriate traffic management should serve to limit the level and extent of any significant effects, with the understanding that some adverse effects can occur as long as all reasonable steps have been taken to mitigate and minimise the effects.

Appendix 1: Development Framework.



This page is left blank intentionally of Terms

Decibel (dB) The unit used to quantify sound pressure levels; it is derived from the logarithm of the ratio between the value of a quantity and a reference value. It is used to describe the level of many different quantities. For sound pressure level the reference quantity is 20 µPa, the threshold of normal hearing is in the region of 0 dB, and 140 dB is the threshold of pain. A change of 1 dB is usually only perceptible under controlled conditions.

dB L_A Decibels measured on a sound level meter incorporating a frequency weighting (A weighting) which differentiates between sounds of different frequency (pitch) in a similar way to the human ear. Measurements in dB L_A broadly agree with an individual's assessment of loudness. A change of 3 dB L_A is the minimum perceptible under normal conditions, and a change of 10 dB L_A corresponds roughly to halving or doubling the loudness of a sound. The background noise level in a living room may be about 30 dB L_A; normal conversation about 60 dB L_A at 1 meter; heavy road traffic about 80 dB L_A at 10 meters; the level near a pneumatic drill about 100 dB L_A.

$L_{A90,T}$ The A weighted noise level exceeded for 90% of the specified measurement period (T). In BS 4142: 1997 it is used to define background noise level.

$L_{Aeq,T}$ The equivalent continuous sound level. The sound level of a notionally steady sound having the same energy as a fluctuating sound over a specified measurement period (T). $L_{Aeq,T}$ is used to describe many types of noise and can be measured directly with an integrating sound level meter.

L_{Amax} The highest A weighted noise level recorded during the time period. It is usually used to describe the highest noise level that occurred during the event.

NOEL No observed effect level: the level of noise exposure below which no effect at all on health or quality of life can be detected.

LOAEL Lowest observed adverse effect level: the level of noise exposure above which adverse effects on health or quality of life can be detected.

SOAEL Significant observed adverse effect level: the level of noise exposure above which significant adverse effects on health or quality of life can be detected.


MILLER GOODALL
ACOUSTICS AND AIR QUALITY