

ACOUSTIC DESIGN TECHNOLOGY
Noise and Vibration Consultants

ADT 3957

18 February 2026

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STEYNING GRAMMAR SCHOOL
ENVIRONMENTAL NOISE IMPACT ASSESSMENT
ACOUSTIC CONSULTANCY REPORT SRP1121-ADT-ZZ-ZZ-T-J-0004

Revision	Date	Prepared By	Checked By	Revision Notes
P01	18 February 2026	Jack Williamson	Chris Middleton	First Issue
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1.0 SUMMARY

The proposal is to redevelop the existing school site to construct a number of new school buildings, outdoor sports and play facilities with associated landscaping and car parking as shown on the application drawings.

An environmental noise survey was undertaken by others in November 2022, and a supplementary environmental noise survey has now been undertaken to validate the noise levels reported previously, with broadly similar results. Department of Transport traffic flow data for the nearest major noise source the A283 Steyning Bypass shows an increase in traffic flow since 2022, so if anything the original background sound levels are an underestimate.

The environmental noise sources associated with the proposed development are new external plant installations and new outdoor sports / play facilities.

With regard to plant noise, the Planning Noise Advice Document: Sussex (September 2021) recommends that noise from plant noise sources should be assessed using BS 4142:2014+A1:2019, and the rating level should not normally exceed the otherwise prevailing background sound level. At this pre planning stage the new plant has not been selected, and noise limits have therefore been proposed at the surrounding noise sensitive areas in accordance with the above guidance.

In relation to outdoor sports facilities, the same document references the Sport England guidance, and the most relevant document is 'Artificial Grass Pitch (AGP) Acoustics – Planning Implications', which provides a recommended noise limit of 50 dB $L_{Aeq, 1 \text{ hour}}$ at 1 metre from the habitable rooms of noise sensitive properties. With the proposed acoustic screening to the new AWP, that limit would be achieved at all surrounding noise sensitive properties.

On that basis it is reasonable to conclude that the environmental noise impact of the proposed development should equate to 'no observed adverse effect' as defined in the Planning Practice Guidance with the proposed noise control measures.

2.0 BASIS OF ASSESSMENT

2.1 Site Location

Steyning Grammar School is located on Shooting Field in Steyning. The nearest major road is the A283 Steyning By-Pass which forms the northern site boundary.

The surrounding area is primarily residential to the east and south, with agricultural land to the north and west. There are a small number of dwellings on Horsham Road to the west. Bordering the school grounds to the east is the Steyning Church of England Primary School. Approximately 50 metres to the south east of the site is Steyning Town Football Club, an artificial grass pitch (AGP).

2.2 Proposed Development

The proposal is to redevelop the existing Steyning Grammar School site to construct new school buildings and a number of new outdoor sports and play facilities, including an all weather pitch (AWP), a multi use games area (MUGA) and replacement grass pitches. There will also be new landscaping and car parking.

2.3 Planning Policy

The National Planning Policy Framework (NPPF) sets out the general terms of reference for sustainable development, including noise. Section 187 of the December 2024 edition states 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...

Section 198 of the same document states:

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:

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 life⁷²;

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;

The Noise Policy Statement for England (NPSE) published in March 2010 establishes the No Observed Effect Level (NOEL), Lowest Observed Adverse Effect Level (LOAEL) and Significant Observed Adverse Effect Level (SOAEL), although these are not linked to objective criteria, as Section 2.22 of the NPSE states:

It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times.

For this development the key principles to be applied from the NPPF are to protect existing noise sensitive properties from noise generated by the development, and to consider noise intrusion to the noise sensitive teaching accommodation.

The Planning Practice Guidance (Noise) defines the action to be taken for various effect levels, based on perception of noise and typical outcomes. These are provided in the attached table 3957/T1.

2.4 Assessment Criteria

The environmental noise sources associated with this development are new external plant and new outdoor sports / play facilities. Noise from the school park should not be significant, as the intensity of use is very low, while environmental noise breakout from school buildings is not normally noticeable more than a few metres away. The new school buildings are no closer to dwellings than the existing buildings, and will have superior sound insulation.

With regard to plant noise emissions, the Planning Noise Advice Document: Sussex (September 2021) recommends that noise from plant noise sources should be assessed using BS 4142:2014+A1:2019, and the rating level should not normally exceed the otherwise prevailing background sound level.

In relation to outdoor sports facilities, the same document references the Sport England guidance, and Section 5.4 of the noise advice document states the following:

Currently, there are no Codes of Practice for controlling noise from MUGAs.

Planning applications for such facilities can give rise to a range of amenity concerns, especially noise, particularly where they are proposed in residential neighbourhoods. Noise impacts from MUGAs can vary depending on a number of factors including the hours of operation, location, design, size of the facility, the level of use, appropriate maintenance and location of spectators.

Consequently, early guidance should be sought from the LPA. It's recommended that a Noise Management Plan is submitted with planning applications for MUGAs, covering issues such as hours and days of use, community liaison, complaints procedures, student briefings and preventing unauthorised use.

On flat terrain sites, landscaping, mounding and noise barriers can be used to mitigate noise breakout and floodlight spillage.

In noise sensitive locations, the materials chosen and the design should be strongly influenced by noise reduction considerations. Fences should be fixed to support posts to prevent excessive movement of fencing, and rubber damping pads should be included as good acoustic design.

Consideration of the above points is vital as controlling noise levels from the use of such developments can be difficult. It is therefore important to provide as much information of the proposed use and expected noise impact on the neighbouring noise sensitive premises (both indoors and outdoors). Short and long term LAeq, LAfmax, LA90 and LA10 would be appropriate indices for this purpose.

The most relevant source of noise source data for the MUGA and AWP (and in the absence of any other relevant guidance, the grass pitches) is the Sport England document 'Artificial Grass Pitch (AGP) Acoustics – Planning Implications', which provides a recommended noise limit of 50 dB $L_{Aeq, 1 \text{ hour}}$ at 1 metre from the habitable rooms of noise sensitive properties. There are no widely accepted noise criteria for outdoor sports defined using the L_{Amax} or other parameters.

2.5 Nearest Noise Sensitive Areas

The noise sensitive properties in the surrounding area have been grouped into four noise sensitive areas (NSA), as described below and as indicated on the attached site plan 3957/SP1.

NSA	Location	Direction	Approximate distance from site boundary (metres)	Approximate distance from proposed buildings (metres)
1	Reads Walk	East	Borders site	166
2	Shooting Field	East	Borders site	80
3	Coxham Lane	South	Borders site	89
4	Horsham Road	West	29	60

The above NSA represent the closest noise sensitive properties, with others located further from the site and in some cases screened by the intervening buildings. A satisfactory noise impact at the defined NSA should therefore ensure a satisfactory noise impact at other noise sensitive areas.

2.6 Strategy for Noise Impact Assessment

Based on the information in Sections 2.1 to 2.5 above, the strategy for the noise impact assessment has been broken down into the following stages:

- i. undertake an environmental noise survey to verify the results of the previous (2022) survey, as described in Section 3.0 below.
- ii. set environmental noise limits for new fixed plant installations in accordance with BS 4142, as described in Section 4.0 below.
- iii. assess the environmental noise impact of the proposed outdoor sports and play facilities, as described in Section 5.0 below.

3.0 ENVIRONMENTAL NOISE SURVEY

3.1 Introduction

An environmental noise survey was previously undertaken by Pace Consult Ltd on behalf of the DfE as detailed in the separately issued report SRP1121-PCL-XX-XX-T-J-0301-NoiseAndAcousticSurvey (dated 30 November 2022).

An environmental noise survey has now been undertaken by ADT to validate the results of that survey.

It is also worth noting that Department of Transport traffic flow data for the nearest major noise source the A283 Steyning Bypass shows an increase in traffic flow since 2022, so if anything the originally measured background sound levels are an underestimate and therefore a more pessimistic baseline condition.

3.2 Scope of Survey

A fully attended environmental noise survey was undertaken between 14:55 hours and 17:05 hours on Wednesday 04 February 2026, that being a typical sample of term time weekday noise conditions, after the majority of students had left for the day.

3.3 Procedure

Four measurement positions were selected around the site as described below and indicated on the attached site plan 3957/SP1:

- i. at 3 metres from the treeline beside the northernmost rugby field and approximately 50 metres from the goalposts.
- ii. at 14 metres from the treeline beside the lower rugby field, approximately 130 metres from the existing all-weather pitch.
- iii. at 5 metres from the gate of the main car park and 4 metres from the building access ramp.
- iv. On the rear driveway, approximately 3.5 metres from the nearest site building.

These locations roughly correspond to locations MP1 through MP4 from the previous noise survey undertaken by Pace Consult in 2022.

At all four positions the microphone was mounted on a tripod approximately 1.5 metres above the ground and least 3.5 metres from any other acoustically reflective surface.

Measurements were taken hourly using the 01dB Blue Solo sound level meter set to store the octave band and A-weighted 100ms short term L_{eq} levels over a 10 minute sample of each hour for subsequent post processing.

3.4 Results

The logged data obtained from the Acoustic Design Technology survey been post processed to determine $L_{Aeq,T}$, $L_{A90,T}$ and L_{Amax} levels for each measurement period, and these are listed in the attached table 3957/T1 for all measurement positions.

A comparison of the background noise levels measured during this latest survey with those obtained during similar periods during the 2022 survey are as follows:

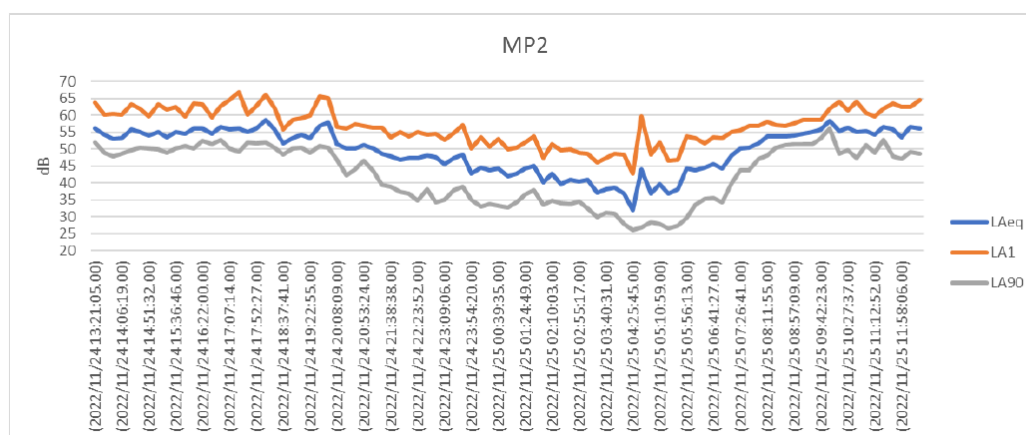
Location	L _{A90} (dB)	
	2022 Pace Consult report	2026 ADT validation survey
MP1	58	58
MP2	53	54
MP3	40	48
MP4	40	42

The levels measured by ADT are broadly similar to those measured in 2022 except at MP3, where there was school egress traffic during the latest survey, while the previous readings were taken during the middle of the school day. The proposal is to use the long term background sound levels at MP2 from the 2022 survey as the baseline levels for identified noise sensitive areas, as that is considered the most representative of the surrounding dwellings and was a 24 hour survey.

Analysis of the survey data from MP2 in the previously issued 2022 report using the method provided in Section 8.1.4 of BS 4142 yields the following table background sound levels for the day, evening and night periods:-

	L _{A90} dB		
	Day (07:00 - 19:00)	Evening (19:00 – 23:00)	Night (23:00 - 07:00)
Typical background levels by statistical analysis	48	37	34

The time history graph from the Pace Consult report is as follows:-



During the day, it would be appropriate to use a lower level of 40 dB $L_{A90, 1 \text{ hour}}$ as measured at positions MP3 and MP4. The evening and night time levels from MP2 are considered typical.

Please refer to Appendix B for an explanation of the various noise descriptors used in this report.

4.0 NOISE IMPACT ASSESSMENT (NEW FIXED PLANT)

4.1 Noise Limits

As described in Section 2.4 above, it is proposed that plant noise is assessed using the BS 4142 method, and a rating level equivalent to the typically prevailing background level is defined as a 'low impact'.

Proposed noise limits for fixed plant are therefore as follows, based on the background levels provided in Section 3.4 above.

	$L_{Ar,T}$ dB		
	Day (07:00 - 19:00)	Evening (19:00 – 23:00)	Night (23:00 - 07:00)
Rating level limit at all noise sensitive areas	40	37	34

Following selection of the new plant, cumulative noise levels can be calculated at the various NSA and checked against the above limits, taking into account any penalties required for acoustic character as defined in the standard. According to the Planning Practice Guidance, this should equate to 'no observed effect'.

It should be noted that while compliance with the above noise limits would provide sufficient protection for surrounding noise sensitive areas, it is important to ensure that the noise levels around the perimeter of the building and at existing teaching buildings are not excessive. Thus, in addition to the rating level limits defined above, it is recommended that the noise emissions from fixed plant do not exceed $L_{Aeq, 30 \text{ mins}}$ 60 dB in any external area accessible to students or members of the public.

5.0 NOISE FROM OUTDOOR SPORTS/PLAY AREAS

5.1 Basis of Assessment

The development includes alterations to the existing outdoor sports and play areas, including new grass pitches to the north of the new buildings, an all weather pitch (AWP) at the south-east end of the site, and a MUGA to the south-west of the new buildings.

In recognition of the potential noise impact on the houses nearest to the new AWP (Nos. 45 to 51 Shooting Field) a 2.7 metre high solid timber acoustic fence will be provided along the eastern side of the AWP, with a 10 metre return along the southern side, as illustrated on the attached mark up ADT 3957/SK1. The fence would be minimum R_w 25 dB, and typical construction details are provided on the attached sketch ADT 3957/SK2.

The proposed term time and holiday time operating schedule is understood to be as follows:-

- i. week days 09:00 to 22:00
- ii. Saturdays 09:00 to 22:00
- iii. Sundays 10:00 to 17:00

As noted in Section 2.4 above, the nearest applicable design guidance relating to environmental noise from outdoor sports and play areas is the Sport England ‘Artificial Grass Pitch (AGP) Acoustics – Planning Implications’ document, which recommends that the noise from sports pitches is controlled to ≤ 50 dB $L_{Aeq, 1 \text{ hour}}$ at 1 metre from the facade of a noise sensitive habitable room.

The same document also provides a typical source level of 58 dB $L_{Aeq, 1 \text{ hour}}$ at 10 metres from the sideline of an AGP, but the Sport England guidance does not include any octave band sound levels, so measurements of football and hockey at other sports pitches has been used to derive a typical octave band spectrum, as presented in the following table:-

	Octave Band Centre Frequency (Hz)								dB(A)
	63	125	250	500	1k	2k	4k	8k	
Typical $L_{eq, 1 \text{ hour}}$ at 10 metres	57	52	48	52	54	51	47	46	58

5.2 Predicted Noise Levels

Calculations of noise emissions from the various sports pitches have been undertaken using Cadna/A 2024 environmental noise mapping software following the ISO 9613-2:2024 method, with the following assumptions:-

- i. all pitches have been allocated sound source levels calibrated to the 58 dB $L_{Aeq, 1 \text{ hour}}$ at 10 metres set out in Section 5.1 above. The source height has been set to 1.5 metres above ground level, that being typical head height for voices / whistles which constitute the majority of the noise emissions. For the grass pitches, the source level has been reduced by 3 dB to account for the greater sound absorption as compared with an AWP or MUGA.
- ii. areas of grass field and agricultural land have been allocated ground absorption of $G=0.5$, while all remaining areas have been allocated $G=0$.
- iii. OS/LIDAR height points have been used, together with height points from the topographical survey drawing
- iv. 1st order reflections have been used
- v. receiver points have been set to 4.5 metres above local ground level, that being equivalent to a typical 1st floor window, which would be the least protected by acoustic screening.

The predicted noise levels at the surrounding dwellings are set out in the following table, with the levels in most affected areas (the houses on Reads Walk to the north-east, and the houses on Shooting Field to the south east) plotted on the attached noise maps ADT 3957/SK2 and ADT 3957/SK3.

NSA	Location	Predicted $L_{Aeq, 1 \text{ hour}}$ dB
1	Reads Walk	50
2	Shooting Field	50
3	Coxham Lane	49
4	Horsham Road	47

The noise levels in the above table are all within the Sport England recommended limit of 50 dB $L_{Aeq, 1 \text{ hour}}$ and should therefore be acceptable with the proposed noise control measures. For reference, without the acoustic screening the resultant noise levels at the most affected dwellings (Nos. 45-51 Shooting Field) would be 53 dB $L_{Aeq, 1 \text{ hour}}$, above the Sport England recommended limit.

The noise reduction provided by the barrier is relatively small, but that is because the upper floor windows have been assessed where the screening is least effective, and at the ground floors of the houses the benefit would be greater.

5.3 Context Guidance

The environmental noise impact on the houses on Reads Walk to the north-east should be the same as currently exists, as the new grass pitches are broadly similar to the existing grass pitches.

With regard to the houses on Shooting Field (Nos. 45 – 51) the new AWP is closer than any of the existing sports and play facilities, and this is why acoustic screening is proposed. It is worth noting that there is currently the car park and the school main entrance in that location, so there is already some degree of noise, albeit of a different character.

There is also the Steyning Town Football Club immediately to the south-east of the site, which has an AGP and operates without hours restrictions, but would typically operate over similar periods to those proposed for the Steyning School. Outdoor sports noise is therefore already present in the area to the south-east of the school which is currently occupied by buildings.

FOR ACOUSTIC DESIGN TECHNOLOGY



<u>Notes</u>	<u>Description</u> Site Plan Showing Noise Monitoring Locations		 ACOUSTIC DESIGN TECHNOLOGY Noise and Vibration Consultants
	<u>Project</u> Steyning Grammar School		
	<u>Survey Date</u> 04 February 2026	<u>Drawing No.</u> 3957/SP1	

PLANNING PRACTICE GUIDANCE

Perception	Examples of Outcomes	Increasing Effect Level	Action
Not noticeable	No Effect	No Observed Effect	No specific measures required
Noticeable and not intrusive	Noise can be heard, but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Noticeable and intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level			
Noticeable and disruptive	The noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Noticeable and very disruptive	Extensive and regular changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

SURVEY RESULTS (A WEIGHTED TIME HISTORY)

Location	Period	L _{Aeq} , 15mins dB	L _{Amax} dB	L _{A90} dB
1	14:56-15:06	63	68	58
	16:14-16:24	63	72	58
2	15:11-15:21	55	73	53
	16:26-16:36	56	61	54
3	15:29-15:39	56	82	48
	16:42-16:43	53	74	49
4	15:53-16:03	48	72	43
	16:53-17:03	47	64	42

Table 3957/T1

APPENDIX A - INSTRUMENTATION

Manufacturer	Type and / or Model	Serial Number	Last Laboratory Calibration	Calibrator Output (dB)	Free Field Correction (dB)	Initial reading (dB)	Final reading (dB)
01dB	Blue Solo Sound Level Meter	60320	March 2025		-0.1	113.8	113.8
Norsonic	Nor1251 Calibrator	33453	March 2025	113.88			

APPENDIX B

Acoustic Terminology

The annoyance produced by noise is dependent upon many complex interrelated factors such as 'loudness', its frequency (or pitch) and any variations in its level. In order to have some objective measure of the annoyance, scales have been derived to allow for these subjective factors.

A-weighting The human ear is more susceptible to mid-frequency noise than the high and low frequencies. To take account of this when measuring noise, the A-weighting scale is used so that the measured noise corresponds roughly to the overall level of noise that is discerned by the average person. It is also possible to calculate the A-weighted noise level by applying certain corrections to an un-weighted spectrum.

When the noise being measured has variable amplitude, such as traffic noise, it is necessary to qualify the basic dB unit. This may be done using a statistical index L_n dB, where n is any value between 0 and 100, and is the percentage of the sample time for which the stated level is exceeded. In defining the use of the index, both the value of n and the length of the sample period must be stated.

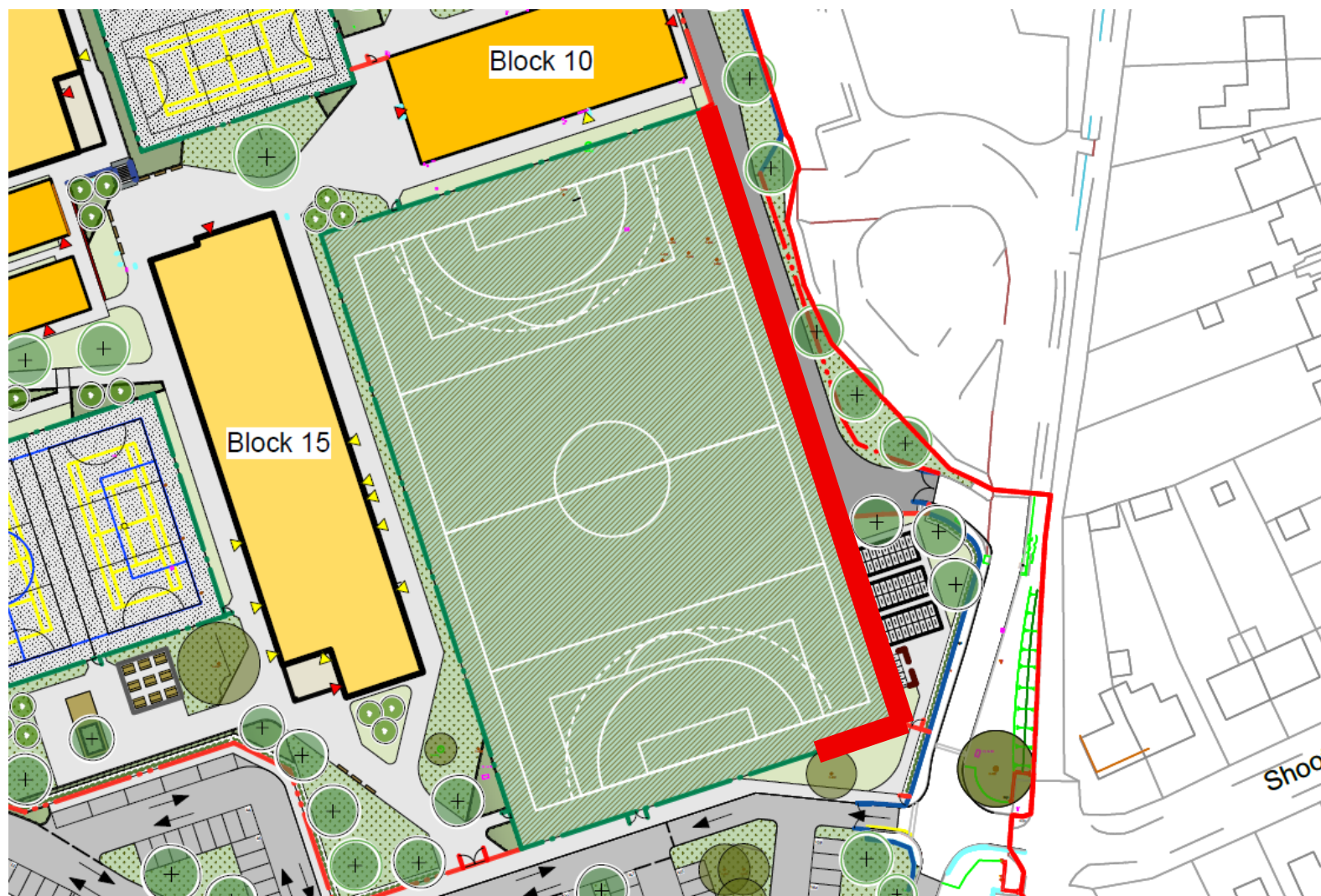
L_{10} L_{10} , being the level exceeded for 10% of the time, has been shown to be a good indicator for traffic noise intrusion, and is used in assessing the effect of traffic noise on residential or commercial premises.

L_{90} L_{90} is the level exceeded for 90% of the time, and is used as a measure of background noise level, as it excludes the effects of occasional transient levels, such as individual passing cars or aircraft.

In addition to the statistical noise indices defined above, the following noise units are also used to define variable amplitude noise sources:

$L_{eq,T}$ $L_{eq,T}$ is defined as the notional steady sound pressure level which, over a stated period of time, would contain the same amount of acoustical energy as the actual fluctuating sound measured over the same period. In other words, it is a measure of the "average" noise level

L_{max} L_{max} is the maximum time-weighted sound pressure level recorded over the stated time period.



Notes

Extent of acoustic fence

Description

Acoustic fence to AWP

Project

Steyning Grammar School

Date

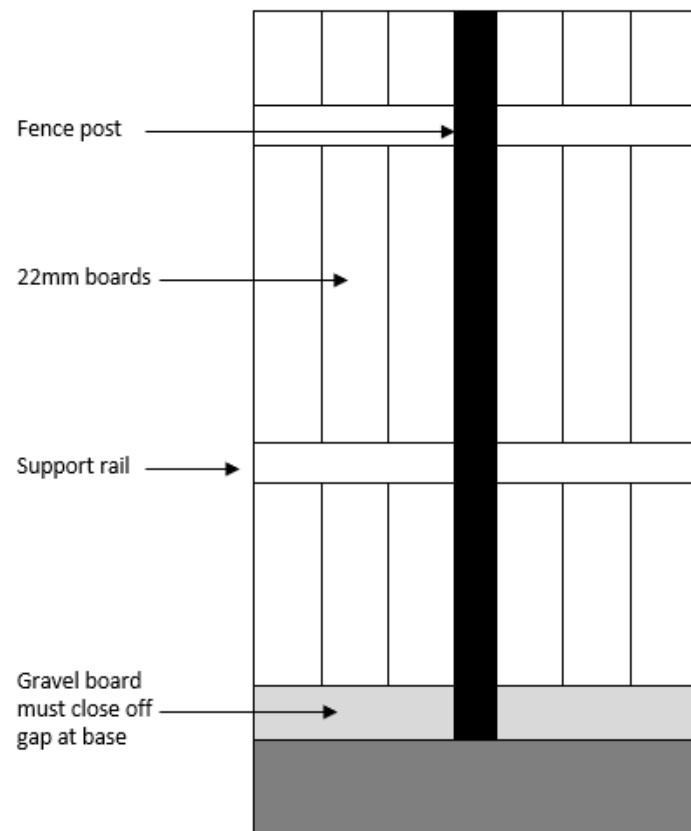
18 February 2026

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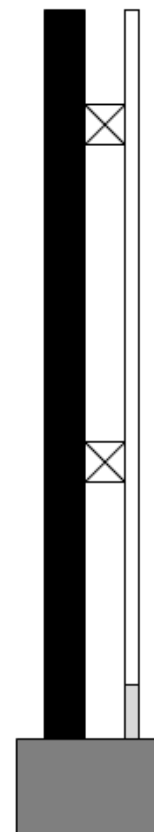
3957/SK1



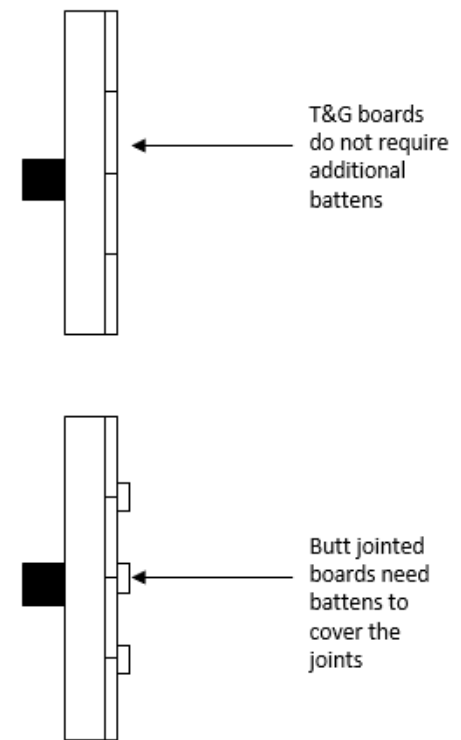
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ELEVATION



SECTION



PLAN

<u>Notes</u>	<u>Description</u>		 ACOUSTIC DESIGN TECHNOLOGY Noise and Vibration Consultants
	Typical acoustic fence construction details		
	<u>Project</u>		
	Steining Grammar School		
	<u>Date</u>	<u>Drawing No.</u>	
	18 February 2026	3957/SK2	



<u>Notes</u>	<u>Description</u>		 ACOUSTIC DESIGN TECHNOLOGY Noise and Vibration Consultants
	Predicted Noise Levels from Proposed Sports Pitches - northeast		
	<u>Project</u>		
	Steyning Grammar School		
	<u>Date</u>	<u>Drawing No.</u>	
	18 February 2026	3957/SK2	



<u>Notes</u>	<u>Description</u>		 ACOUSTIC DESIGN TECHNOLOGY Noise and Vibration Consultants
	Predicted Noise Levels from Proposed Sports Pitches – southeast		
	<u>Project</u>		
	Steining Grammar School		
	<u>Date</u>	<u>Drawing No.</u>	
	18 February 2026	3957/SK3	