



Environmental Associates

**Revised Noise Assessment**

**Lakeside School, Liverpool**

**August 2021**

**Witherslack Group**



## Noise Assessment

### Lakeside School, Liverpool

**Client:** Witherslack Group

**Report reference:** NJD19-0143-001R

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## CONTENTS

|   |                                   |    |
|---|-----------------------------------|----|
| 1 | INTRODUCTION .....                | 1  |
| 2 | PLANNING POLICY AND GUIDANCE..... | 2  |
| 3 | NOISE SURVEY .....                | 7  |
| 4 | SITE SUITABILITY.....             | 10 |
| 5 | PEAK HOUR TRAFFIC .....           | 11 |
| 6 | CONCLUSION.....                   | 12 |

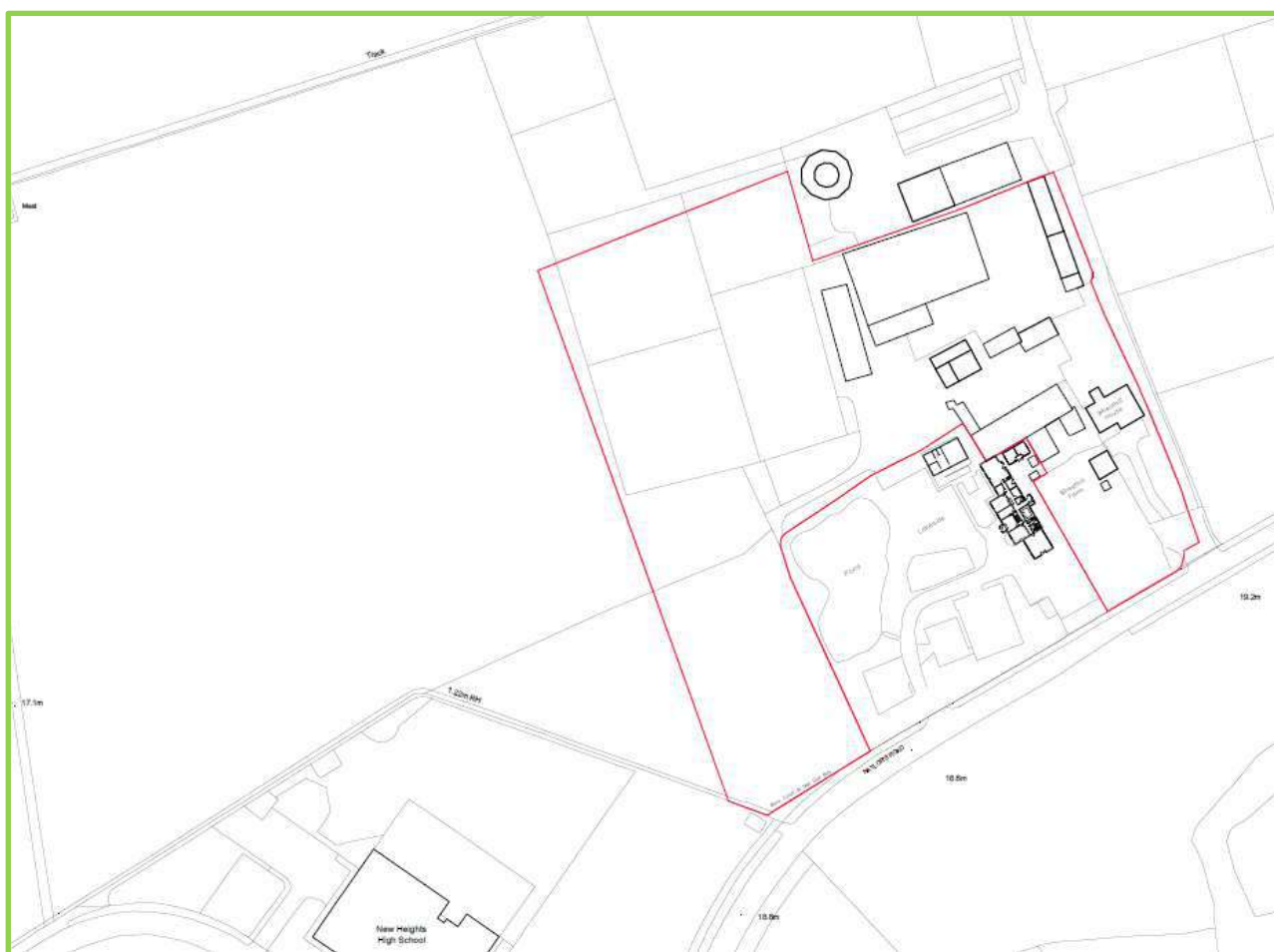
## APPENDICES

|   |                                           |
|---|-------------------------------------------|
| 1 | Proposed layout                           |
| 2 | Noise measurements                        |
| 3 | Noise monitoring location at Old Halshead |
| 4 | Noise measurements at Old Halshead        |

## 1 INTRODUCTION

### 1.1 Background

- 1.1.1 NJD Environmental Associates LTD was instructed by Witherslack Group to undertake a noise assessment for the proposed refurbishment of an existing primary school and the construction of a proposed secondary school at Lakeside School, located off Naylor's Road in Liverpool. The site location is shown at Drawing 1, with the proposed layout provided at Appendix 1.



**Drawing 1: Site Location**

- 1.1.2 A noise assessment, dated April 2021 was submitted, which considered the dominant noise source at the site, this being Naylor's Road, running adjacent to the southern site boundary. Further to a response received from Knowsley Council, noise associated with the M62 has also been considered, in order to determine the site suitability for the proposed secondary school, also taking into account the refurbishments to the existing primary school, as well as the potential noise impact associated with additional vehicle movements.

## 2 PLANNING POLICY AND GUIDANCE

### 2.1 National Planning Policy Framework (NPPF)

2.1.1 The revised NPPF published in July 2021 provides the following with regards to noise, set out at paragraph 185:

*“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;*
- 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.”*

2.1.2 It is clear that the NPPF seeks to limit the exposure of new development to unacceptable levels of noise, although the policy does not seek to prescribe what constitutes an unacceptable level of noise.

### 2.2 Noise Policy Statement for England (NPSE)

2.2.1 The Department for Environment, Food and Rural Affairs (DEFRA) published the NPSE in March 2010.

2.2.2 The explanatory note of NPSE defines the terms used in the NPPF:

*“2.19 There are several key phrases within the NPSE aims and these are discussed below.*

#### ***‘Significant adverse’ and ‘adverse;***

*2.20 There are two established concepts from toxicology that are currently being applied to noise impacts, for example, by the World Health Organisation. They are:*

*NOEL – No Observed Effect Level*

*This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.*

#### LOAEL – Lowest Observed Adverse Effect Level

*This is the level above which adverse effect on health and quality of life can be detected.*

2.21 Extending these concepts for the purpose of this NPSE leads to the concept of a significant observed adverse effect level.

#### SOAEL – Significant Observed Adverse Effect Level

*This is the level above which significant adverse effects on health and quality of life occur.”*

2.2.3 The NPSE does not define the SOAEL numerically, stating at paragraph 2.22:

*“2.22 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. It is acknowledged that further research is required to increase our understanding of what may constitute a significant adverse impact on health and quality of life from noise. However, not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available.”*

2.2.4 There is no local or national guidance on how the three terms should be defined numerically, it is for the assessor to collate and interpret appropriate guidance on noise, such as may be found in British Standards, and correlate the guidance with the concepts of NOEL, LOAEL and SOAEL.

### **2.3 Planning Practice Guidance: Noise (PPGN)**

2.3.1 In March 2014, the Government released the PPG on noise, revised in July 2019. This document sets out a number of principles and reinforces the guidance set out in the NPPF and NPSE.

2.3.2 Paragraph 001 of PPGN notes that:

*“Noise needs to be considered when new development may create additional noise and when new developments would be sensitive to the prevailing acoustic environment.”*

2.3.3 It goes on to note in paragraph 003 that:

*“Local planning authorities’ plan-making and decision taking should take account of the acoustic environment and in doing so consider:*

- 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.”*

2.3.4 The PPGN broadly repeats the NPSE definitions of the NOEL, LOAEL AND SOAEL and it provides a summary table to explain how the terms relate to each other and to typical human response to sound. The table is replicated below in Table 1.

| Table 1: PPGN Noise Exposure Hierarchy |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                           |                                  |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|----------------------------------|
| Perception                             | Examples of Outcome                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 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 small changes in behaviour and/or attitude, e.g., turning up volume of televisions; 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 areas 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 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 or non-auditory                                                                                                                                                                                  | Unacceptable Adverse Effect               | Prevent                          |

2.3.5 The PPGN provides advice on how to mitigate the effects of noise, noting that there are options to reduce noise at source, to optimise site layouts and to use planning conditions.

## **2.4 BB93: Acoustic Design of Schools - Performance Standards**

- 2.4.1 Building Bulletin 93 (BB93) explains minimum performance standards for the acoustics of school buildings and describes the normal means of demonstrating compliance with the Building Regulations.
- 2.4.2 The standard sets out recommended design limits for a variety of rooms and teaching spaces, which are dependent on the sensitivity of the location and the requirements for specific acoustic conditions within these spaces.
- 2.4.3 The objective is to provide suitable indoor ambient noise levels (IANL) for:
- (a) clear communication of speech between teacher and student
  - (b) clear communication between students
  - (c) learning and study activities.
- 2.4.4 The indoor ambient noise level includes noise contributions from:
- external sources outside the school premises (including, but not limited to, noise from road, rail and air traffic, industrial and commercial premises)
  - building services (e.g., ventilation system, plant, etc.). If a room is naturally ventilated, the IANL is calculated and measured with ventilators or windows open as required to provide ventilation. If a room is mechanically ventilated or cooled, the plant should be assumed to be running at its normal operating duty.
  - actuator and damper noise

## **2.5 Institute of Acoustics (IOA) and the Association of Noise Consultants (ANC). 'Acoustics of Schools: A Design Guide' 2015**

- 2.5.1 The document provides supporting guidance and recommendations on the acoustic design of new and refurbished schools, stating performance criteria that represent minimum standards which must be achieved to provide a suitable acoustic environment for teaching and learning.

## **2.6 Design Manual for Roads and Bridges (DMRB)**

- 2.6.1 The assessment of operational phase road traffic noise impacts is assessed in general accordance with the guidance presented in the recently published "LA111 - Noise and Vibration" document of DMRB (hereafter referred to as "DMRB LA111").

- 2.6.2 When assessing the potential for operational phase impacts, DMRB LA111 requires a scoping assessment to be initially conducted.
- 2.6.3 The scoping assessment reports on the following scoping assessment questions to gain an understanding of the need to undertake a further noise assessment:
1. Is the project likely to cause a change in the BNL of 1dB LA10,18hr in the do-minimum opening year (DMOY) compared to the do-something opening year (DSOY)?
  2. Is the project likely to cause a change in the BNL of 3dB LA10,18hr in the do-something future year (DSFY) compared to the DMOY?;
  3. Does the project involve the construction of new road links within 600m of noise sensitive receptors?;
  4. Would there be a reasonable stakeholder expectation that an assessment would be undertaken?
- 2.6.4 Where the response to one or more of the scoping assessment questions is 'yes', the scoping assessment shall make a recommendation on the scope of further assessment.

### **3 NOISE SURVEY**

#### **3.1 Baseline Noise Levels**

- 3.1.1 Between the 22<sup>nd</sup> to 23<sup>rd</sup> October 2019, noise measurements were undertaken in order to quantify noise from the adjacent road, to the south of the site, this being the dominant noise source. Measurements were taken using an Acoem 01dB Fusion sound level meter. The Class 1 instrument logged 1/3 octave levels throughout the measurement. The instrument was calibrated before and after the measurements to a reference level of 94dB, with no notable drift observed.

##### ***Monitoring Location***

- 3.1.2 Measurements were taken at the location shown in Drawing 2 below.



**Drawing 2: Noise Monitoring Location**

3.1.3 The monitoring location was as follows:

- ML1: On the southern site boundary, adjacent to the road, with the microphone located 2m above the ground, i.e., above the existing close boarded fence that is to be retained.
  - The measurement took place during the following dates and times:
    - 1308h on the 22<sup>nd</sup> October, to 0926h on the 23<sup>rd</sup> October 2019.

#### **Existing Baseline Noise Levels**

3.1.4 The noise levels are summarised in Table 2 below. The data has been analysed and the measured daytime level determined, representative of that experienced during school hours.

| Table 2: Summary of measured daytime noise level (dBA) |              |               |
|--------------------------------------------------------|--------------|---------------|
| Location                                               | Daytime LAeq | Daytime LAmax |
| ML1                                                    | 70.7         | 96.5          |

3.1.5 Full details of the measurements are presented in Appendix 2.

## **3.2 Distant Road Traffic Noise – M62**

- 3.2.1 During the deployment of noise monitoring equipment for the noise survey described above, monitoring location ML1 was selected as observations at the time noted that road traffic noise from Naylors Road was considered to be the dominant noise source. It is accepted that distant road traffic noise from the M62 is audible in the northern part of the site and therefore this source has also been considered in this revised noise assessment.
- 3.2.2 A review of the planning portal has been undertaken to determine whether any recent noise measurements have been obtained in the locality of road traffic noise levels from the M62.
- 3.2.3 Documents provided in support of planning application reference 20/00494/HYB for a proposed scheme on the former site of Cronton Colliery, provide a noise assessment and include measurements undertaken at a location also to the south of the M62, adjacent to Old Halsnead. These measurements were obtained between 13<sup>th</sup> and 17<sup>th</sup> March 2020, before reduced traffic flows were experienced as a result of the COVID-19 pandemic. These measurements are therefore considered to be representative of normal road traffic noise levels on the M62.
- 3.2.4 The monitoring location, provided at Appendix 3, is located south of the M62 and east of the M57, whereas the section of the M62 that runs to the north of the proposed development site is located to the west of the M57. In order to ensure that this section of the M62 is similar with regards to vehicle flows, road count points provided by the Department for Transport (DfT) have been reviewed. The vehicle flows on the M62 to the east of the M57 are slightly higher than those experienced on the M62 to the west of the M57. However, in terms of noise, this increase in flow is negligible when considering the overall total flow.
- 3.2.5 The noise measurements obtained at this location are therefore considered to be representative and have been used to calibrate the noise model in order to

determine road traffic noise levels from the M62 across the proposed development site.

- 3.2.6 The measurements obtained on Monday 16<sup>th</sup> March 2020 have been used, representing weekday traffic when the school will be open, and are provided at Appendix 4.

## **4 SITE SUITABILITY**

### **4.1 External Areas**

- 4.1.1 The IOA and ANC (2015) recommends that playgrounds, outdoor recreation areas and playing fields are generally considered to be of relatively low sensitivity to noise.
- 4.1.2 The documents further recommend that for new schools, 60 dB LAeq,30min should be regarded as an upper limit for external noise at the boundary of external areas used for recreation.
- 4.1.3 The results from Figure 1 demonstrate that the required criterion is achieved within the proposed play areas, with noise levels of 55dB LAeq,30T and less calculated.

### **4.2 Internal Areas**

- 4.2.1 The IOA and ANC (2015) recommends that for new schools, 60 dB LAeq,30min should be regarded as an upper limit for external noise at the boundary of external areas used for formal and informal outdoor teaching and recreation.
- 4.2.2 The document goes on to state that it may be possible to meet the specified indoor ambient noise levels on sites where external noise levels are as high as 70dB LAeq,30min but this will require considerable building envelope sound insulation, or screening.
- 4.2.3 BB93 further discusses internal target levels for noise, depending on the teaching space or room use. The most onerous BB93 target for the proposed secondary school new build is considered to be 40 dB(A) LAeq,30min for classrooms, with natural ventilation, i.e., an open window. This equates to a façade noise level of 55dB(A) LAeq,30min, assuming approximately 15dB of attenuation for a partially opened window.

- 4.2.4 The guidance recommends that for refurbished areas, such as those associated with the existing primary school, the recommended internal noise level within teaching spaces is 45dBLAeq,30min, with natural ventilation. This equates to a façade noise level of 60dB(A) LAeq,30min, assuming approximately 15dB of attenuation for a partially opened window.
- 4.2.5 Based on the modelled façade noise levels at the proposed development site, provided at Figures 1 to 3, alongside the proposed layout at Appendix 1, the BB93 requirements would be met at both the refurbished primary school and the proposed secondary school, assuming approximately 15dB of attenuation for a partially opened window providing natural ventilation.
- 4.2.6 Façade levels of 56dB(A) are predicted on the ground floor of the proposed secondary school at the southern section of the eastern façade and on the southern façade. However, with reference to the proposed layout, the windows present at these facades are associated with meeting rooms, offices and the kitchen. The recommended internal noise level within these spaces is 45dBLAeq,30min, with natural ventilation, i.e., a façade noise level of 60dB(A) LAeq,30min, assuming approximately 15dB of attenuation for a partially opened window. This internal noise level can therefore be met with an open window.
- 4.2.7 A façade level of 56dB(A) is also predicted on the first floor of the proposed secondary school at the southern section of the eastern façade. With reference to the proposed layout, the windows at this section of the façade are associated with science teaching spaces. As per Table 1 of BB93, the recommended internal noise level within science teaching spaces is 45dBLAeq,30min, with natural ventilation. This equates to a façade noise level of 60dB(A) LAeq,30min, assuming approximately 15dB of attenuation for a partially opened window. This internal noise level can therefore be met with an open window.

## 5 PEAK HOUR TRAFFIC

- 5.1.1 Information regarding peak hour traffic flows has been provided by the project team's transport consultant, Optima Highways and Transportation.
- 5.1.2 The peak hour, associated with vehicle movements, is considered to be 0800h to 0900h. Currently, at the existing access off Naylor's Road, there are a total of 54 vehicle movements during the peak hour.

- 5.1.3 With the proposed secondary school, the total vehicle movements at the proposed access during the peak hour is predicted to be 168, i.e., an increase of 114 movements.
- 5.1.4 The measured LAeq adjacent to Naylor's Road during the peak hour 0800 to 0900h is 73dB. Due to the prevailing road traffic noise level experienced at existing dwellings adjacent to Naylor's Road, noise associated with this small increase in vehicle movements will not be perceptible and therefore noise from vehicle movements during the peak hour is considered to be **not significant**.
- 5.1.5 With reference to the PPGN noise hierarchy, noise associated with the additional vehicle movement is unlikely to be noticeable and there will be no observed effect.

## **6 CONCLUSION**

### **6.1 Introduction**

- 6.1.1 NJD Environmental Associates has undertaken a noise assessment for the proposed refurbishment of an existing primary school and the construction of a proposed secondary school at Lakeside School, located off Naylor's Road in Liverpool.

### **6.2 Site Suitability**

- 6.2.1 The assessment has found that noise guidance levels for external areas are achieved across the site.
- 6.2.2 Internal guidance levels will also be achieved with open windows providing natural ventilation.

### **6.3 Peak Hour Traffic**

- 6.3.1 Noise associated with additional vehicle movements during the peak hour is considered to be not significant, when taking into consideration the high level of prevailing road traffic noise already experienced at existing dwellings adjacent to Naylor's Road.
- 6.3.2 It is concluded that noise should not be a prohibitive factor in the determination of this planning application.



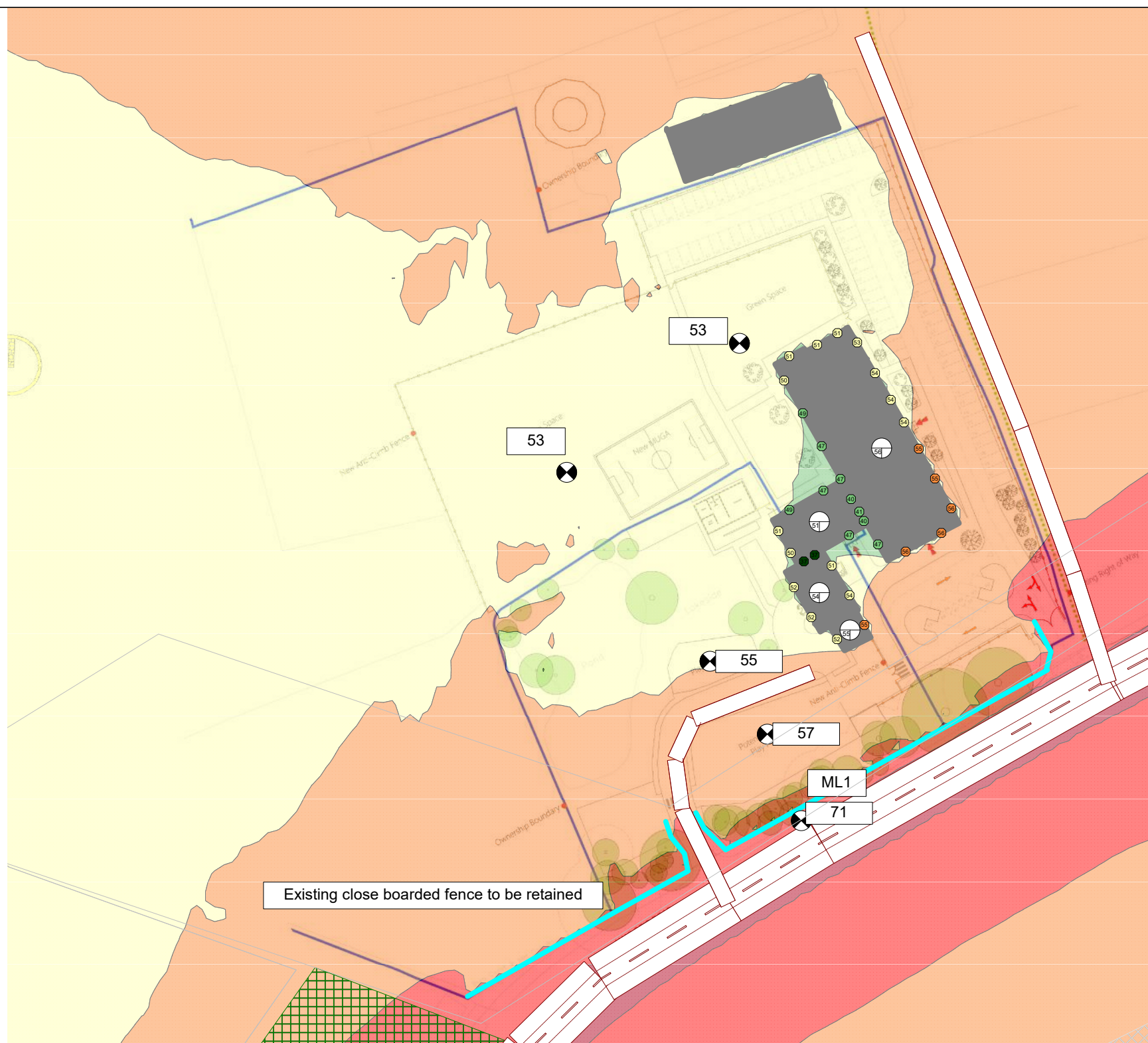
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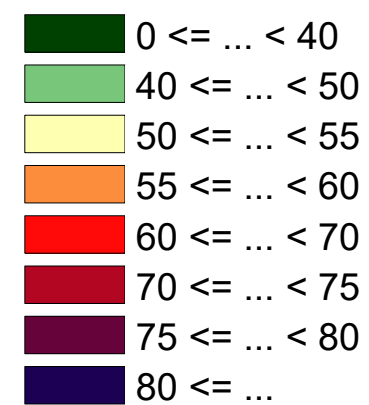


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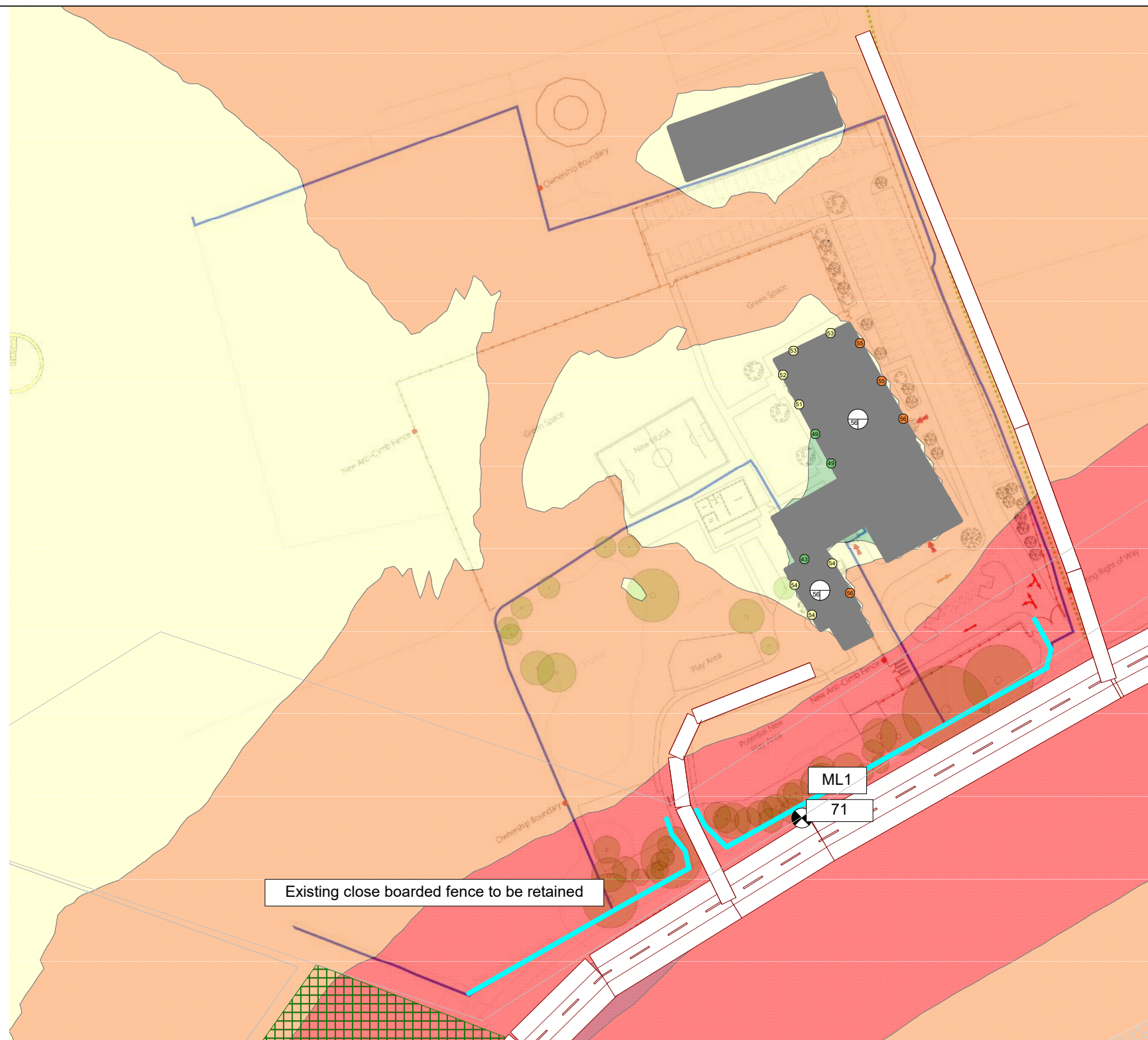
Job Title:  
NJD19-0143  
Lakeside, Liverpool

Figure 1:  
Daytime LAeq,30min  
(Ground Floor and External Playing Areas)

Drawn By:  
NJ Dixon-Boak



Date:  
August 2021

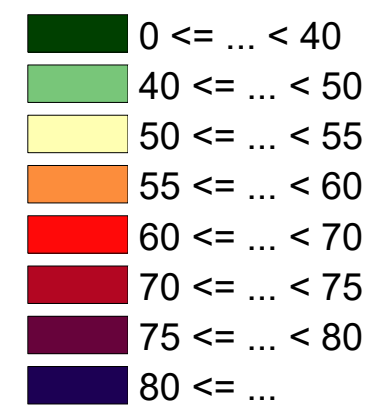


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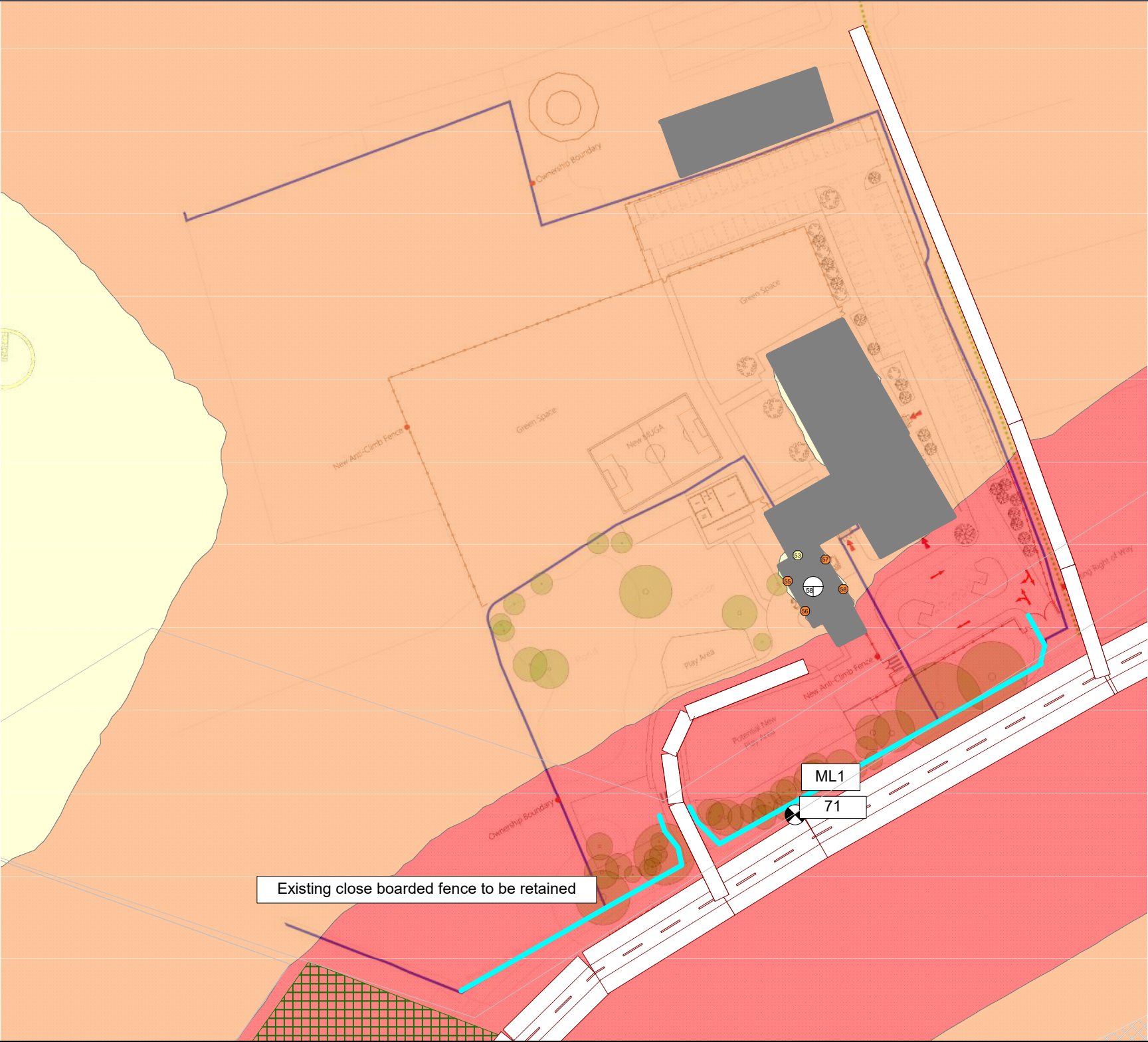
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NJD19-0143  
Lakeside, Liverpool

Figure 2:  
Daytime LAeq,30min  
(First Floor Level)

Drawn By:  
NJ Dixon-Boak



Date:  
August 2021

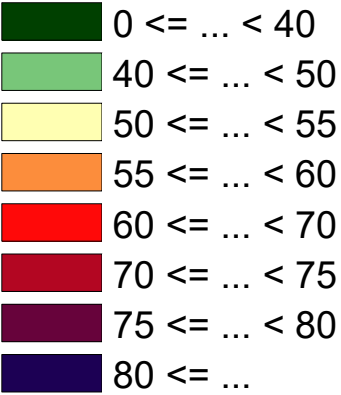


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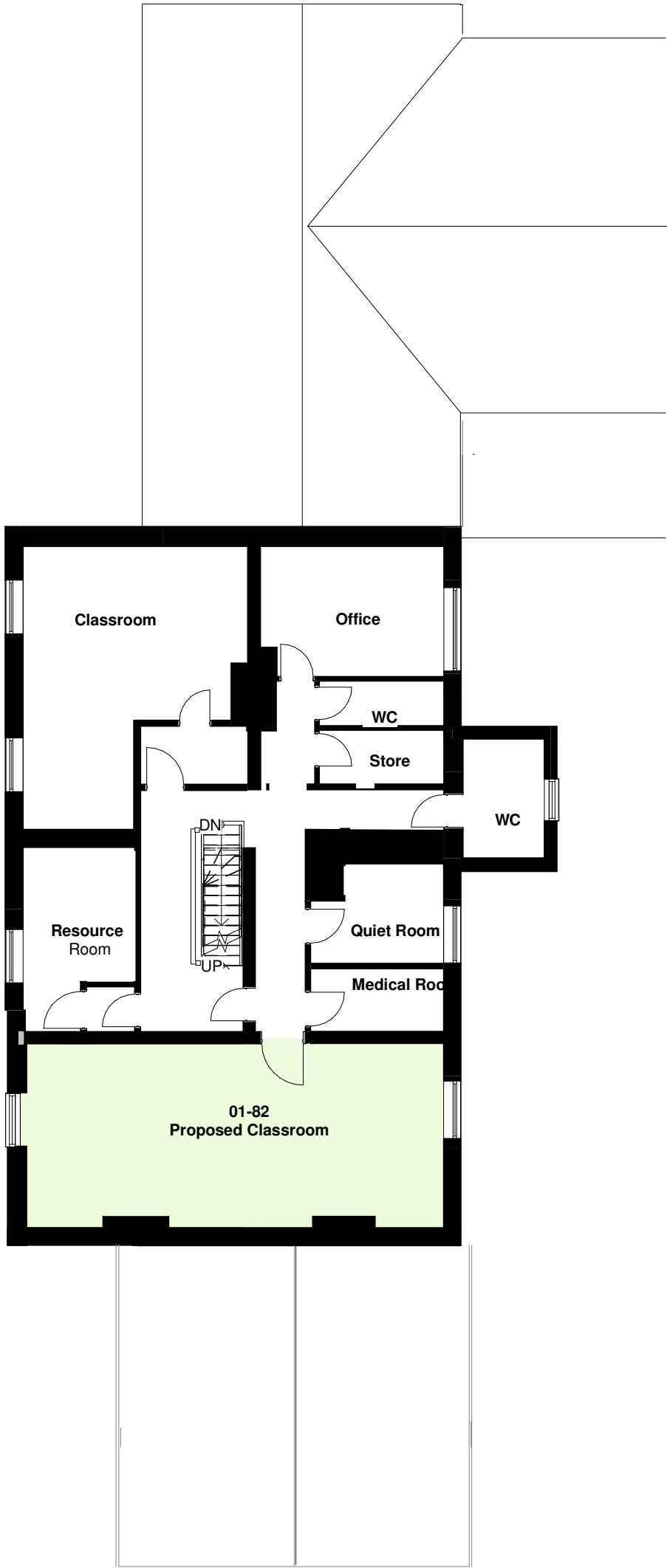
Figure 3:  
Daytime LAeq,30min  
(Second Floor)

Drawn By:  
NJ Dixon-Boak

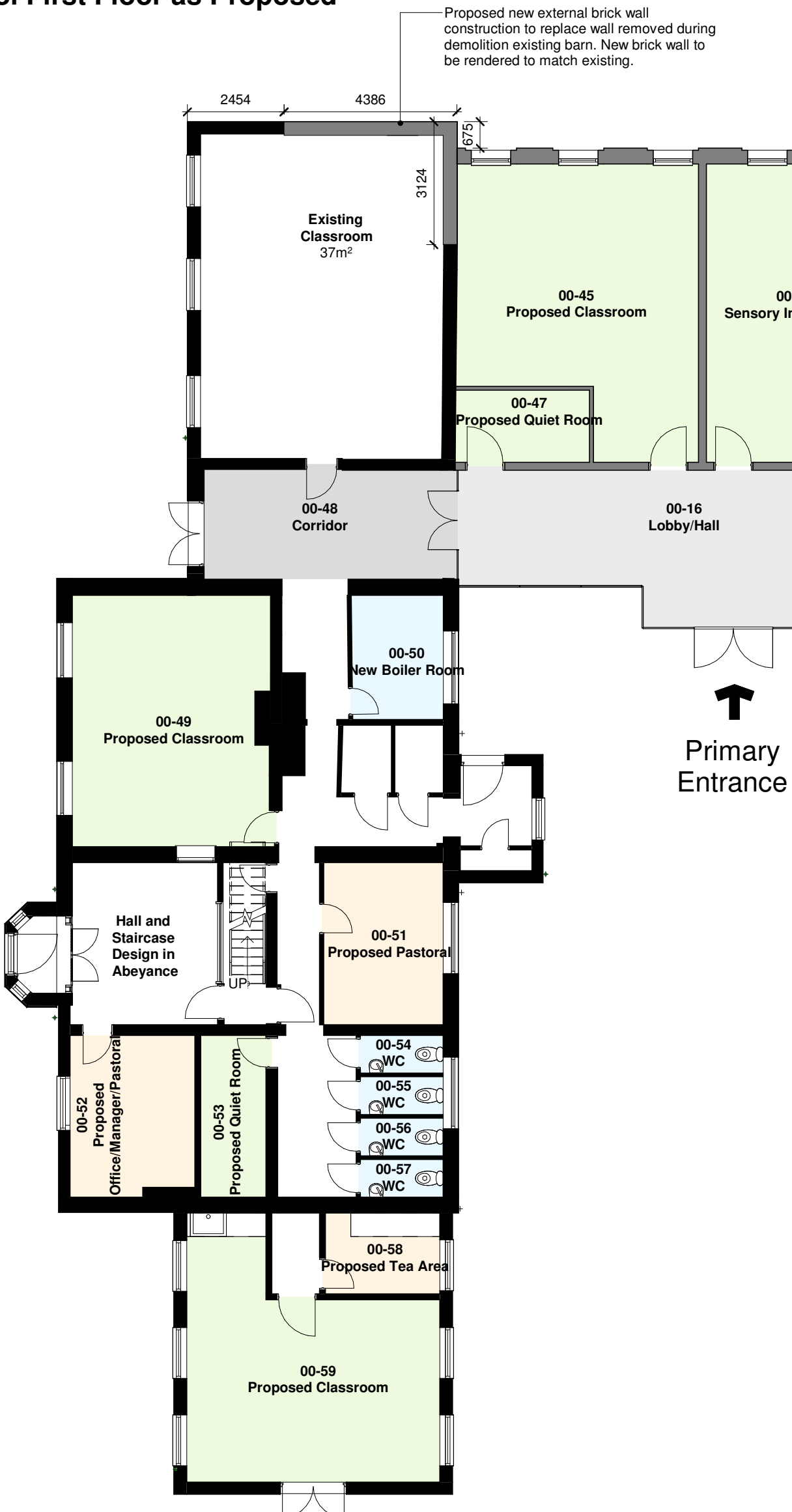


Date:  
August 2021

Primary School First Floor as Proposed



Primary School Ground Floor as Proposed



Secondary School First Floor as Proposed



Secondary School Ground Floor as Proposed



0m 2m 4m 6m 8m  
VISUAL SCALE 1:100 @ A1

## By Department Legend

- Admin Base
- Ancillary
- Circulation/Lobby/Stairwells
- Dining
- New Build Classrooms - Pupil Area

## Primary School Rooms Schedule

|                    |                                  | Areas     |           |
|--------------------|----------------------------------|-----------|-----------|
| Number             | Name                             | Metric    | Imperial  |
| Ground Floor Level |                                  |           |           |
| 00-48              | Corridor                         | 17.93 m²  | 193 ft²   |
| 00-49              | Proposed Classroom               | 31.62 m²  | 340 ft²   |
| 00-50              | New Boiler Room                  | 7.32 m²   | 79 ft²    |
| 00-51              | Proposed Pastoral                | 12.50 m²  | 135 ft²   |
| 00-52              | Proposed Office/Manager/Pastoral | 12.69 m²  | 137 ft²   |
| 00-53              | Proposed Quiet Room              | 6.79 m²   | 73 ft²    |
| 00-54              | WC                               | 2.01 m²   | 22 ft²    |
| 00-55              | WC                               | 2.01 m²   | 22 ft²    |
| 00-56              | WC                               | 2.01 m²   | 22 ft²    |
| 00-57              | WC                               | 2.01 m²   | 22 ft²    |
| 00-58              | Proposed Tea Area                | 5.97 m²   | 64 ft²    |
| 00-59              | Proposed Classroom               | 34.16 m²  | 368 ft²   |
| First Floor Level  |                                  |           |           |
| 01-82              | Proposed Classroom               | 37.76 m²  | 407 ft²   |
| Grand total        |                                  | 174.81 m² | 1,882 ft² |

## Secondary School Rooms Schedule

| Number             | Name                 | Areas       |            |
|--------------------|----------------------|-------------|------------|
|                    |                      | Metric      | Imperial   |
| Ground Floor Level |                      |             |            |
| 00-01              | Lobby                | 8.43 m²     | 91 ft²     |
| 00-02              | Waiting Area         | 24.59 m²    | 265 ft²    |
| 00-03              | Visitor Dis.         | 3.38 m²     | 36 ft²     |
| 00-04              | Reception            | 25.51 m²    | 275 ft²    |
| 00-05              | Meeting Room 1       | 23.30 m²    | 251 ft²    |
| 00-06              | Meeting Room 2       | 15.30 m²    | 165 ft²    |
| 00-07              | Staff Change 1       | 6.90 m²     | 74 ft²     |
| 00-08              | Staff Change 2       | 6.44 m²     | 69 ft²     |
| 00-09              | Office               | 15.23 m²    | 164 ft²    |
| 00-10              | Head Teacher         | 21.40 m²    | 230 ft²    |
| 00-11              | Exams Room           | 4.25 m²     | 46 ft²     |
| 00-12              | WC Staff             | 2.52 m²     | 27 ft²     |
| 00-13              | WC                   | 2.73 m²     | 29 ft²     |
| 00-14              | WC                   | 2.73 m²     | 29 ft²     |
| 00-15              | Plant Room           | 19.89 m²    | 212 ft²    |
| 00-16              | Lobby/Hall           | 32.43 m²    | 349 ft²    |
| 00-17              | Hall                 | 94.12 m²    | 1,013 ft²  |
| 00-18              | Dining Store         | 7.89 m²     | 85 ft²     |
| 00-19              | Kitchen Store        | 7.89 m²     | 85 ft²     |
| 00-20              | WC Change            | 4.28 m²     | 46 ft²     |
| 00-21              | Kitchen              | 35.42 m²    | 381 ft²    |
| 00-22              | Pastoral Manager     | 15.97 m²    | 172 ft²    |
| 00-23              | Cleaner/Store        | 7.33 m²     | 79 ft²     |
| 00-24              | Comms                | 4.41 m²     | 47 ft²     |
| 00-25              | Sensory Light        | 15.40 m²    | 166 ft²    |
| 00-26              | Medical Wet Room     | 16.27 m²    | 175 ft²    |
| 00-27              | IT/Media             | 43.39 m²    | 467 ft²    |
| 00-28              | DT Room              | 43.39 m²    | 467 ft²    |
| 00-29              | 1:1 Pastoral         | 11.07 m²    | 119 ft²    |
| 00-30              | WC                   | 2.61 m²     | 28 ft²     |
| 00-31              | WC                   | 2.61 m²     | 28 ft²     |
| 00-32              | WC                   | 2.61 m²     | 28 ft²     |
| 00-33              | WC                   | 2.61 m²     | 28 ft²     |
| 00-34              | Classroom            | 33.11 m²    | 356 ft²    |
| 00-35              | Classroom            | 33.11 m²    | 356 ft²    |
| 00-36              | Staff Room           | 26.03 m²    | 280 ft²    |
| 00-37              | Food Tech Classroom  | 36.13 m²    | 389 ft²    |
| 00-38              | Therapy              | 10.85 m²    | 117 ft²    |
| 00-39              | Showers Changing     | 14.26 m²    | 153 ft²    |
| 00-40              | Showers Changing     | 14.32 m²    | 154 ft²    |
| 00-41              | Maintenance          | 8.02 m²     | 86 ft²     |
| 00-42              | Stairs               | 22.44 m²    | 242 ft²    |
| 00-43              | Corridor             | 179.59 m²   | 1,933 ft²  |
| 00-44              | Stairs               | 31.24 m²    | 336 ft²    |
| 00-45              | Proposed Classroom   | 39.98 m²    | 430 ft²    |
| 00-46              | Sensory Integrations | 37.82 m²    | 407 ft²    |
| 00-47              | Proposed Quiet Room  | 6.29 m²     | 68 ft²     |
| First Floor Level  |                      |             |            |
| 01-60              | Classroom            | 35.26 m²    | 380 ft²    |
| 01-61              | Classroom            | 35.30 m²    | 380 ft²    |
| 01-62              | WC                   | 2.48 m²     | 27 ft²     |
| 01-63              | WC                   | 2.52 m²     | 27 ft²     |
| 01-64              | WC                   | 2.48 m²     | 27 ft²     |
| 01-65              | WC                   | 2.48 m²     | 27 ft²     |
| 01-66              | Large Classroom      | 39.84 m²    | 429 ft²    |
| 01-67              | Classroom            | 45.89 m²    | 494 ft²    |
| 01-68              | 1:1 Pastoral         | 16.28 m²    | 175 ft²    |
| 01-69              | Science              | 45.99 m²    | 495 ft²    |
| 01-70              | Science              | 10.07 m²    | 108 ft²    |
| 01-71              | 1:1 Pastoral         | 12.16 m²    | 131 ft²    |
| 01-72              | Stairs               | 20.53 m²    | 221 ft²    |
| 01-73              | Comms                | 5.01 m²     | 54 ft²     |
| 01-74              | Art Store            | 8.00 m²     | 86 ft²     |
| 01-75              | Corridor             | 50.61 m²    | 545 ft²    |
| 01-76              | Sensory Dark         | 13.15 m²    | 142 ft²    |
| 01-77              | Art Room             | 45.89 m²    | 494 ft²    |
| 01-78              | Stairs               | 22.39 m²    | 241 ft²    |
| 01-79              | Therapy              | 10.63 m²    | 114 ft²    |
| 01-80              | Deputy Head          | 16.98 m²    | 183 ft²    |
| 01-81              | Cleaner              | 5.00 m²     | 54 ft²     |
| Loft Level         |                      |             |            |
| 00-83              | Loft                 | 214.88 m²   | 2,313 ft²  |
| Grand total        |                      | 1,689.11 m² | 18,181 ft² |

## PLANNING

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| Hazard Identification |        |      |
|-----------------------|--------|------|
| ref                   | hazard | date |

## Primary School GIA

| Name               |  | Area      |           |
|--------------------|--|-----------|-----------|
|                    |  | Metric    | Imperial  |
| First Floor Level  |  |           |           |
| Primary School     |  | 148.97 m² | 1,603 ft² |
| Ground Floor Level |  |           |           |
| Primary School     |  | 269.01 m² | 2,896 ft² |
| Second Floor Level |  |           |           |
| Primary School     |  | 103.58 m² | 1,115 ft² |
| Grand total        |  | 521.56 m² | 5,614 ft² |

## Secondary School GIA

| Name               |  | Area        |            |
|--------------------|--|-------------|------------|
|                    |  | Metric      | Imperial   |
| First Floor Level  |  |             |            |
| Secondary School   |  | 476.57 m²   | 5,130 ft²  |
| Ground Floor Level |  |             |            |
| Secondary School   |  | 1,094.33 m² | 11,779 ft² |
| Grand total        |  | 1,570.90 m² | 16,909 ft² |

|     |                                             |       |          |         |
|-----|---------------------------------------------|-------|----------|---------|
| P4  | Reception Area Layout Amended, Stairs Added | AW    | 08.04.21 | JP      |
| P3  | Plant Room Area Amended                     | AW    | 26.03.21 | JP      |
| P2  | Updated Following Comments                  | AW    | 24.03.21 | JP      |
| P1  | First Issue of Drawing                      | AW    | 17.03.21 | JP      |
| Rev | Revision Details                            | Drawn | Date     | Checked |



Project Management • Architecture • Building Surveying • Cost Consultancy



Project  
Lakeside School  
Liverpool

Drawing Title  
Plans as Proposed - Primary School B1 and Secondary School B3

Status Purpose of Issue  
S2 SUITABLE FOR INFORMATION

|            |       |         |              |
|------------|-------|---------|--------------|
| Drawn by   | AW    | Created | 17.03.21     |
| C4 Job no. | 20034 | Scale   | 1 : 125 @ A1 |

| Drg no.                   | Rev |
|---------------------------|-----|
| 20034-C4P-BB-ZZ-DR-A-2001 | P4  |

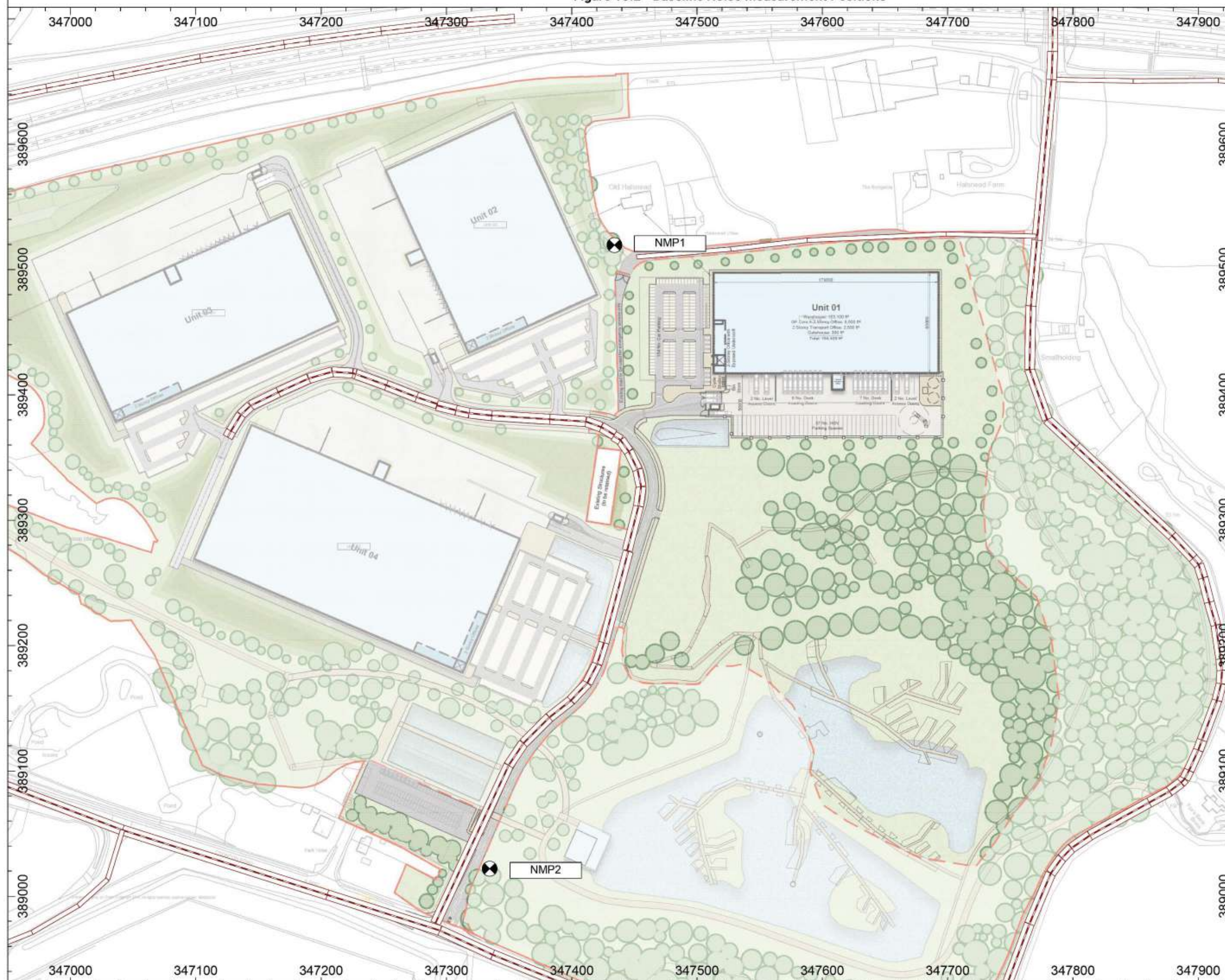
## Appendix 2 – Noise Measurements

|              |                              |            |            |           |                                  |
|--------------|------------------------------|------------|------------|-----------|----------------------------------|
| File         | 20191022_130852_000000_1.CMG |            |            |           |                                  |
| Location     | ML1                          |            |            |           |                                  |
| Data type    | Leq                          |            |            |           |                                  |
| Weighting    | A                            |            |            |           |                                  |
| Start        | 10/22/2019 1:00:00 PM        |            |            |           |                                  |
| End          | 10/23/2019 5:00:00 PM        |            |            |           |                                  |
|              | Leq<br>specific<br>dB        | Lmin<br>dB | Lmax<br>dB | L90<br>dB | Duration<br>cumulated<br>h:min:s |
| Source       |                              |            |            |           |                                  |
| Daytime LAeq | 70.7                         | 45.0       | 96.5       | 55.2      | 03:51:08                         |

### LAeq – Peak Hour 0800-0900h

|                     |                              |            |            |  |                                  |
|---------------------|------------------------------|------------|------------|--|----------------------------------|
| File                | 20191022_130852_000000_1.CMG |            |            |  |                                  |
| Location            | ML1                          |            |            |  |                                  |
| Data type           | Leq                          |            |            |  |                                  |
| Weighting           | A                            |            |            |  |                                  |
| Start               | 10/22/2019 1:08:52 PM        |            |            |  |                                  |
| End                 | 10/23/2019 9:26:28 AM        |            |            |  |                                  |
|                     | Leq<br>specific<br>dB        | Lmin<br>dB | Lmax<br>dB |  | Duration<br>cumulated<br>h:min:s |
| Source              |                              |            |            |  |                                  |
| Peak Hour 0800-0900 | 72.5                         | 51.7       | 85.0       |  | 01:00:00                         |

Figure 15.2 - Baseline Noise Measurement Positions



**Project:**  
Symmetry Park Merseyside

**Project-No:**  
50-122

**Client:**  
Tritax Symmetry Huyton Limited



Project Engineer: Lee Faulkner  
Date: 12/08/2020

## Appendix 4 Noise measurements – M62

Covering weekday period 0800-1600h

|                  |      |      |
|------------------|------|------|
| 16/03/2020 07:56 | 57.3 | 55.9 |
| 16/03/2020 08:56 | 56.2 | 54.3 |
| 16/03/2020 09:56 | 55.9 | 53.9 |
| 16/03/2020 10:56 | 53.6 | 52.1 |
| 16/03/2020 11:56 | 53.8 | 52.4 |
| 16/03/2020 12:56 | 55.5 | 53.5 |
| 16/03/2020 13:56 | 56.7 | 55.2 |
| 16/03/2020 14:56 | 57.2 | 55.6 |

Obtained from Appendix 15.2 of the ES submitted as part of planning application reference 20/00494/HYB – Monitoring Location NMP1