ARCUS

NOISE IMPACT ASSESSMENT

ALDEBY SOLAR PARK

NOVEMBER 2021

Prepared By:

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1 INTRODUCTION

Arcus Consultancy Services Ltd (Arcus) has been commissioned by Infinis Solar Developments Ltd (the Applicant) to undertake a noise impact assessment in relation to the proposed Aldeby Solar Park ('the Development') located on part of the Aldeby landfill site ('the Site').

The aim of this assessment is to assess the noise generated by the Development against relevant guidance, and incorporate mitigation measures as necessary to ensure the amenity of residents surrounding the Development is not unreasonably impacted.

A glossary of terms is included at the end of this report.

2 SITE OVERVIEW

The local area is generally rural in nature, with the Development approximately 1.2 km south-east of Aldeby Village and 400 m south of Burgh St Peter in Norfolk. The Site is surrounded by fields or woodland on all sides, with the closest residential properties located approximately 250 m to the south-west of the nearest noise-generating equipment to be installed. On the western boundary of the Site is an existing Gas Utilisation Facility which is related to the Aldeby landfill site.

The Development layout is presented in Appendix 1.

3 RELEVANT GUIDANCE

The following guidance and standards are pertinent to this assessment:

- The National Planning Policy Framework (NPPF);
- The Noise Policy Statement for England (NPSE); and
- BS 4142:2014+A1:2019 Method for Rating and Assessing Industrial and Commercial Sound.

3.1 The National Planning Policy Framework

The NPPF sets out the Government's planning policies for England, providing a framework within which local policies can be developed. The key principle of the NPPF is a presumption in favour of sustainable development. With regards to noise, the NPPF states that sustainable development can be achieved by:

- Avoiding noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;
- Mitigating and reducing to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions; and
- Identifying and protecting areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

3.2 The Noise Policy Statement for England

The NPSE sets out the role and purpose of noise policy, together with the Government's Noise Policy Vision and Aims, consistent with the NPPF.

The aims of the NPSE require that:

- Significant adverse effects on health and quality of life are avoided, while taking into account the guiding principles of sustainable development;
- Adverse impacts on health and quality of life are mitigated or minimised; and

- Where possible, noise management should seek to improve health and quality of life within the context of Government policy on sustainable development.

Paragraph 2.24 of the NPSE states that in relation to minimising and mitigating adverse impacts:

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

The NPSE introduces the following concepts with regard to noise impacts:

- 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 effects on health and quality of life can be detected, but is not necessarily significant.

- SOAEL – Significant Observed Adverse Effect Level

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

The NPSE recognises that it is not possible to have a single set of noise levels relating to the above categories which are applicable to all sources of noise in all situations, and it is acknowledged that further research is required to increase the understanding of what may constitute a significant adverse impact on health and quality of life from noise. It is considered appropriate in this instance to assess noise impact in terms of BS 4142:2014, as discussed in Section 3.3.

3.3 BS 4142:2014+A1:2019

BS 4142:2014 describes methods for rating and assessing industrial sound in order to provide an indication of its likely impact outdoors at nearby premises (typically residential dwellings).

The Specific Sound emitted from the Development (dB(A), L_{Aeq}) is rated by taking into account both the level and character (i.e., tonal elements, impulsivity, intermittency and distinctiveness) of the sound. This is achieved by applying appropriate corrections to the Specific Sound Level externally at the receptor location, which gives the Rating Level of the sound in question. This is then assessed against the existing prevailing Background Sound Level (dB(A), L_{A90}) at that location in order to determine a likely level of impact.

The level by which the Rating Level exceeds the Background Sound Level indicates the following potential impacts:

- A difference of 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; and
- 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.

4 CONSULTATION AND ASSESSMENT CRITERIA

As part of the planning application process for the Development, the following comments regarding noise have been received from the Environmental Health Department (EHD) of South Norfolk Council[1]:

"The environmental statement identifies the inverters as being a source of noise but as far as I can see there is no accompanying noise assessment or noise modelling associated with this. I would like to see a noise assessment/modelling undertaken to quantify the impact of operations against nearby receptors."

Following receipt of the comments from the EHD, further consultation was undertaken to agree the scope and methodology of the assessment. The following assessment criteria was agreed with the Council's EHD[2]:

"An assessment of the predicted noise levels will be undertaken using the methodology set out in BS 4142:2014. If required, mitigation measures or design input will be provided to ensure that noise emissions from the Development do not exceed 5 dB(A) above the background noise level at the nearest receptors. Where monitoring determines the level of background noise to be low, the assessment will consider the absolute predicted noise level from the Development at the nearest receptors, in line with the recommendations of BS 4142:2014 (Clause 11)."

5 BASELINE SOUND LEVELS

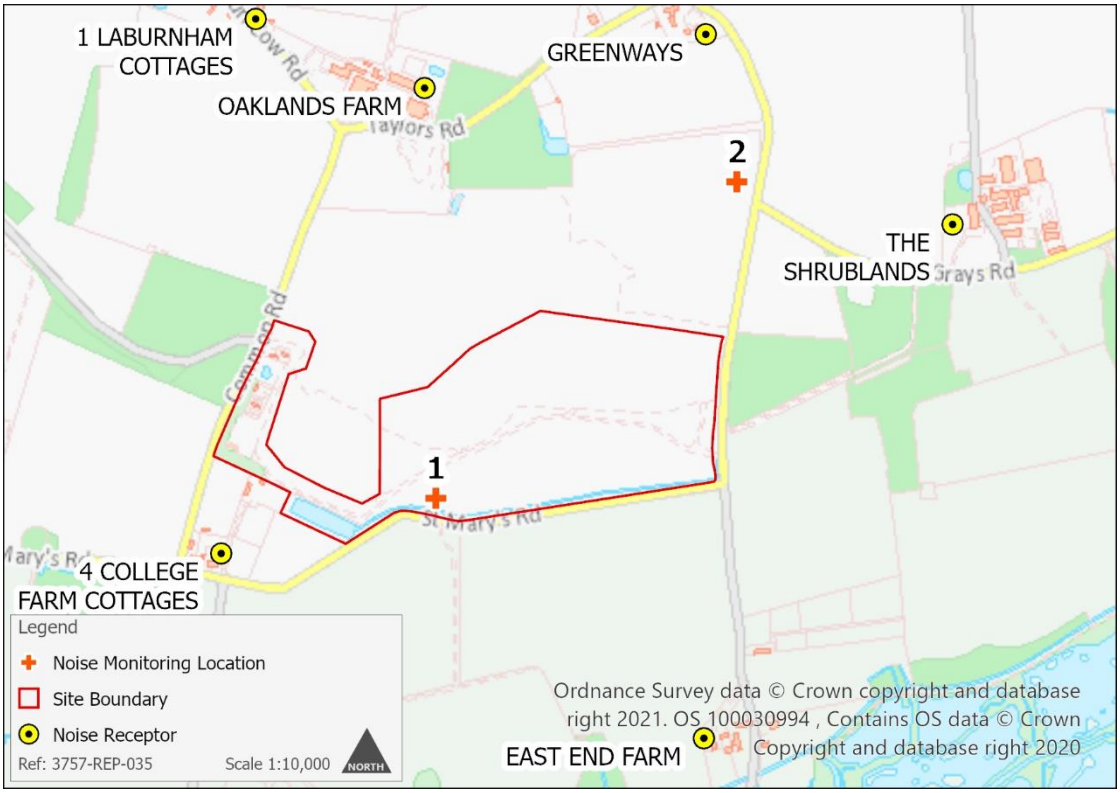
To establish the sound environment in the locality of the Development, a background sound survey was undertaken from 12th to 14th October 2021, at the locations considered representative of the closest residential receptors.

Figure 1 shows the location of the closest noise-sensitive receptors to the Development and the representative sound monitoring locations.

[1] FUL/2021/0015 Aldeby Solar Park - EHO Consultation Response. Email 9 September 2021.

[2] RE: FUL/2021/0015 Aldeby Solar Park - Noise Impact Assessment. Email 8 October 2021.

Figure 1: Sound Monitoring locations and Noise Sensitive Receptors



The monitoring equipment consisted of Class 1 sound level meters, calibrated to traceable standards, and housed in all-weather cases with long-life batteries. The microphones were positioned at a height of 1.4 m above ground level, with suitable proprietary windshields. The meters were field-calibrated at the start and end of the survey period; no significant calibration drift was found.

Various indices were measured by the equipment during the survey period, including $L_{A90,15mins}$. The L_{A90} index represents the A-weighted sound pressure level exceeded for 90% of a time period, in this case 15 minutes (i.e., the background sound level).

Survey record sheets showing specific details of the monitoring location and photographs of equipment in situ can be found in Appendix 2.

Weather conditions were found to be within the appropriate range during the survey. A brief light rain shower was noted on installation and was excluded from the results. A nearby weather monitoring station[3] was used to establish weather conditions during unattended measurement. During the survey, winds were light (<5 m/s) and there was no precipitation.

During the survey there were some on-site vehicle movements, however it is considered that this would not have affected the L_{A90} index significantly over the survey duration. However, there was a period of uncharacteristically high levels at location 1 which has been excluded from the analysis and is likely due to activities on site. Some data measured at Location 1 was discounted because of dredging activity occurring close to the monitoring equipment.

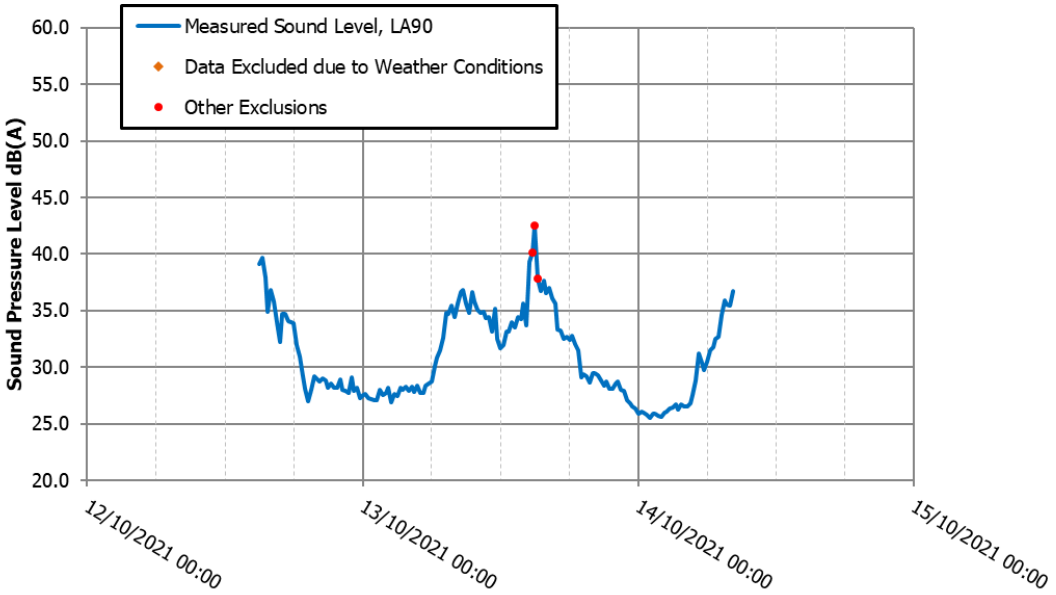
[3] Weather Underground (Online). Available at https://www.wunderground.com/dashboard/pws/IBECCLES3?cm_ven=localwx_pwsdash Accessed 15/10/21

6 SURVEY RESULTS

6.1 Location 1 – South-west of Site

Results of the background sound survey at Location 1 are presented in Chart 1 below.

Chart 1: Background Sound Measurement Results – Location 1



When determining typical daytime and night-time levels for assessment purposes, BS 4142:2014+A1:2019 advises against assuming that levels can be determined using any single approach (e.g. mean, median, mode etc.). To determine the prevailing background sound levels for the purposes of the assessment, Charts 2 and 3 (overleaf) present the range of $L_{A90,15min}$ sound levels recorded, along with the percentage of periods for which they occurred, for daytime (0700-2300) and night-time (2300-0700) periods respectively.

It should be noted that $L_{A90,15min}$ indices were used for both daytime and night-time periods for consistency and ease of comparison. BS 4142:2014 permits the use of $L_{A90,1hour}$ measurements for daytime periods, however the use of $L_{A90,15min}$ for both daytime and night-time periods is a conservative approach, as $L_{A90,15min}$ values are more sensitive to short-term sound events.

Chart 2: Daytime Sound Measurement Analysis – Location 1

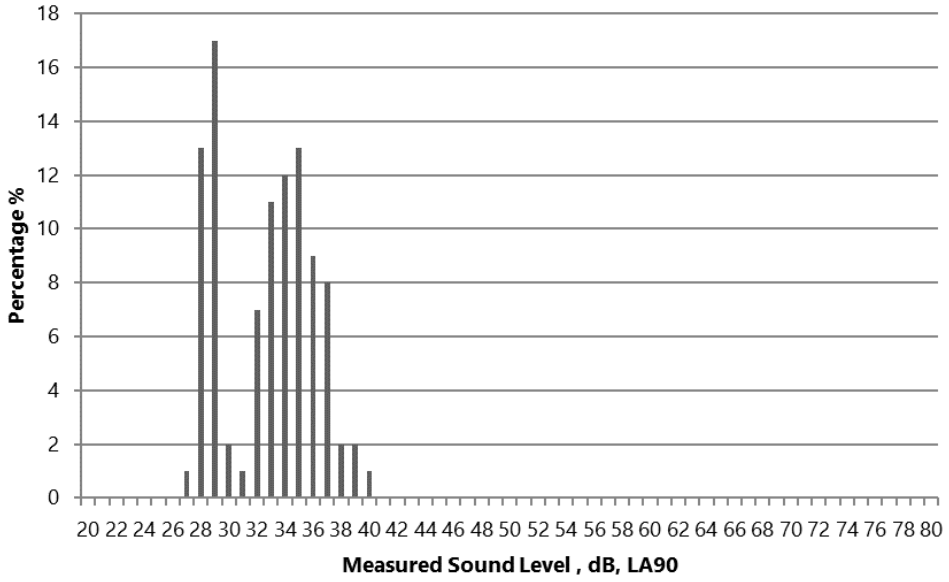


Chart 3: Night-time Sound Measurement Analysis – Location 1

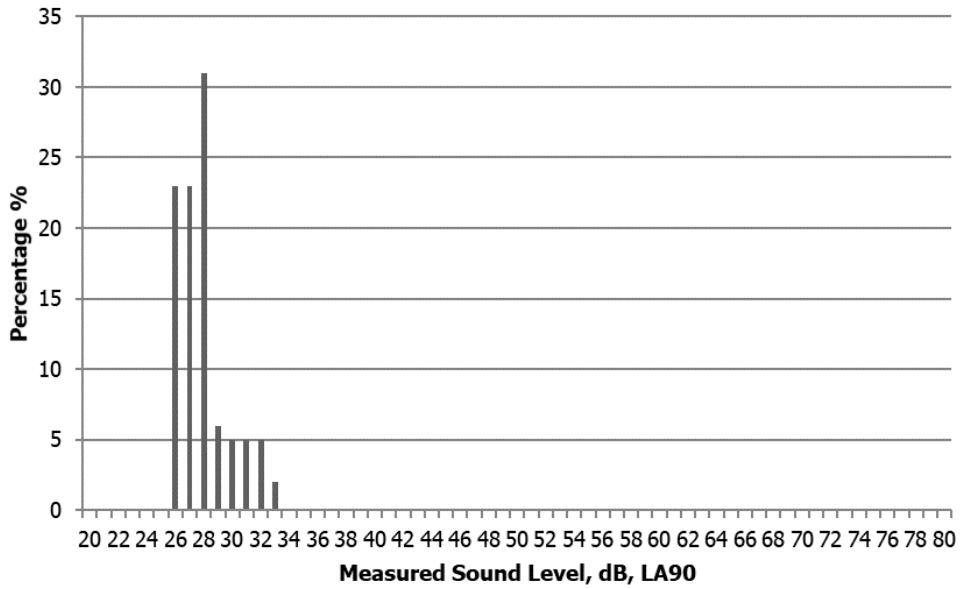


Table 1 presents the mode, median and mean averages of the above datasets.

Table 1: Background Data Analysis – Location 1

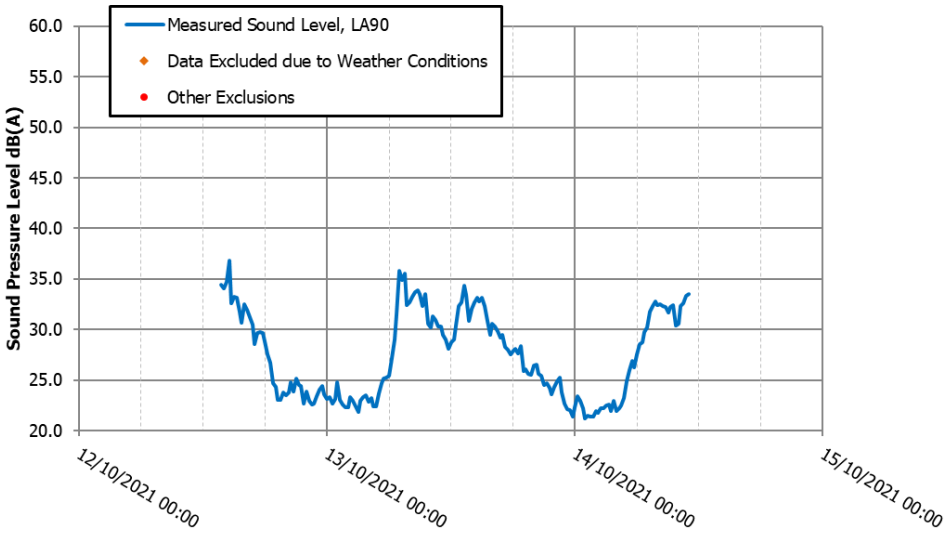
Period	Mode	Median	Mean	Representative
Day	29	33	33	29
Night	28	28	28	28

Based upon the results presented in Table 1, along with the spread of data presented in Charts 2 and 3, a daytime Background Sound Level of 29 dB(A), L_{A90} and a night-time Background Sound Level of 28 dB(A), L_{A90} is considered appropriate for the purposes of this assessment.

6.2 Location 2 – North-east of Site

Results of the background sound survey at location 2 are presented in Chart 4 below.

Chart 4: Background Sound Measurement Results – Location 2



Charts 5 and 6 overleaf present the range of $L_{A90,15min}$ sound levels recorded, along with the percentage of periods for which they occurred, for daytime (0700-2300) and night-time (2300-0700) periods respectively.

Chart 5: Daytime Sound Measurement Results – Location 2

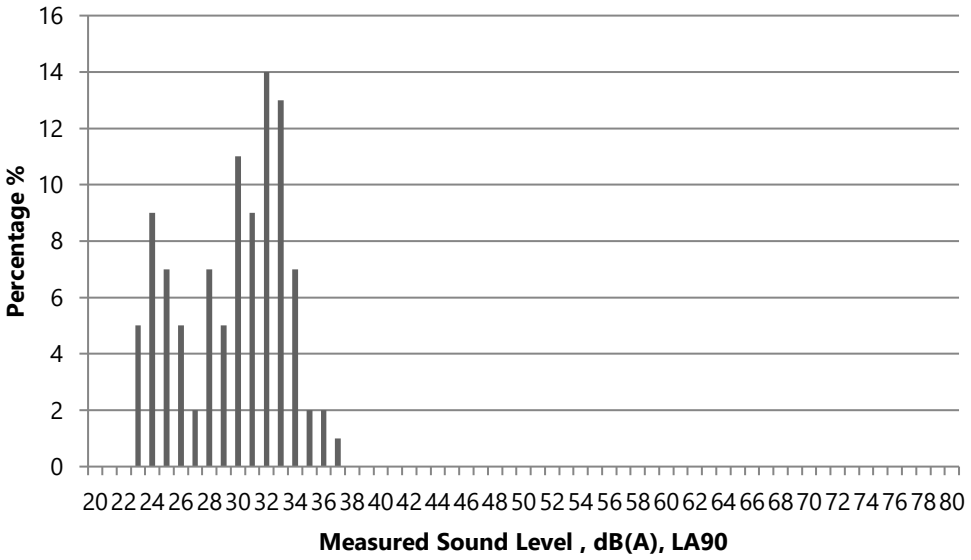


Chart 6: Night-time Sound Measurement Results – Location 2

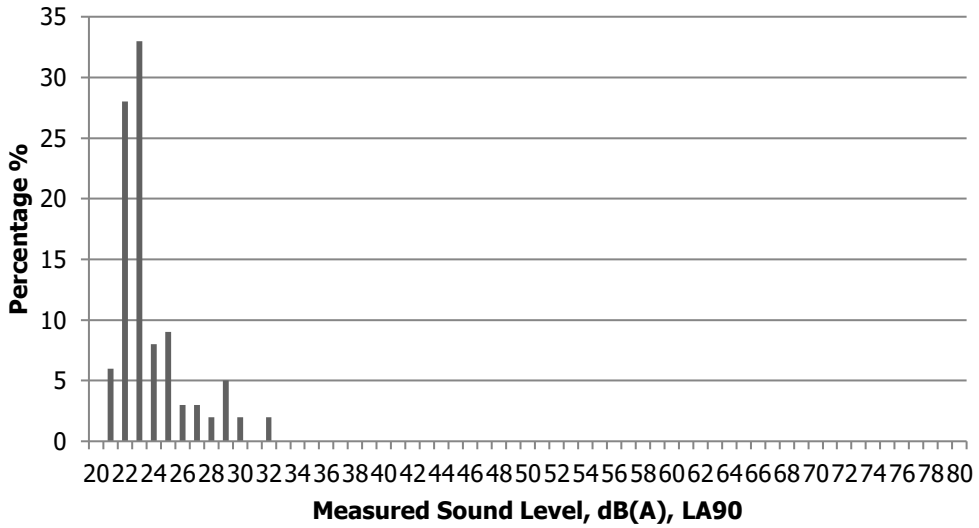


Table 2 below presents the mode, median and mean averages of the above datasets.

Table 2: Background Data Analysis – Location 2

Period	Mode	Median	Mean	Representative
Day	32	30	30	30
Night	23	23	24	23

Based upon the results presented in Table 2, along with the spread of data presented in Charts 5 and 6, a daytime Background Sound Level of 30 dB(A), L_{A90} and a night-time Background Sound Level of 23 dB(A), L_{A90} is considered appropriate for the purposes of this assessment.

7 NOISE LEVELS DUE TO OPERATION OF THE DEVELOPMENT

The primary sources of noise from the Development are as follows;

- Inverters (distributed across the Development);
- Two Client-Side Switching Stations; and
- One Battery Energy Storage System container.

Additional plant includes a general storage container, DNO Switching Station and the solar PV Panels themselves. Noise from these items is anticipated to be negligible, and as such has not been considered further as part of this assessment.

This assessment uses plant types and noise data provided by the Applicant. The specific plant / electrical systems ultimately chosen for construction will be subject to a procurement process, and will be selected to ensure that any noise limits specified in the Development's planning conditions are complied with.

The level of noise emitted by the Development will be related to both the intensity of light incident upon the solar panels and the air temperature. For most of the year, it is anticipated that noise from the Development during night-time periods will be negligible. However, as a worst-case approach, all plant is assumed to be operating simultaneously, at full power, during both daytime and night-time periods.

7.1 Prediction of Rating Levels

Predicted noise levels at the nearest noise-sensitive properties have been calculated using SoundPLAN 3D noise modelling software, using the environmental noise propagation model *ISO 9613-2:1996 Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation* [4] for both daytime and night-time periods.

The ISO 9613-2:1996 method predicts the level of sound at a receptor by taking the octave-band sound power level spectrum of the source, and applying a number of attenuation factors that determine the resulting rating level at the receptor location. The following parameters were used in the prediction model and are considered to provide a conservative prediction of the noise levels likely to be experienced in practice:

- Atmospheric conditions of 10°C and 70% relative humidity;
- A ground factor of G=0.5 (mixed ground);
- A receiver height of 1.5 m (approximating head height at the closest external façade of each assessed dwelling).

Whilst the solar PV panels themselves generate no noise, in practice they will act as noise barriers, reducing noise levels at receptor locations by differing amounts, dependent upon the positioning of panels relative to the noise sources and receptor locations. As a worst case, panels have not been included as part of the noise model. A noise map presenting predicted Specific Sound Levels is presented in Appendix 3.

7.2 Inverter Noise Emissions

A total of 17 inverters are to be distributed throughout the solar PV array according to the Development layout as presented in Appendix 1.

Noise emission data for the Huawei SUN 2000 inverter has been provided by the Client.

The manufacturer's documentation gives a total sound pressure level of 64.5 dB(A), L_p. The data does not specify at what distance the measurements were undertaken, however based on the photograph on page 6 of the manufacturer's data, it is considered that the measurements were undertaken at a distance of 1 m, as is typical of such measurements. The sound power level for this unit has been calculated at 72.5 dB(A) L_{WA}, assuming

[4] ISO 9613-2:1996 Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation.

hemi-spherical propagation. In order to derive an appropriate octave-band frequency spectrum, a typical inverter spectrum has been taken from the noise modelling software data library[5]. This spectrum was then adjusted to the overall sound power level, as shown in Table 3.

Table 3: Inverter Sound Power Level and Spectrum

	Sound Power Level	Octave Centre Band Frequency, Hz, dB(A)							
		63	125	250	500	1000	2000	4000	8000
Sound Power Level (dB(A))	72.5	39.9	49.3	62.6	66.6	68.6	64.8	59.3	50.6

Within the noise model, the inverters have been modelled as point sources, at a height of 1 m.

7.3 Client Side Switching Station Containers

Two substation containers are proposed, labelled 'Client Side Switching Station' on the Figure in Appendix 1.

As with the inverters the Client has provided a datasheet containing noise data for the substation containers. The highest presented sound power level, 67.4 dB(A) L_{WA} has been adopted as part of this assessment. The substations have been modelled as 'industrial buildings' within the SoundPLAN model, with each façade, and the roof, set as a source. As a worst case, all facades have been set assuming an emission level of 67.4 dB(A) L_{WA}.

In order to derive an appropriate octave-band spectrum, a transformer spectrum has been taken from the noise modelling software data library[5], and scaled to the overall sound power level, as shown in Table 4.

Table 4: Client Side Switching Station Sound Power Level and Spectrum

	Sound Power Level	Octave Centre Band Frequency, Hz, dB(A)							
		63	125	250	500	1000	2000	4000	8000
Sound Power Level (dB(A))	67.4	37.1	52.2	58.6	64.0	61.3	57.5	52.2	33.2

7.4 Battery Energy Storage System Container

At this stage the specific battery storage container to be installed is not known. Based on previous experience the main source of noise from the battery containers is the AC / cooling plant. Data for the AC plant has been sourced from the SoundPLAN emission library[5] for an axial flow air conditioning fan, as detailed in Table 5.

Table 5: Battery Energy Storage System Sound Power Level and Spectrum

	Sound Power Level	Octave Centre Band Frequency, Hz, dB(A)							
		63	125	250	500	1000	2000	4000	8000
Sound Power Level (dB(A))	74.7	57.7	67.8	61.6	66.3	68.3	67.9	65.8	58.5

[5] SoundPLAN 8.1 Emission Data Library

The AC units associated with the battery container have been modelled as point sources, set at a height of 2 m. It is assumed the container will have four AC units. The AC units have been placed on the south west side of the container.

7.5 Rating Level Corrections

BS 4142:2014 states that corrections should be applied to account for certain acoustic features which have the potential to increase the level of noise impact at nearby dwellings.

The four acoustic features to be considered in the application of rating corrections are as follows:

- Impulsivity: No impulsive noise characteristics are anticipated from the Development.
- Tonal Elements: Noise that is emitted by the Development will be primarily due to the inverters, which are generally broadband in character due to cooling fans being the main noise source. Whilst the substations may produce a typical 'hum', the predicted Specific Sound Levels from the substations at receptors are substantially lower than the prevailing Background Sound Levels, and as such, are highly likely to be inaudible at the receptor locations. Therefore, there will be no perceptible tonality at receptors as would be required by BS 4142:2014 to warrant such a correction.
  Intermittency: Whilst the cooling fans will operate on thermostats, these will not be synchronised; therefore, any particular plant item switching on / off will not be audible. Given this, along with the very low Specific Sound Levels as described above, the Development will have no "*identifiable on / off conditions*" in terms of BS 4142:2014; no correction for intermittency is therefore required.
- Distinctiveness: Specific Sound Levels at receptors due to operation of the Development are lower than the prevailing Background Sound Levels, and are therefore likely to be inaudible. As such, noise due to the Development will not be distinctive.

Based on the above, no corrections for acoustic features are required; the Rating Levels at the receptor locations are therefore the same as the Specific Sound Levels.

8 ASSESSMENT OF IMPACT

8.1 BS 4142:2014+A1:2019 Assessment

Table 6 presents an assessment of the likely impact at the three closest noise-sensitive receptors (4 College Farm Cottage, Oaklands Farm and The Shrublands) based upon the difference between the predicted Rating Levels and Background Sound Levels detailed in Section 6. The Background Sound Levels for each receptor are those derived from the closest location where noise monitoring took place.

Table 6: Assessment of Impact

Receptor Location	Period	Rating Level, dB(A)	Background Sound Level, dB(A) L_{A90}	Difference, dB
4 College Farm Cottages (monitoring location 1)	Daytime	22	29	-7
	Night-time	22	28	-6
Oaklands Farm (monitoring location 2)	Daytime	15	30	-15
	Night-time	15	23	-8
The Shrublands (monitoring location 2)	Daytime	11	30	-19
	Night-time	11	23	-12

BS 4142:2014 states that the lower the Rating Level is relative to the measured Background Sound Level, the lower the likelihood of an adverse impact.

As Rating Levels are significantly below the typical Background Sound Levels at all assessed receptors, the level of impact is Low in terms of BS 4142:2014.

In addition, the predicted Rating Levels from the Development do not exceed 5 dB(A) above the Background Sound Level at the nearest receptors. This complies with the agreed assessment criteria.

8.2 Context

The existing sound environment in the locality of the Development consists of noise sources comprised of occasional traffic, agricultural work and operations relating to the existing Aldeby landfill site. This assessment has considered the worst-case situation with all plant equipment running at maximum power during the night, however for most of the year, it is anticipated that noise from the Development during night-time periods will be negligible. Sensitivity of the noise-sensitive receptors is deemed to be high, as all these properties are residential and are located in an area with low Background Sound Levels. However, the Rating Levels are significantly below the typical Background Sound Levels at all assessed receptors and this assessment considers the sound levels outside, therefore any noise levels from the development will be even further reduced indoors.

Taking the context into account, the level of impact remains Low in terms of BS 4142:2014.

8.3 Uncertainty

Background Sound Levels measured at locations representative of two nearest noise sensitive receptors have been utilised for this assessment. The measurements were undertaken according to the guidance in BS 4142:2014.

As discussed in Section 7, equipment manufacturer data provided by the Applicant has been utilised as part of this assessment for the main noise sources. For both the daytime and night-time assessments, all plant is assumed to be operating simultaneously, and at full power, as a conservative approach. In practice, noise levels from the Development during night-time periods will be lower than those presented in this assessment for most of the year. In addition, the Solar PV panels are not included in the modelling of noise levels, however in practice they will act as noise barriers, reducing noise levels at receptor locations by differing amounts.

It is considered that overall, the assumptions made in this assessment are likely to result in an over-prediction of noise levels in practice, thereby presenting a worst-case; any uncertainties inherent in this assessment will therefore have no impact on the outcome of the assessment.

9 CONCLUSION

Arcus was commissioned by Infinis Solar Developments Ltd to undertake a noise impact assessment in relation to the Development.

An assessment of the operational noise impact has been undertaken in accordance with BS 4142:2014+A1:2019. The level of impact has been found to be Low, with predicted Rating Levels significantly below Background Sound Levels at all receptors, during both daytime and night-time periods. The agreed assessment criteria that noise emissions from the Development do not exceed 5 dB(A) above the Background Sound Level at the nearest receptors has been met.

It is therefore considered that in terms of the NPSE, significant adverse effects on health and quality of life are avoided, and adverse impacts are suitably minimised and mitigated. The Development has therefore been found to be acceptable in terms of noise.

10 GLOSSARY OF TERMS

Background Sound Level: The Background Sound Level is the underlying level of sound present at a particular location for the majority (90%) of a period of time.

Decibel (dB): The decibel is the basic unit of sound measurement. It relates to the cyclical changes in pressure created by the sound and operates on a logarithmic scale, ranging upwards from 0 dB. 0 dB is equivalent to the normal threshold of hearing at a frequency of 1000 Hertz (Hz). An increase of 3 dB is the minimum change in the perceived level which is generally noticeable under typical (i.e. non-laboratory) listening conditions.

dB(A): Environmental sound levels are usually discussed in terms of dB(A). This is known as the A-weighted sound pressure level, and indicates that a correction factor has been applied, which corresponds to the human ear's response to sound across the range of audible frequencies. The ear is most sensitive in the middle range of frequencies (around 1000-3000 Hz), and less sensitive at lower and higher frequencies. The A-weighted sound level is derived by analysing the level of a sound at a range of frequencies and applying a specific correction factor for each frequency before calculating the overall level. In practice this is carried out automatically within sound measuring equipment by the use of electronic filters, which adjust the frequency response of the instrument to mimic that of the ear.

Frequency: The frequency of a sound is equivalent to its pitch in musical terms. The units of frequency are Hertz (Hz), which represents the number of cycles (oscillations) per second.

$L_{A90,t}$: This term is used to represent the A-weighted sound pressure level that is exceeded for 90% of a period of time, t. This is used as a measure of the Background Sound Level.

$L_{Aeq,t}$: This term is known as the A-weighted equivalent continuous sound pressure level for a period of time, t. It is similar to an average, and represents the sound pressure level of a steady sound that has, over a given period, the same energy as the fluctuating sound in question.

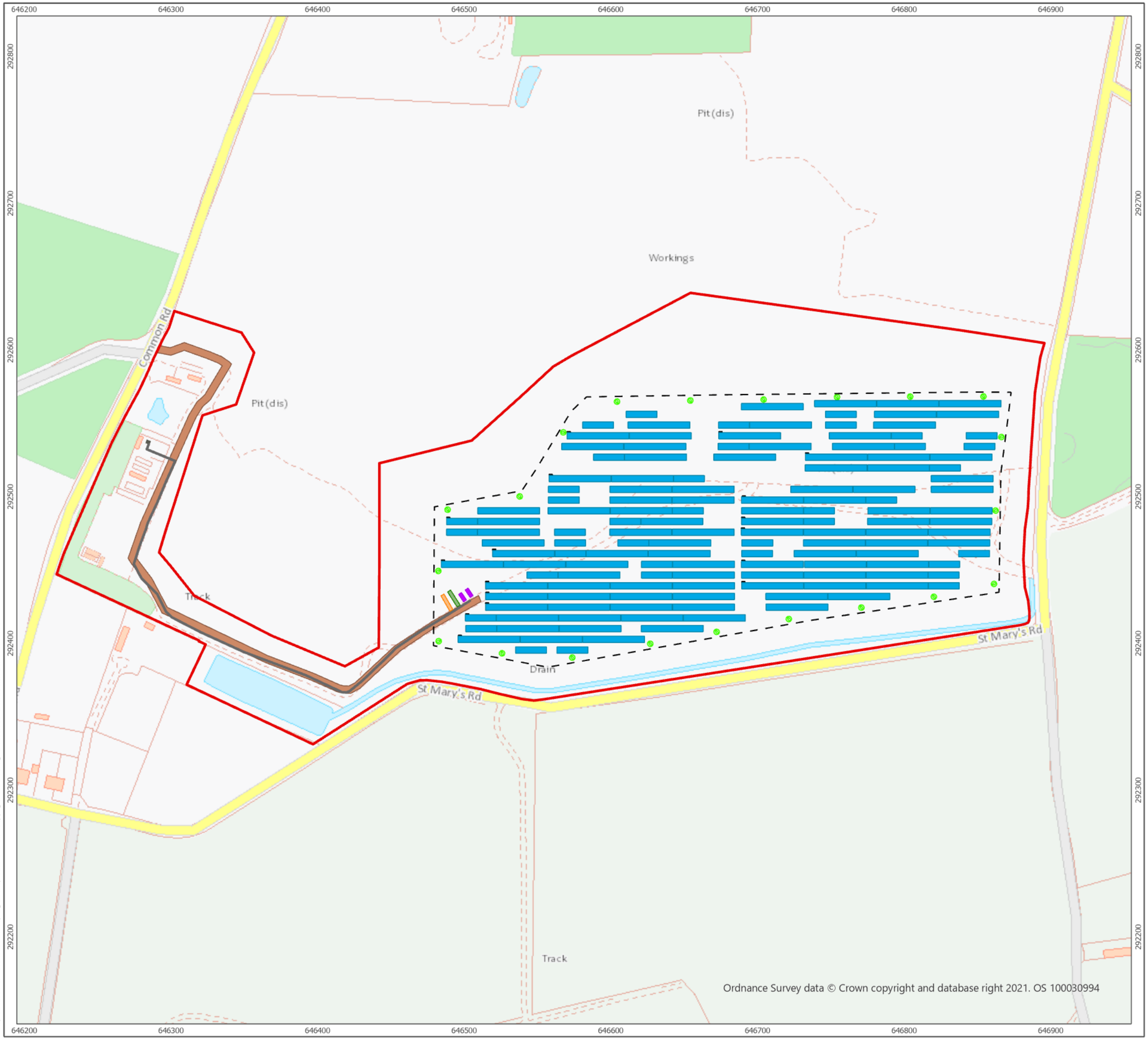
Rating Level: Specific Sound Level which has been corrected for certain acoustic features, as required under BS 4142:2014 methodology.

Sound pressure (P): The fluctuations in pressure relative to atmospheric pressure, measured in Pascals (Pa).

Sound pressure level (L_p): Sound pressure measured on the decibel scale, relative to a sound pressure of 2×10^{-5} Pa.

Specific Sound Level: In terms of BS 4142:2014 methodology, the specific level is the A-weighted equivalent continuous sound pressure level produced by a sound source, without corrections for acoustic features.

APPENDIX 1 – DEVELOPMENT LAYOUT



ARCUS

- Planning Application Boundary
- Fence
- PV Array
- Inverter
- Client Side Switching Station
- DNO Switching Station
- General Storage Container
- Battery Energy Storage System
- CCTV
- Access Road
- DNO HV Cable

1:2,500 Scale @ A3

0 50 100 m

NORTH

Produced By: EL	Ref: 3757-REP-005
Checked By: AnM	Date: 25/10/2021

Site Layout Plan
Planning Drawing 2

Aldeby Solar Park
Planning Application

N:\Projects\Environment\3757 - Aldeby Landfill\3757 - Aldeby Landfill.aprx\3757-REP-005 Fig02 Site Layout Plan

APPENDIX 2 – SURVEY RECORD SHEETS

Arcus Consultancy Services 1C Swinegate Court East, 3 Swinegate, York, YO1 8AJ

Noise Survey Record Sheet

Project No.	3757	**Project Name:**	Aldeby
Location (x of y)	1	**Installed By:**	MD
Lat/Long	52.47376, 1.62843	**Location Name**	Southern boundary
Start Date	12/10/2021	**Start Time**	1415

Equipment Details	**Make/Model**	**Serial No.**
Sound Level Meter:	Rion NL-52	1276548
Calibrator:	Rion NC-74	34372738
Source of Equipment:		Arcus
Meter Timestamp (Start/End, GMT/BST):		Start BST

Location / Source:	N/A
Distance from façade:	N/A
Noise sources observed:	Occasional plant passing. Farm noise ploughing adjacent field.
Weather Conditons:	Overcast. Northerly breeze.
Additional notes:	On site boundary representative of South West receptors. Noise from gas site not audible during set up / collection.

Installation (Visit 1)

Date:	12/10/2021	**Time:**	1415
Filename:	101	**Calibration level:**	94.0
Range setting:		**Meas. period:**	15min
Freq weighting:	A	**Weather Station:**	No
Lp Logging?	No	**Audio / Octave?**	No
Notes:	On site boundary representative of South West receptors. Noise from gas site not audible during set up / collection.		

Visit 2

Date:	14/10/2021	**Time:**	1315
Visited by:	MD	**Calibration level:**	
Level pre-calibration	93.6	**Batts replaced?**	N/A
Equipment Removed?			Yes
Notes:	Dredging activity near monitor on - collection exclude results from 14/10. 13/10 only passing site vehicles.		

Arcus Consultancy Services 1C Swinegate Court East, 3 Swinegate, York, YO1 8AJ

Noise Survey Record Sheet - Photos

Project No.	3757	Location (x of y)	1

Arcus Consultancy Services 1C Swinegate Court East, 3 Swinegate, York, YO1 8AJ

Noise Survey Record Sheet

Project No.	3757	**Project Name:**	Aldeby
Location (x of y)	2	**Installed By:**	MD
Lat/Long	52.47733, 1.63458	**Location Name**	NE site Boundary
Start Date	12/10/2021	**Start Time**	1345

Equipment Details	**Make/Model**	**Serial No.**
Sound Level Meter:	Rion NL-52	510132
Calibrator:	Rion NC-74	34372738
Source of Equipment:		Arcus
Meter Timestamp (Start/End, GMT/BST):		Start BST

Location / Source:	N/A
Distance from façade::	N/A
Noise sources observed:	Quiet rural location, Very occasional Road traffic
Weather Conditons:	N Breeze. Overcast. Passing light shower during set up.
Additional notes:	On Site boundary representative of North and East receptors. No noise from site audible

Installation (Visit 1)

Date:	12/10/2021	**Time:**	1345
Filename:	201	**Calibration level:**	94.0
Range setting:		**Meas. period:**	15min
Freq weighting:	A	**Weather Station:**	No
Lp Logging?	No	**Audio / Octave?**	No
Notes:	On Site boundary representative of North and East receptors. No noise from site audible		

Visit 2

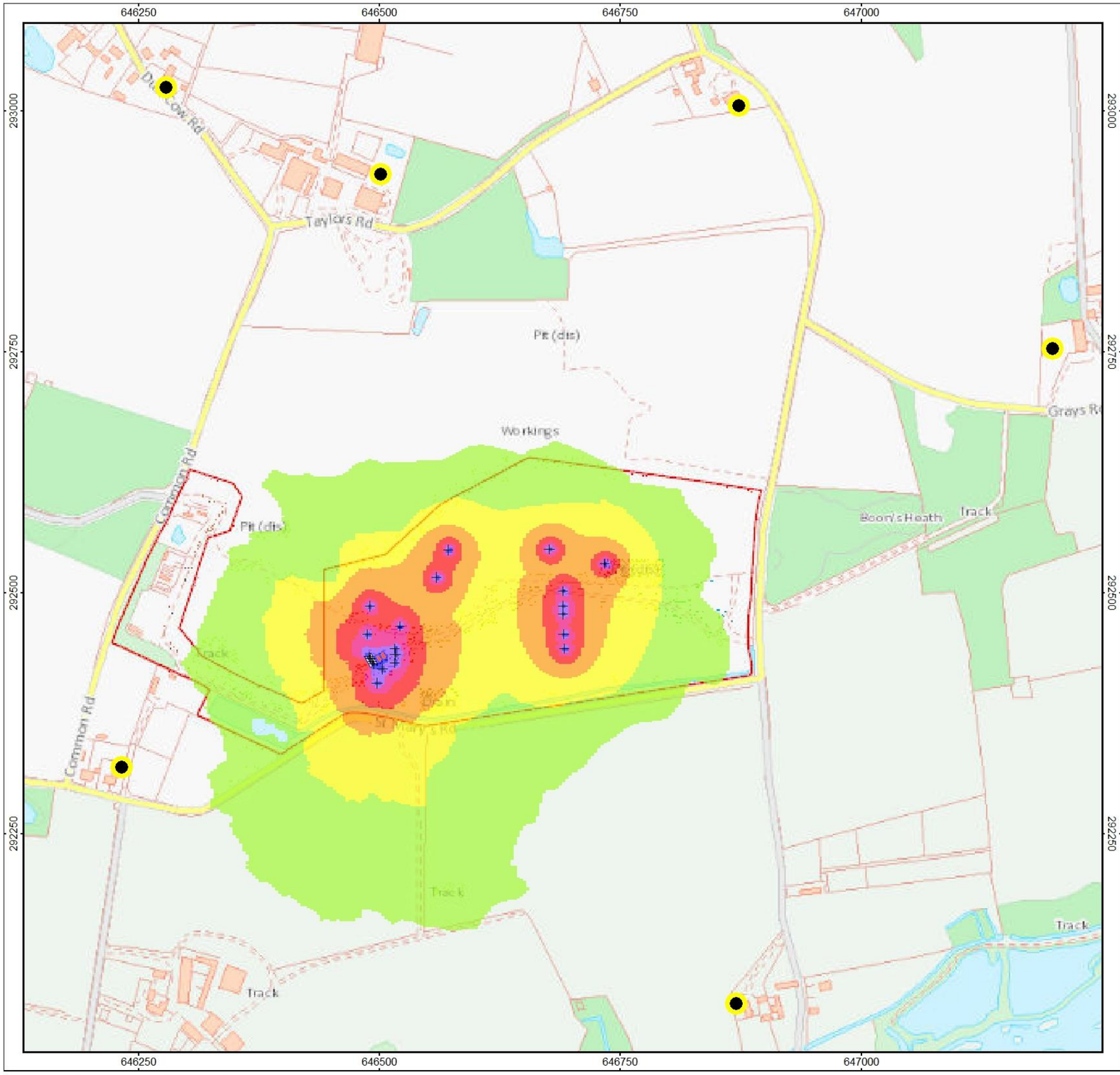
Date:	14/10/2021	**Time:**	1300
Visited by:	MD	**Calibration level:**	
Level pre-calibration	93.6	**Batts replaced?**	N/A
Equipment Removed?			Yes
Notes:	None		

Arcus Consultancy Services 1C Swinegate Court East, 3 Swinegate, York, YO1 8AJ

Noise Survey Record Sheet - Photos

Project No.	3757	**Location (x of y)**	2

APPENDIX 3 – NOISE MAP



Customer: Infinis
Project: Aldeby Solar Park
Project-No. 3757

Project engineer: PB
Created: 09/11/2021
Processed with SoundPLAN 8.2, Update 16/01/2020

Specific Sound Levels
in dB(A)

< 25
25 - 30
30 - 35
35 - 40
40 - 45
45 - 50
50 - 55
55 - 60
60 - 65
>= 65

Signs and symbols
- Noise Sensitive Receptor
- Point Source
- Industrial building

Length scale 1:4000
0 30 60 120 180 240 m