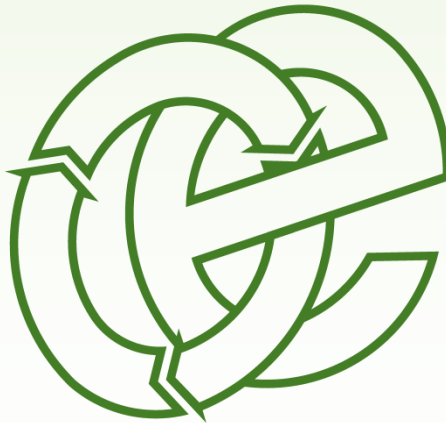


# NOISE IMPACT ASSESSMENT

Percival Street Mill, Percival Street, Blackburn, BB1 6NH

Ellen Shirley Ltd

<b>Version:</b>	1.1	<b>Date:</b>	02 August 2023		
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## CONTENTS

DOCUMENT HISTORY:	I
CONTENTS	II
LIST OF TABLES AND FIGURES:	III
LIST OF APPENDICES:	III
1 INTRODUCTION	1
1.2 SITE DESCRIPTION AND LOCATION	1
1.3 HOURS OF OPERATION	2
1.4 ENVIRONMENTAL REGULATION	2
2 PLANNING POLICY	3
2.1 ENVIRONMENT AGENCY GUIDANCE	3
2.2 NOISE POLICY STATEMENT FOR ENGLAND	3
2.3 NATIONAL PLANNING POLICY FRAMEWORK	4
2.4 PLANNING PRACTICE GUIDANCE – NOISE	5
3 NOISE ASSESSMENT CRITERIA	6
3.2 BS8233:2014	6
3.3 BS4142:2014	6
3.4 WHO GUIDELINES FOR COMMUNITY NOISE	7
4 BACKGROUND NOISE MONITORING	9
4.1 PROCEDURE AND MONITORING LOCATIONS	9
4.2 EQUIPMENT USED DURING THE SURVEY	11
4.3 WEATHER	11
4.4 RESULTS	11
4.5 EXISTING NOISE CLIMATE	12
5 NOISE IMPACT ASSESSMENT	14
5.1 INTRODUCTION	14
5.2 BACKGROUND LEVELS	14
5.3 BS4142: ASSESSMENT	14
5.4 CONTROL OF UNCERTAINTY	20
6 CONCLUSION	21
6.1 SUMMARY & RECOMMENDATIONS	21

## List of Tables and Figures:

Table 3.1 - BS8233:2014 Internal Criteria.....	6
Table 3.2 - BS4142:2014 Corrections and Penalties.....	7
Figure 4.1 - Site location and noise monitoring positions.....	9
Table 5.1 – Measured levels of activities.....	17
Figure 5.2 – Calculated noise levels (LAeq) associated with the typical operation of the site .....	19
Table 5.5 – Assessment of typical daytime noise sources associated with the site as per BS4142:2014.....	20

## List of Appendices:

**Appendix I - Drawings**

# **1 Introduction**

- 1.1.1 Oaktree Environmental have been commissioned by Ellen Shirley Ltd to undertake a Noise Impact Assessment (NIA) for their waste management site at Percival Street Mill, Percival Street, Blackburn, BB1 6NH.
- 1.1.2 The report has been produced by Thomas Benson of Oaktree Environmental, an associate member of the Institute of Acoustics. Full credentials can be provided under separate cover, if required. However, these do comply with the recently revised national guidance. Produced by the Environment Agency.
- 1.1.3 The purpose of this document is to accompany an application to vary the site Environmental Permit (EP).

## **1.2 Site Description and Location**

- 1.2.1 The site is located on Land at Percival Street Mill, Percival Street, Blackburn, BB1 6NH. The national grid reference for the site is SD 68829 28973. The surrounding land uses include mixed residential with some industrial/commercial uses. Whalley Road runs along the south boundary of the site with the River Blackwater running along the north boundary.
- 1.2.2 The nearest noise sensitive receptors comprise of a number of residential areas surrounding the site all approximately 20m from the boundary. The three most relevant receptors include houses associated with Chorlton Gardens on the north-east side, houses associated with Percival Street north of the site and houses south of the site on Notre Dam Gardens.

### 1.3 **Hours of Operation**

1.3.1 The site will be open during the following hours for the receipt, treatment and removal of waste; including depositing, sorting, moving, storing and removing waste:

Monday to Friday	08:00 – 16:00
Saturday	No operations
Sundays, Bank/Public holidays	No operations

1.3.2 It should be noted that the site was granted a license for the activities associated to a scrap metal recycling centre to process metal for the throughput of 600 tonnes per annum between the hours of 08:00-18:00. Shown in License Granted 307915 document.

1.3.3 The only activities on site which will be permitted outside of these hours are maintenance works, general administrative duties and emergency processing due to unavoidable events such as staff shortages, plant breakdowns or poor weather conditions.

1.3.4 During times where the site is closed or not in operation, the site will be locked and secured to prevent unauthorised vehicular or pedestrian access.

### 1.4 **Environmental Regulation**

1.4.1 An Environmental Permit (EP) will be required to be in place for the site, with day-to-day operations regulated by the Environment Agency (EA). Potential impacts on air, land and water will be fully controlled and regulated under the EP.

## **2 Planning Policy**

### **2.1 Environment Agency Guidance**

2.1.1 This document has been produced in accordance with the EA's guidance "Noise and vibration management: environmental permits" updated 31 January 2022.

### **2.2 Noise Policy Statement for England**

2.2.1 The Noise Policy Statement for England (NPSE), March 2010, sets out the Government's long-term noise policy, the aims of which are:

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

- *Avoid significant adverse effects on health and quality of life;*
- *Mitigate and minimise adverse effects on health and quality of life;*
- *Where possible, contribute to the improvement of health and quality of life."*

2.2.2 The first aim of the NPSE is to avoid significant adverse effects, considering the shared UK principles of sustainable development.

2.2.3 The second aim provides guidance on the scenario when the potential noise impact falls between the LOAEL (Lowest Observed Adverse Effect Level) and the SOAEL (Significant Observed Adverse Effect Level), in which case it is stated, *"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"*. However, it is also stated, *"This does not mean that such adverse effects cannot occur"*.

2.2.4 With regards to the SOAEL, the document 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"*, thus acknowledging that this is very much dependent on the noise source, the receptor, and the time of day. Therefore, the NPSE provides the necessary policy flexibility until further guidance / evidence is available.

2.2.5 Other guidance will need to be taken into account when applying the principles of the NPSE, as well the nature of the proposed development and its specific circumstances.

## 2.3 **National Planning Policy Framework**

2.3.1 The NPPF, revised in July 2021, states that Planning policies and decisions should also ensure that new development is appropriate for its location, taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

- Mitigate and reduce to a minimum potential adverse impact resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;
- Identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

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

2.3.3 The revised document also makes reference to the Noise Policy Statement for England.



## 2.4 **Planning Practice Guidance – Noise**

2.4.1 Further to the guidance set out in the NPPF, Planning Practice Guidance for Noise advises that the Local Authority should consider the following when decision making:

- 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.
- Whether or not a good standard of amenity can be achieved.

2.4.2 As previously discussed within the NPSE, the guidance discusses the LOAEL and SOAEL and provides scenarios that could be expected for the perception level of noise, plus the associated activities that may be required to bring about the desired outcome. Again, as with the NPSE, no objective noise levels are provided for LOAEL or SOAEL.

2.4.3 It is stated that “the subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation”. These factors include:

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

### **3 Noise Assessment Criteria**

3.1 In order to assess the impacts of existing road traffic and industrial noise from the proposed development, the following documents have been used:

- BS8233:2014
- BS4142:2014
- World Health Organisation (WHO) Guidelines on Community Noise

#### **3.2 BS8233:2014**

3.2.1 This document provides guidance on the relevant level of sound insulation required by a variety of building types affected by general environmental noise and provides recommendations for appropriate internal ambient noise level criteria for a variety of different situations including residential dwellings. The table below includes the proposed noise criteria within BS8233:2014 with regards to residential properties:

**Table 3.1 - BS8233:2014 Internal Criteria**

<b>Activity</b>	<b>Location</b>	<b>07:00 – 23:00</b>	<b>23:00 – 7:00</b>
Resting	Living rooms	35 LAeq, 16hour	-
Dining	Dining room	40 LAeq, 16hour	-
Sleeping	Bedroom	35 LAeq, 16hour	30 LAeq, 16hour

#### **3.3 BS4142:2014**

3.3.1 BS4142:2014 provides a method for “assessing and rating industrial sound” of an industrial/commercial nature. The method described in the standard uses the rating level from a noise source and the existing background noise level to assess the potential effects of sound on the residential premises upon which sound is incident.

3.3.2 Using this method, the background sound level is subtracted from the rating level. The resulting figure is assessed using the following guidance from the document:

- The greater the difference between the background sound level and the rating level, the greater the impact on the receptor.
- An exceedance of the background level of around 10dB, or more, is likely to be an indication of a significant adverse impact, dependent on the context.
- An exceedance of the background level of around 5dB is likely to be an indication of an adverse impact, dependent on the context.
- The lower the rating level compared to the existing background level, the less likely an adverse impact, or a significant adverse impact. Where the rating level does not exceed the background level, this is indicative of a low impact, dependent on context.

3.3.3 The document introduces a requirement to consider and report the uncertainty in the data as well as also including guidance for applying a correction/penalty for certain adverse acoustic features such as tonality, impulsivity or intermittency. The following table summarises the corrections based on the subjective assessment of the noise.

**Table 3.2 - BS4142:2014 Corrections and Penalties**

	<b>Tonality</b>	<b>Impulsivity</b>	<b>Other characteristics</b>
Just perceptible	+ 2dB	+ 3dB	
Clearly perceptible	+ 4dB	+ 6dB	
Highly perceptible	+ 6dB	+ 9dB	
Readily Distinctive against Residual Environment			+ 3Db

### 3.4 WHO Guidelines for Community Noise

3.4.1 The WHO Guidelines (1999) recommends indoor night-time guidelines in order to avoid sleep disturbance, the document states these to be 30 dB (LAeq) and 45 dB (LA<sub>fmax</sub>) for continuous and individual noise events respectively.

- 3.4.2 The document states that the number of noise events should also be considered and that individual noise events should not exceed 45 dB ( $LA_{fmax}$ ) more than 10 – 15 times per night.
- 3.4.3 The WHO document also recommends that steady, continuous noise levels should not exceed 55 dB (LAeq) for outdoor living areas (balconies, terraces etc.). However, in order to protect the majority of individuals from moderate annoyance, external noise levels should not exceed 50 dB (LAeq).

## 4 Background Noise Monitoring

### 4.1 Procedure and Monitoring Locations

4.1.1 A background noise survey was completed on the 20<sup>th</sup> July 2023 in accordance with BS 7445-1: 2003 by Joshua Ulyatt of Oaktree Environmental Ltd.

4.1.2 To ensure that the background monitoring survey is representative of the existing noise climate in the vicinity of the noise sensitive receptors in the absence of the activities associated with the operator, it was agreed with site management that waste related activities would cease for several hourlong periods whilst monitoring was undertaken.

4.1.3 Figure 4.1 below details the site outlined in red and the location of the monitoring positions labelled 3306 NMP 1-3 shown by a pin.

**Figure 4.1 - Site location and noise monitoring positions**



- 4.1.4 Locations chosen were chosen to be representative of the nearest noise sensitive receptors.
- 4.1.5 NMP 1 was located to the southern end of Percival Street, approximately 5m from the south façade of the nearest residential buildings. This is also at the end of Percival street which backs onto commercial premises including 'Asia Continental' and 'Allclean detailvaleting'.
- 4.1.6 NMP 2 was located within an area at the end of Chorlton Gardens road which has residential properties either side of this the monitoring point is at the end of the road in the middle of the housing. This is on the northeast side of the site and is approximately 18m from the eastern boundary.
- 4.1.7 NMP 3 is located the other side of Whaley New Road to the south of the site approximately 45m from the southern boundary. This monitoring location is at the end of Notre Dam Gardens housing estate located in between the two rows of houses that run along the road in a cul-de-sac.
- 4.1.8 Considering the nature of the background noise survey (i.e. during pre-agreed shutdowns of an already existing facility), attended measurements were undertaken as a pose to longer duration, unattended measurements. This allowed for a significant level of observation to be made with regards to the existing noise climate and the sources it is comprised of. As previously discussed, BS4142:2014 provides significant weight to context when determining the level of impact.
- 4.1.9 Whilst the site does operate on the weekends or public holidays, this is primarily a maintenance and housekeeping day, with limited tipping/sorting and no processing undertaken. Considering the in activity and associated noise levels, no background monitoring was undertaken during the weekend hours. This is discussed further within Section 5.0.

## 4.2 Equipment Used During the Survey

4.2.1 Details of the equipment used during the survey are shown in the table below:

**Table 4.1- Survey Equipment**

Description	Model	Manufacturer	Serial No.	Calibration Date
<i>Precision Sound Analyser</i>	NOR 145	Norsonic AS	14530082	May 2023
Microphone	Nor1227	Norsonic	527239	May 2023
Pre amplifier	Nor1209	Norsonic	23775	May 2023

## 4.3 Weather

4.3.1 The weather during the background surveys is summarised in the table below:

**Table 4.2 – Weather Conditions during noise monitoring**

Date	Wind Speed (max)	Cloud Cover	Temperature	Precipitation
Thursday 20/07/2023	Max gusts of 4m/s	0-25%	13°C-17°C	None recorded whilst onsite.

## 4.4 Results

4.4.1 The results of the background noise monitoring survey are tabulated below in Tables 4.3-4.5. Commentary on the background level and survey is included further on in Section 4.5.

**Table 4.3 -Weekday background monitoring results for NMP 1**

Measurement Time	LA <sub>eq</sub>	LA <sub>max</sub>	LA <sub>90</sub>	LA <sub>10</sub>
08:02-09:02	52.1	78.9	40.6	52.8
09:02-10:02	54.0	74.8	45.3	56.2

**Table 4.4 -Weekday background monitoring results for NMP 2**

Measurement Time	LA <sub>eq</sub>	LA <sub>max</sub>	LA <sub>90</sub>	LA <sub>10</sub>
10:31-11:32	50.4	86.2	44.2	49.9
11:32-12:32	48.9	72.2	44.3	51.2

**Table 4.5 -Weekday background monitoring results for NMP 3**

Measurement Time	LA <sub>eq</sub>	LA <sub>max</sub>	LA <sub>90</sub>	LA <sub>10</sub>
12:36-13:36	60.0	82.1	49.4	63.7
13:37-14:37	60.0	79.6	50.4	63.4

## 4.5 **Existing Noise Climate**

4.5.1 During the monitoring survey undertaken at NMP 1 to the north of the site, it was observed that the main contributors to the existing noise climate comprised primarily;

- The neighbouring business 'Allclean detailvaleting' noise from the jet washing,
- Road traffic with associated houses down Percival Street,
- Birdsong,
- School traffic from people walking too local school

4.5.2 Additional minor contributions include dogwalkers walking down the road or some mechanical noise possibly coming from Shaffi Tyres.

4.5.3 Occasionally distant commercial noise was audible in the form of distant bangs/crashes (engines revving etc.). However, the contribution of these is relatively minor.

4.5.4 During the monitoring survey undertaken at NMP 2 to the north east of the site in a location that was closer to the site itself the main contributors to existing noise climate were much the same as above except road traffic was more prevalent as more deliveries to housing down Chorlton Gardens. With the constant noise of the River Blackwater in the background being more prevalent here.

4.5.5 During the monitoring survey undertaken at NMP 3 the road traffic noise was much more prevalent than NMP 1 and NMP 2. This was located bordering Whalley New Road which



was a fairly busy road at the time of monitoring. There were some occasional bangs and crashes possibly from the business 'Stylish Kitchens & Bathrooms' across the road. Also, worth noting is there was a resident of Notre Dam Gardens having some work done at the property close by the monitoring location.

- 4.5.6 Should It be required, photographs and videos can be provided, along with the noise measurement files in order to corroborate the above observations. These are available upon request by the LA/EA.

## **5 Noise Impact Assessment**

### **5.1 Introduction**

5.1.1 It is considered the most significant noise sources associated with the development are:

- The internal processing of metals on site to be recycled
- The tipping/unloading of incoming materials/waste,
- The movement/sorting of onsite product via the “Bobcat”; and

5.1.2 Waste shall not be accepted or deposited outside the hours of 08:00-18:00 Monday to Friday. The same hours can be applied for any site operations with no operations or waste processing being permitted on Sundays or public holidays.

### **5.2 Background Levels**

5.2.1 With regards to background levels, BS4142:2014 states that *“the objective is not simply to ascertain a lowest measured background sound level, but to quantify what is typical during particular time periods”* and also *“In practice there is no “single” background sound level as this is a fluctuating parameter. However, the level for the assessment should be representative of the period being assessed”*.

5.2.2 With this in mind, the assessment will utilise the range of levels from Tables 4.3-4.4.

### **5.3 BS4142: Assessment**

5.3.1 The CadnaA noise models were constructed using OS mapping Opendata and Google Earth satellite imagery, whilst topographical data was downloaded from DEFRA in the form of a digital terrain model.

5.3.2 The following assumptions/parameters are made within the models:

- The intervening land between the site boundary and residential properties was modelled with  $G = 0.0$  as it was considered that the land is predominantly acoustically reflective.
- Buildings were set as acoustically reflective, with a reflection loss of 1 dB.
- Noise levels were determined at residential properties representing the nearest residential facades using the building evaluation tool.
- In addition, the predicted grid noise levels were also calculated as free-field, A-weighted, sound pressure levels. The noise contours generated within the model are also at a height of 1.5 m, assumed to be the worst-case scenario for amenity areas.
- The main processing building includes the baling, forklift and bobcat movements. The internal surface area has been assumed to be 1,616m<sup>2</sup> and to be primarily acoustically reflective. The fabric has been assumed to comprise brick with steel sheeting roof (45mm). Roller shutters will be shut for the majority of the day and are modelled as 1mm steel sheeting. This is with the exception of the rear roller shutter which has been modelled as open so as to allow egress of the Bobcat for onsite sorting.
- Surrounding residential properties were modelled at a height of between 4.0m for the majority of residential dwellings whilst surrounding commercial/agricultural buildings are modelled at 4.0m.
- Barrier heights and waste storage bays have also been modelled based on onsite observations. These have been modelled as being hard and reflective (i.e. brick) and are between 2.0-4.5m in height.

5.3.3 Additional screening and many intervening structures associated with the surrounding industrial land uses have not been included within the model due to their construction and potentially transient nature. These have been excluded in order to ensure a robust assessment.

5.3.4 Table 5.1, overleaf, includes the measured noise levels for the anticipated activities, which have either been measured by Oaktree Environmental or provided by the manufacturer. It should be noted that octave bands will be utilised within the model. The table also includes relevant data from the CadnaA model (geometry, “on-times” etc.).

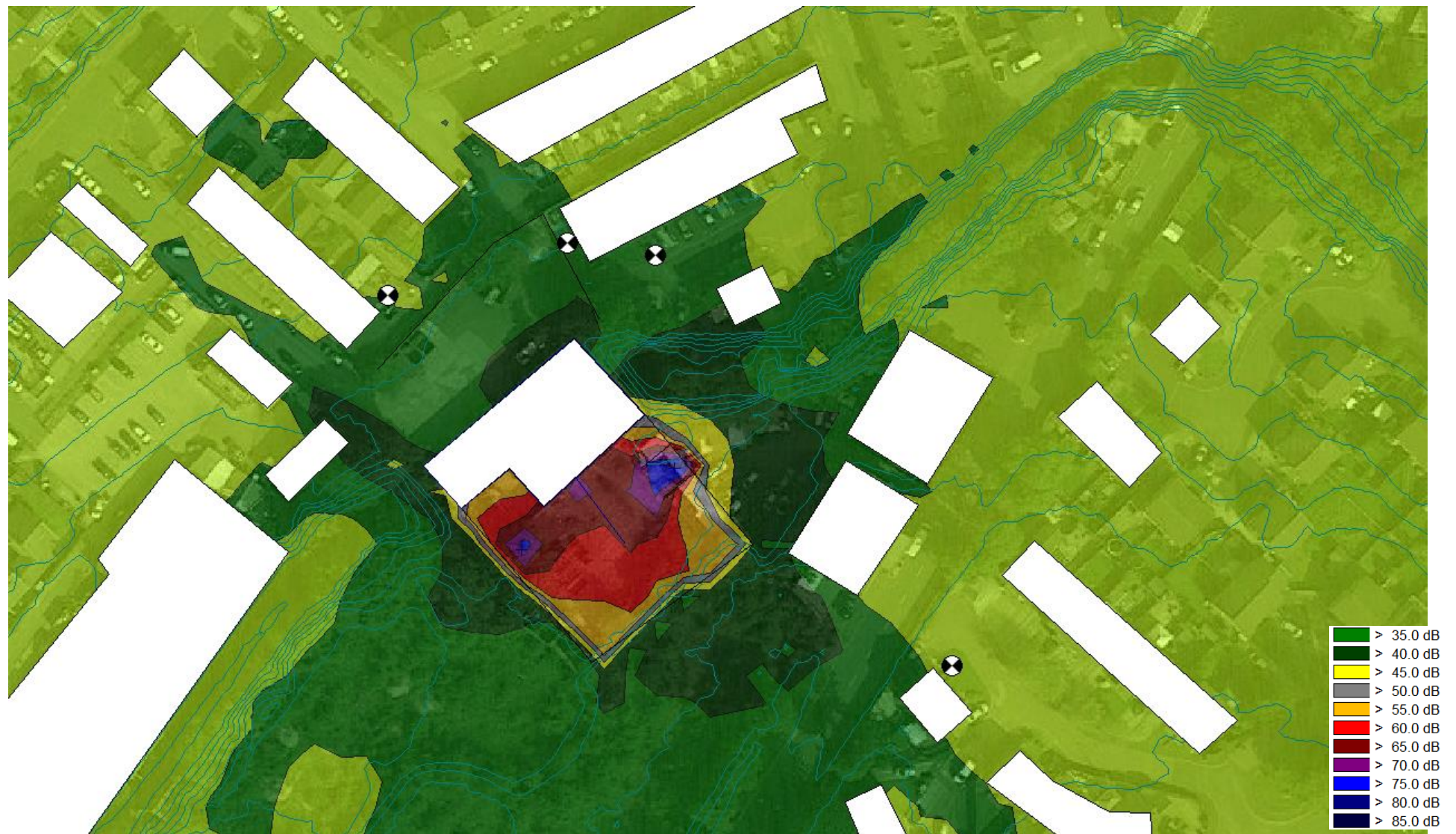
**Table 5.1 – Measured levels of activities**

<b>Activity</b>	<b>Noise Level (LAeq)</b>	<b>Source/comments</b>
Tipping of skips	81.6 at 5m	<p>The tipping of skips is modelled within the storage area and bulking bays. The assumptions with regards to this structure are detailed within Section 5.3.2.</p> <p>The activity has been measured by Oaktree Environmental at a similar site.</p> <p>It is assumed that tipping activities will be for 100 minutes spread across the operational hours with this assuming that the tipping will take 5 minutes for one load. This is modelled as appoint source, 0.5m in height.</p>
Loading skip onto wagon	75.6 at 4m	<p>Measurement taken by Oaktree Environmental at a similar site.</p> <p>Modelled as a point source 1m high.</p> <p>Noise source assumed to operate for up to 100 minutes based on conversations with site management.</p>
Internal baling	65 at 1m	<p>The activity is located within the building on site. The assumptions with regards to this structure are detailed within Section 5.3.2.</p> <p>The activity has been measured by Oaktree Environmental at similar site.</p> <p>This activity is likely to be undertaken for 2 hours which equates too 25% of the operational hours.</p>
Forklift movements	68 at 1m	<p>There is only one forklift onsite and the measurement has been taken from a similar site that Oaktree Environmental have measured.</p> <p>Modelled within the processing building.</p> <p>Noise source assumed to be active for up to 2 hours a day equating too 25% of the operational</p>

		hours. With movements being taken into consideration from the building to external areas.
Bobcat	65 at 10m	<p>This measurement was taken from BS 5228-1 and has been classed as a 5 tonne Mini tracked excavator as this is a similar size to the bobcat that is being used on site.</p> <p>Modelled as a moving line source 1.0m high.</p> <p>Noise source assumed to be active for 2 hours , equating to 25% of the hours of operation.</p>

5.3.5 Tables 5.4-6 details the predicted noise levels (in dB A) associated with the application site at the relevant receptors. These are based on the results of the modelling provided overleaf in Figures 5.2-5.4.

Figure 5.2 – Calculated noise levels (LAeq) associated with the typical operation of the site



5.3.6 With regards to impulsive and tonal penalties as per BS4142:2014, some occasional bangs/crashes are associated with the operation of the sites as a result of reversing alarms, falling material etc. and are likely to be audible. As a worst-case scenario a 6dB correction has been applied as per BS4142:2014.

**Table 5.3 – Assessment of typical daytime noise sources associated with the site as per BS4142:2014**

	Calculated noise level at Percival Street Dwellings	Calculated noise level at Chorlton Gardens Dwellings	Calculated noise level at the Notre Dame Gardens Dwellings	
Calculated noise level as per figure 5.2	34.9	38.0	33.3	As per Figure 5.2.
Addition of relevant penalties as per BS4142:2014	+6 = 40.9	+6 = 44.0	+6 = 39.3	As per Section 5.3.6
Comparison to weekday background levels	40.0 – 40.6/45.4 = 4.4dB (A) below to 0.3dB (A) over	44.0-44.2/44.3 = 0.2 to 0.3 dB (A) below	39.3 – 49.4/50.4 = 10.1 to 11.1dB (A) below	Low impact as per BS4142:2014

5.3.7 As per Table 5.3, the rating level associated with the operation of the site are generally below that at which an adverse impact is considered possible (i.e. +5dB above background) and therefore the associated impact is considered to be low.

## 5.4 Control of Uncertainty

5.4.1 Uncertainty in this assessment was controlled via the following precautions/procedures:

- Both the sound level meter and calibrator have a traceable laboratory calibration and the meter was field-calibrated both before and after the measurements.
- The measurement locations are considered representative of the existing noise climate outside the nearest residential dwellings to the proposed development.
- Worst-case assumptions have been made with regards to modelling factors such as; ground absorption and intervening screens/structures.
- Background monitoring was undertaken during favourable weather conditions (e.g. dry and under 5m/s wind speed).



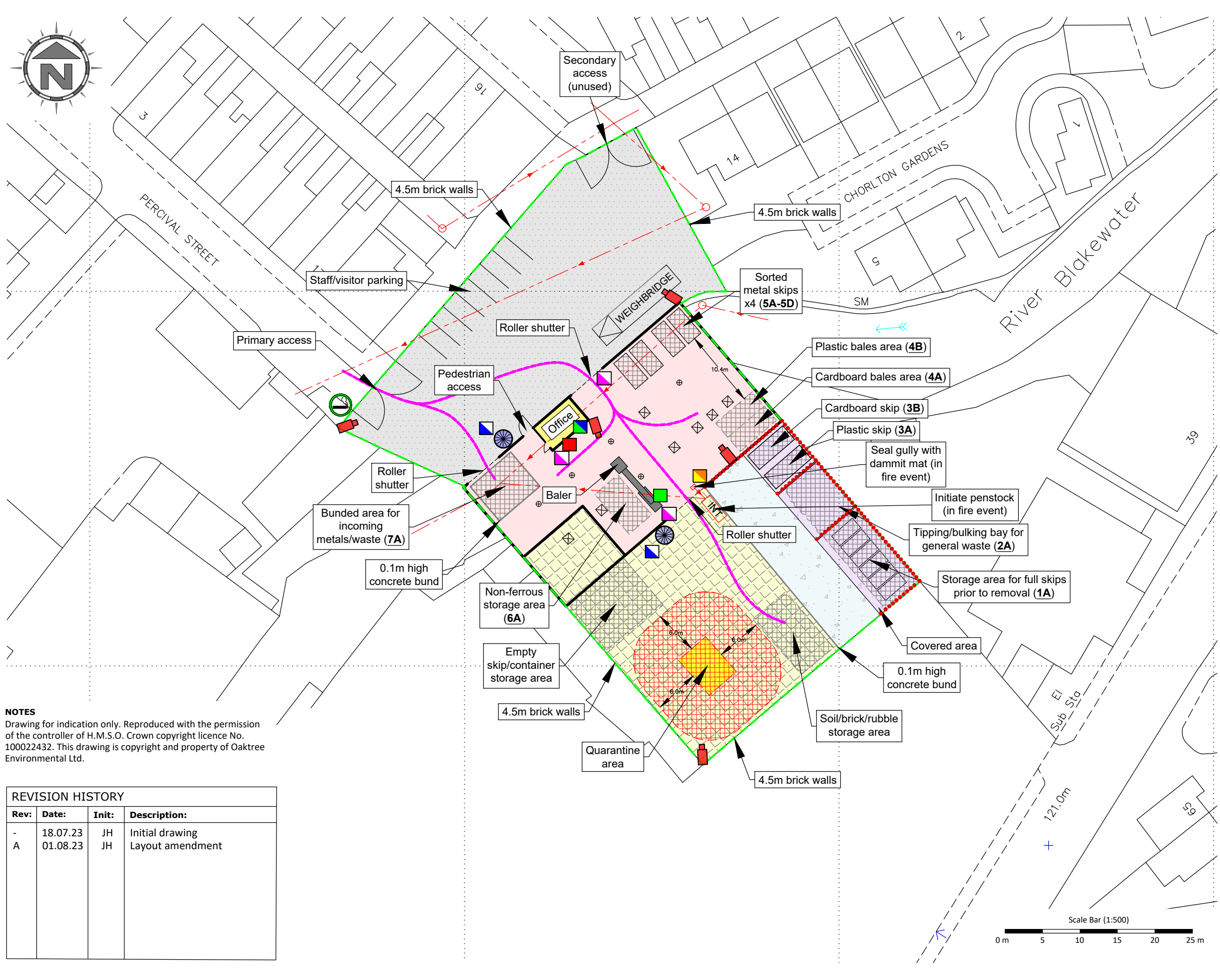
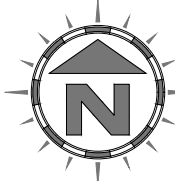
## **6 Conclusion**

### **6.1 Summary & Recommendations**

- 6.1.1 Oaktree Environmental Limited have undertaken a Noise Impact Assessment for the operation of a waste transfer station at Percival Street Mill, Percival Street, Blackburn, BB1 6NH.
- 6.1.2 The site has been assessed with regards to BS4142:2014 and it is considered that the impacts associated with the proposed operation of the site are acceptable based on the comparison of the calculated rating level to the proposed background level.
- 6.1.3 In addition, noise emissions will be controlled and regulated via the sites Noise Management Plan.
- 6.1.4 Therefore, based on the above, noise levels associated with the proposed development are acceptable and it should be considered that no further mitigations or assessment is required at this time.

# **APPENDIX I**

# **DRAWINGS**

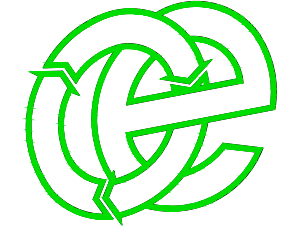


- KEY:**
- Permit boundary
  - Storage areas
  - Covered area
  - Sealed recycling building
  - Concrete area
  - Concrete slab area
  - Mixed tarmac/ concrete surfacing
  - Other buildings (offices etc.)
  - Quarantine area
  - Spill kit
  - Fire fighting equipment (extinguishers etc.)
  - Mains water
  - Fire alarm
  - Plant shut off
  - Access routes for emergency vehicles
  - Concrete block firewall
  - Designated smoking area
  - Roof supports
  - 10,000 litre water tank (x2)
  - Foul drainage
  - Manholes
  - Surface gully
  - Intruder alert CCTV camera locations (indicative location)
  - Fire water containment equipment (Drain mat & Penstock valves)

**NOTES**  
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REVISION HISTORY			
Rev:	Date:	Init:	Description:
-	18.07.23	JH	Initial drawing
A	01.08.23	JH	Layout amendment

**Oaktree Environmental Ltd**  
 Waste, Planning and Environmental Consultants



**DRAWING TITLE**  
 SITE LAYOUT & FIRE PLAN

**CLIENT**  
 Ellen Shirley Limited

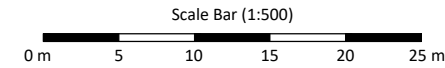
**PROJECT/SITE**  
 Percival Street Mill, Percival Street, Blackburn, Lancashire BB1 6HN

**SCALE @ A3** 1:500      **CLIENT NO** 3306      **JOB NO** 001

**DRAWING NUMBER** 3306-001-03      **REV** A      **STATUS** Issued

**DRAWN BY** JH      **CHECKED** RS      **DATE** 01.08.23

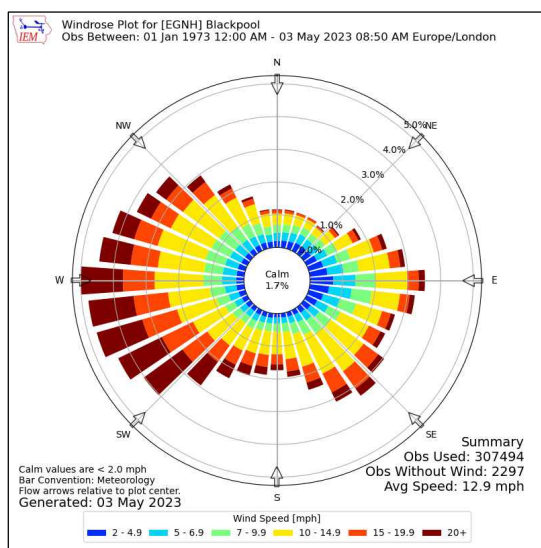
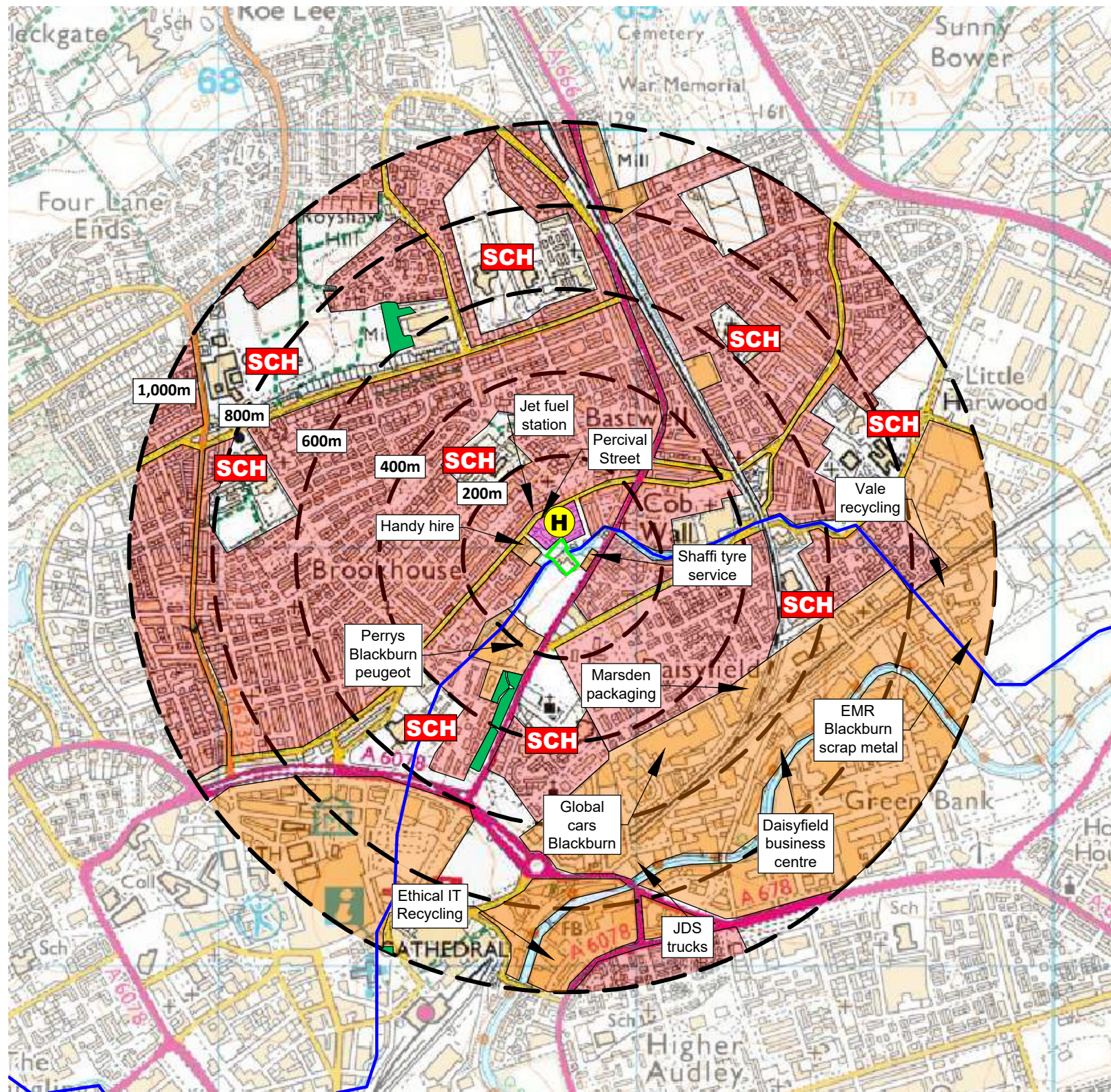
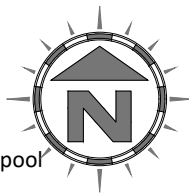
**Lime House, Road Two, Winsford, Cheshire, CW7 3QZ**  
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**KEY:**

- Permit boundary
- Main River
- Surface water body (river / stream / pond / pool / lake)
- Workplaces (includes agriculture industry, commerce and retail)
- Areas with mix of residential, retail and commercial properties
- Residential blocks
- Nearest residential receptor block
- Class A, B, C roads
- H Nearest fire hydrant
- Railway line
- SCH School
- Woodland areas
- Priority habitat inventory (deciduous woodland)



Compass Wind Rose for Blackpool (EGNH)  
Period 1973-2023  
- source: Iowa State University

**NOTES**

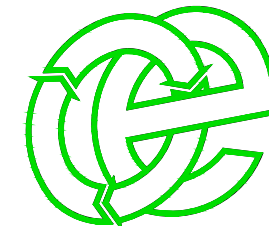
1. Boundaries are shown indicatively.
2. Wind rose data shows the prevailing wind direction to be Southerly.

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**REVISION HISTORY**

Rev:	Date:	Init:	Description:
-	19.07.23	JH	Initial drawing
A	02.08.23	JH/CP	Minor updates

**Oaktree Environmental Ltd**  
Waste, Planning and Environmental Consultants



**DRAWING TITLE**  
RECEPTOR PLAN

**CLIENT**  
Ellen Shirley Limited

**PROJECT/SITE**  
Percival Street Mill, Percival Street, Blackburn,  
Lancashire BB1 6HN

SCALE @ A3	CLIENT NO	JOB NO
1:12,500	3306	001

DRAWING NUMBER	REV	STATUS
3306-001-04	A	Issued

DRAWN BY	CHECKED	DATE
JH/CP	RS	02.08.23

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