

## Noise Management Plan

### 1. Introduction

This document forms the Noise Management Plan for the proposed operation of a waste recovery and recycling facility at Maerdy Industrial Estate, Rhymney.

The document establishes a background (ambient) noise environment and identifies the key noise sources and noise sensitive receptors (NSR) associated with the proposed development.

The document also identifies the source and nature of each noise source along with the proposed control measures.

The site when operational will be regulated as a Waste Operation by Natural Resources Wales. Under the requirements of the permit, all environmental impacts (including noise) will need to be mitigated to the extent that it can be demonstrated not have any adverse impacts on the environment. This noise management plan therefore has been adopted by the site to ensure that these conditions can be met.

### 2. Potential Noise Sources

The design of the Waste Operation has taken into account the potential impacts on the environmental and neighbouring receptors with regards to noise.

The plant and building have been designed to abate and control noise, odour and fugitive emissions.

The potential noise emitting processing equipment located within the processing building are as follows:

- Rotorshredder;
- Stokermill;
- "Green Dragon" shredder;
- Ulster Engineering granulator;
- Compressor receiver tank pneumatic air blow-off: The compressor periodically released air creating a high frequency impulsive hiss.

### 3. Noise Abatement Measures

The processing plant and associated equipment have been designed in accordance with best practice and to ensure that that internal noise does not present an issue to the employees at the site under the Control of Noise at Work Regulations and to ensure that noise breakout does not lead to noise nuisance at the identified sensitive receptors.

The main mitigation measures are provided within Table 1 overleaf:

**Table 1: Noise Mitigation Measures**

Component	Comment on Potential Noise Impact	Mitigation Action to be Taken
Pneumatic Blow-off Attenuator to Compressor	The characteristic “hiss” from the air compressor receiver tank discharge could be audible at the nearest affected residential premises	The compressor will be fit with a “Silvent” pneumatic blow off silencer or similar
External HGV movements	The acoustic character associated with intermittent, impulsive and tonal reversing beepers associated with HGVs reversing could be disturbing for residents.	HGVs operating on the site will be fitted with “white noise” or smart reversing signals, where this is possible to do so. External HGV movements will adhere to the consented hours of operation.
Intelligent management of ‘noisy’ feedstock	Noise from the internal processes at the site during worst-case operations was observed to be audible at the nearest noise sensitive premises during the night-time period.	Where possible, particularly noisy processes (e.g. flat TV screens being processed by Rotorshredder) are carried out during less sensitive periods of the daytime and not during the night-time.

The identified noise generating plant and equipment associated with the Installation have been identified in Table 2 overleaf.

Table 2: Identified Noise Sources and Management Plan

Equipment	Description	Location of source	Nature of noise	Duration of noise	Abatement fitted	Significant impact at NSR
Waste Reception	Internal vehicle noise, plant noise.	Internal to main building	Vehicle Noise	Continuous	With regards to the building construction, this comprises of a profiled steel, double skin structure.	No, all reception activities will be carried out internally.  HGVs access the Processing Building via the roller shutter located on the east façade of the south annex. The roller shutter is typically left open for convenience during the day to permit for HGV movements when required but will be closed daily from 16:30 to 07:00 to reduce the noise impact from the internal processes on nearby residents.
Processing Equipment: <ul style="list-style-type: none"> <li>• Rotorshredder;</li> <li>• Stokermill;</li> <li>• “Green Dragon” shredder;</li> <li>• Ulster Engineering granulator;</li> </ul>	Internal Plant Noise	Internal	Intermittent	Intermittent	Equipment located internally within the main building.	No, contained within the main building.  Where possible, particularly noisy processes (e.g. flat TV screens being processed by Rotorshredder) are carried out during less sensitive periods of the daytime and not during the night-time.

Table 2: Identified Noise Sources and Management Plan

Equipment	Description	Location of source	Nature of noise	Duration of noise	Abatement fitted	Significant impact at NSR
Pneumatic Blow-off Attenuator Compressor	Pneumatic plant noise	Internal	Characteristic “hiss” from the air compressor receiver tank discharge	Intermittent	Compressor fit with a “Silvent” pneumatic blow off silencer or similar	No, contained within the main building and fir with abatement.
External HGV	Occasional external vehicle movement	External	Intermittent tonal reversing beepers when HGVs reverse	Intermittent	Ensure that HGVs operating on the site are fitted with “white noise” or smart revering signals, where this is possible to do so.	No, external HGV movements will adhere to the consented hours of operation and abatement will be fitted where possible.

#### 4. Nearest Noise Sensitive Receptors

The site is located within the Maerdy Industrial Estate (Unit C) and as such borders with other existing and operational industrial premises directly to the north and west. There is a commuter railway line located along the western site boundary. Currently on the site are the existing industrial buildings and industrial equipment as operated by Mekatek.

The nearest noise sensitive premises to the site are as follows:

- Two-storey residential premises located approximately 25m to the on the east of Mekatek site boundary, as on the opposite (east) side of Wellington Way.
- The single storey Maerdy House adjoining the eastern site boundary (but to the south east of the Mekatek processing building), as located on the near (west) side of Wellington Way.
- Single storey residential premises located approximately 30m to the south of the Mekatek site boundary, as on the opposite (south) side of St Clare's.

#### 5. Background Noise Levels

The existing background noise levels expected at the residential premises located on St Clare's and at Maerdy House have been determined based upon the results of a continuous environmental noise survey conducted towards the south of the Mekatek site between 1 August to 10 August 2017.

Based upon the results of the environmental noise survey, the Table 3 below presents a summary of the typical weekday daytime and weekend daytime background noise levels which shall be used to form the benchmark for the environmental noise assessment. Please refer to the noise assessment for more information.

Table 3: Background Noise Levels			
Measurement Position	Associated Residential Premises	Assessment Period	dB LA90,15min (Typical)
1	St Clare's (south of development site) and Maerdy House (east of development site)	Daytime (07:00 - 23:00)	44
		Night-time (23:00 – 07:00)	34
4	Wellington Way (east of development site)	Daytime (07:00 - 23:00)	43
		Night-time (23:00 – 07:00)	43

The noise assessment demonstrates that based upon the current site arrangement and proposals, but assuming 24-hour site operation, the rating level from the application site could be expected to exceed the existing background noise level by, at worst, +3dB at any residential premises, at any time. In accordance with BS4142: 2014, this is an indication of less than adverse impact, depending on the context.

This noise level excludes the mitigation measures mentioned within Table 1 which will only improve the background noise level.

Background noise levels are provided as part of the full noise assessment report, which has been submitted with the permit application.

## **6. Potential Impacts**

The assessment has shown that noise from the operations of the existing Mekatek site is not expected to have an adverse impact on any of the identified nearest noise sensitive premise during both daytime and night-time periods.