

Noise and Vibration Management Plan



**Glen Dimplex Home Appliances Ltd.,
Stoney Lane,
Rainhill,
Prescot,
Liverpool.
L35 2XW**

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Approved A Walker	Position Managing Director	Signed	Date 08/04/26

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1.0 Introduction

This *Noise and Vibration Management Plan* outlines the methods to be employed by Urban Regen Ltd. to systematically assess, reduce, and prevent potential nuisance from noise and vibration during site operations. *The Noise and Vibration Management Plan* is a working document with the aim of ensuring that:

- Noise and vibration impacts are considered as part of the site inspection regime.
- Noise and vibration are primarily controlled at source by considered operational practices which include physical and management control measures.
- All appropriate measures are taken to prevent, or, where not reasonably practicable, reduce, noise and vibration nuisance.

This *Noise and Vibration Management Plan* details the potential impact of noise and vibration and the control measures to be employed to mitigate the risk, supported through monitoring procedures and the review of documented complaints. It is to be read in conjunction with the following documents:

- *Construction Phase Plan (CPP)*
- *Construction Environmental Management Plan (CEMP)*
- *Works specific Method Statement*

The requirements detailed in this *Noise and Vibration Management Plan* have been prepared in accordance with the following documents:

- Control of Pollution Act 1974
- Environmental Protection Act 1990
- Control of Noise at Work Regulations 2005
- BS5228: 2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites.

2.0 Approval/distribution/quality, compliance, and review/revision

2.1 Approval

Approved on behalf of:	Date	Name	Signature
Urban Regen Ltd. (Plant and Production Director)	08/04/26	Brett Carter	
Taylor Wimpey North West			
Local Authority (as required)			

Table 2.1 Approval record

2.2 Distribution

Copy No.	Name	Position	Location
MASTER	Andy Geering	Urban Regen Ltd. Project Manager	Site
2	Andy Wilde	Urban Regen Ltd. Health, Safety & QA Manager	Head Office
3			
4			
5			
6			
7			

Table 2.2 Distribution record

2.3 Quality, compliance, and review

This site-specific *Noise and Vibration Management Plan* is to be managed in accordance with the Urban Regen Ltd. quality and environmental management system accreditation to ISO 9001 and 14001, respectively.

It will be the responsibility of the Urban Regen Ltd. Project Manager to ensure that this site-specific *Noise and Vibration Management Plan* is adhered to, and that it is reviewed monthly to ensure that:

- The objectives and requirements of the *Noise and Vibration Management Plan* remain valid and are being satisfied.
- Proposed activities are reviewed prior to commencement of works, and that any amendments to the *Noise and Vibration Management Plan* are made, as necessary.

To supplement the monthly review of the *Noise and Vibration Management Plan*, regular progress meetings are to be held, with the relevant environmental performance reviewed (and minuted) to verify the continued suitability of the mitigation methods being implemented.

It will be the responsibility of Urban Regen Ltd. senior management to carry out monitoring, auditing, and evaluation of site performance to ensure compliance with the ISO 9001 and 14001 standards with inspections supplemented by external audits to ensure that the ISO 9001 and 14001 standards are maintained. Any external audits are to be copied to the relevant Technical/Operations/Construction Director on receipt.

A record of all inspections, reviews, audits etc. are to be held on-site at all times; with the review being recorded on the *Review/revision* form - see Table 2.3 (to be maintained in the MASTER COPY only).

Any revisions must be approved before being implemented on-site.

Rev	Date	Review/revision details	By	Approved
00	30/01/26	<i>INITIAL</i> <i>Noise and Vibration Management Plan prepared for Client review</i>	D J Woodrow	B Carter
01	04/04/26	<i>REVISION 01</i> <i>Minor updates in accordance with EHO comments</i>	D J Woodrow	B Carter

Table 2.3 Review/revision record

3.0 Site background information

The former Glen Dimplex Home Appliances Ltd., site, Rainhill, is to be redeveloped by Taylor Wimpey North West to a residential end land-use. It is to consist of 204 residential properties with associated highways, drainage, key infrastructure, and landscaped areas.

Extending to an area of 5.8Ha (14.4ac), the site consists of a main central factory building predominantly constructed with portal frames, internally segmented into multiple smaller units, surrounded by smaller ancillary buildings and associated infrastructure, including a substation located to the north west, and a gas governor located to the north east. A service road is also present to the south and east, with a large hardstanding car parking area occupying the eastern end of the site, to the south of which is the former social club. Small areas of soft landscaping are present to the north and east of the factory buildings, and to the rear of the social club, to the south.

Historically, the site was utilised as vacant agricultural land before being developed as a munitions works during the First World War (1914-1918). By 1925 the site was completely redeveloped as an iron foundry with associated railway sidings, before being converted to Rainhill Stoves Works. This factory was repurposed during the Second World War (1939-1945), again as a munitions works before reverting back to use. By 1978, all of the sidings were removed to accommodate the expansion of the main factory units, the current extent being consistent since circa 2000.

Geology at the site consists of varied made ground deposits circa 1.3-3.0m thick, generally consisting of a concrete surface, underlain by reworked sandy/gravelly clay/brick/concrete/mudstone. The made ground is mostly established on superficial deposits of glacial till (sandy gravelly clay), which themselves overlay the Kinnerton Sandstone Formation circa 4.0-9.0m below ground level.

The superficial deposits comprise a Secondary (undifferentiated) aquifer, and a Secondary A aquifer to the east. A Principal aquifer is contained within the bedrock. An active groundwater abstraction licence is located 16m to the south east of the site.

To facilitate the residential development, it is necessary to carry out asbestos removal/disposal and demolition works at the site. These works are also to include the breakout of Phase 1 hard standings/foundations, and the processing of the resultant arisings.

4.0 Sources, receptors and impacts

4.1 Sources

Noise and vibration may be generated during the following activities:

- Demolition operations.
- Earthworks operations.
- Processing of demolition/earthworks arisings.
- On-site vehicle/plant movements.

4.2 Receptors

Noise nuisance will be via air transport (dispersion). The prevailing winds associated with the site are influenced by the local topography which generally dictate a north-easterly heading. Vibration will be transmitted in-ground.

Immediate receptors are:

- General public.
- Residential properties.
- Commercial properties.
- Public properties.
- Local Flora and fauna (potential).

4.3 Impacts

4.3.1 Noise

4.3.1.1 General public – dependent upon the proximity and exposure duration, excessive noise may have the following effects:

- Annoyance and irritation
- Concentration and efficiency
- Fatigue and likelihood of accident-proneness
- Mask out other sounds including instructions and warning sounds

- Temporary/permanent hearing loss

4.3.1.2 Fauna – dependent upon the proximity and exposure duration, excessive noise may have the following consequences for both terrestrial and marine fauna:

- Interference with communication/hunting
- Auditory damage
- Physiological stress
- Anti-predator responses

4.3.1.3 Birds – dependent upon the proximity and exposure duration, excessive noise may have the following consequences for birds located in close proximity to the site:

- Interference with communication/hunting
- Auditory damage
- Physiological stress
- Behavioural changes
- Effects on reproduction

4.3.2 Vibration

4.3.2.1 General public – dependent upon the proximity and exposure duration, excessive vibration may have the following effects:

- Annoyance and irritation
- Concentration and efficiency
- Fatigue and likelihood of accident-proneness

4.3.2.2 Fauna – dependent upon the proximity and exposure duration, excessive vibration may have the following consequences for both terrestrial and marine fauna:

- Interference with communication/hunting
- Physiological stress
- Anti-predator responses

4.3.2.3 Birds – dependent upon the proximity and exposure duration, excessive vibration may have the following consequences for birds located in close proximity to the site:

- Interference with communication/hunting
- Physiological stress
- Behavioural changes
- Effects on reproduction

4.3.2.4 Structures/landform – dependent upon the proximity and exposure duration, excessive vibration may have the following effects:

- Cosmetic damage to structures
- Structural damage to structures potentially leading to failure
- Cause instability to landforms potentially leading to failure

Note: With regards to fauna and birds, disturbance varies greatly dependent upon the magnitude, frequency, predictability, spatial distribution, and duration of the noise as well as the type of species and the degree of previous exposure. Susceptibility to disturbance is also likely to vary with age, season, and weather. There are also links between visual and audible stimuli with noise by itself not necessarily being a cause for disturbance without the accompanied perceived visual threat.

5.0 Noise and vibration control measures

Management and physical control measures are to be prepared to control any potential noise and vibration generation.

5.1 Site Management responsibilities

The Urban Regen Ltd. Project Manager will have the responsibility for ensuring that nuisances/hazards from noise and vibration generated on site are prevented/minimised. Regular *Progress Meetings* will be carried out to discuss current and proposed site operations. These discussions will include the impact of works with regards to the environment including any noise and vibration nuisance.

5.2 Operational control measures

Best Practical Means (BPM) of noise and vibration control is to be applied during the works to minimise any nuisance to the local environment. These include:

- Working hours are to be as detailed in the associated planning permission.
- Deliveries/collections are to be made during established working hours.
- Vehicles/plant brought to site are to comply with all statutory requirements; being maintained in a good and effective working order and operated in a manner to minimise noise and vibration emissions.
- Care to be taken when unloading vehicles to avoid unnecessary noise.
- Plant maintenance operations to be undertaken with consideration to local receptors.
- The use of noisy plant/plant which causes high level impulses e.g., breakers, is to be minimised, being restricted i.e., not used early in the morning.
- Methods of work are to take into consideration noise and vibration nuisance mitigation techniques where possible.
- HGV's/plant are to be equipped with non-tonal/white noise reversing alarms where possible.
- HGV's attending site are not to access site in convoy.
- HGV's/plant movements are to be restricted to 10mph.
- HGV's/vehicles attending site are not to park off-site.
- HGV's/plant are not to wait with their engines running.

- The volume of radio's used on-site is to be kept to a minimum.
- Drop heights are to be minimised when loading.
- Compressor, generator, and engine compartments are to remain closed with plant turned off when not in use.
- Only silent pumps and generators are to be used on site.
- Where possible, a direct electricity supply is to be used to power the welfare facilities (especially when they are being used overnight). Alternatively, hybrid generators/solar pods are to be used.

It is not anticipated that there will be any excessive noise and vibration nuisance to adjacent residential/commercial properties, general public, or impact on fauna and birds beyond the immediate work area.

6.0 Measurement/Monitoring

6.1 Noise measurement

The measurement of noise and exposure to noise is a specialist activity.

The unit of measurement for noise (unwanted sound) is a decibel (dB). This scale is logarithmic meaning that 90dB is ten times the intensity of 80dB and one hundred times the intensity of 70dB.

An increase of 3dB doubles the energy in the sound. This means that 87dB is actually twice as damaging as 84dB, even though the 3dB difference in sound level is difficult to perceive.

In construction there are various action levels to control exposure to noise. These are:

80dB(A) Employers must assess the risk to worker' health and provide them with relevant information.

85dB(A) Hearing protection must be provided.

87dB(A) Workers must not be exposed to noise levels that exceed this.

The various action levels are meaningless to anyone who does not have an accurate way of calculating noise levels, however, there are two rules of thumb which provide a rough indication of noise levels:

One metre rule If two people standing one metre apart, who are not wearing hearing protection, have to raise their voices to hear each other, the noise level is around or above 90dB.

Two metre rule If two people standing two metres apart have to raise their voices to hear each other, the noise level is around 85dB.

6.2 Vibration measurement

The measurement of vibration and exposure to vibration is a specialist activity.

In construction there are specific definitions associated with the measurement of vibration:

Daily exposure	the extent of mechanical vibration a worker is exposed to during the working day which takes into account both the magnitude and duration of vibration.
Exposure Action Value (EAV)	the level of daily exposure that, if exceeded, requires specific action to be taken to reduce risk.
Exposure Limit Value (ELV)	the level of daily exposure for any worker that must not be exceeded.

Dependent upon the type of exposure to vibration being monitored there are different values. In this instance *Whole-body vibration* has been considered; the relevant exposure limits being:

Daily exposure action value	0.5m/s ² A(8)
Daily exposure limit value	1.15m/s ² A(8)

(where A(8) represents a working day of 8 hours)

The impact of vibrations on structures is also to be considered.

6.3 Monitoring

It is not anticipated that there should be any excessive noise and vibration nuisance to general public/residential/commercial etc. receptors, therefore, no formal monitoring is to be carried out unless it is deemed necessary. Instead, *observational* noise and vibration monitoring, supplemented with a portable noise meter, and vibration monitor, is to be carried out by Urban Regen Ltd. site personnel.

Prior to any works commencing the Urban Regen Ltd. Project Manager is to carry out a dilapidation survey of the adjacent roads, and an external photographic record of the closest properties to the work area, to provide a baseline in the event of any reported damage.

Prior to any works commencing, the Urban Regen Ltd. Project Manager is to check and document the weather conditions on the *Daily Site Diary*. This enables any potential weather influenced noise propagation to be predicted, with proactive remedial actions implemented prior to any issues

arising. The assessing of the weather conditions should be an ongoing process with the information recorded at regular intervals.

The Urban Regen Ltd. Project Manager (or designated person – DP) will carry out observational noise and vibration monitoring, supplemented with a portable noise meter, and vibration monitor, a minimum of daily, generally in line with the point source of noise and vibration and the nearest receptors. All monitoring information is to be recorded on the *Daily Noise and Vibration Inspection Form* (see *Appendix A*). If planned works are being carried out which may generate potential excessive noise and vibration these inspections are to be increased, as necessary.

Observational noise and vibration monitoring is to be carried out in the following manner:

- The person carrying out the noise and vibration monitoring is to attend a suitable monitoring location. Facing towards the noise and vibration point source the person is to assess the general level of noise and vibration.
- If the noise is assessed as potentially excessive at this location the person carrying out the monitoring is to try and determine if the noise level is at the 85dB action level by carrying out the ‘two metre test’ with a site colleague. If the noise value is deemed to be in the region of 85dB works are to cease and any corrective/remedial actions carried out to reduce any potential receptor impact. Alternatively, a portable noise meter is to be used to determine the noise level.
- If the vibration is assessed as potentially excessive at this location, the source of the vibration is to be identified and any corrective/remedial actions carried out to reduce any potential receptor impact. In addition, a vibration monitor can be established to confirm the level of vibration to inform corrective/remedial actions and provide evidence of the level of vibration.
- If deemed necessary, specialist consultants are to be employed to carry out the necessary tests to confirm noise and vibration levels and assist with modifications to the working methods as required.

All staff responsible for assessing noise and vibration will receive appropriate training from the Urban Regen Ltd. Project Manager. Each person carrying out the noise and vibration inspections will initially be accompanied by the Urban Regen Ltd. Project Manager to ensure that the nuisance is being perceived similarly.

All on site personnel are responsible for reporting any noise and vibration issues to the Urban Regen Ltd. Project Manager immediately. This will be instructed during the site-specific site induction. Any noise and vibration issues reported to the Urban Regen Ltd. Project Manager are to be investigated immediately with the information recorded on the *Noise and Vibration Investigation Form* (see *Appendix B*); being entered into the relevant section of the *Construction Phase Plan*.

With regards to fauna and birds adjacent to the site, if necessary, a noise assessment is to be undertaken to evaluate the potential impacts on fauna and birds (especially during breeding periods). This should include a baseline survey and an assessment of the likely noise levels associated with the proposed works on site (*an increase of 3dB would be considered a significant increase and would necessitate suitable mitigation measures to be implemented accordingly e.g., acoustic hoarding, modification to working methods etc.*).

Formal noise and vibration monitoring/assessment is a specialist activity and is to be carried out by a professional consultant only.

7.0 Noise and complaints procedure

Any complaints are to be reported to the Urban Regen Ltd. office immediately.

Any noise and vibration complaints are to be entered onto a *Noise and Vibration Complaints Form* (see *Appendix C*) by the Urban Regen Ltd. Project Manager; being entered into the relevant section of the *Construction Phase Plan*.

The Urban Regen Ltd. Project Manager is to ensure that:

- The complaint is investigated to identify the cause of the noise/vibration.
- Any abnormal on-site activity is to be assessed and if necessary, preventative action taken to prevent a reoccurrence of the same problem. Any actions are to be documented.
- The investigation is to be forwarded to the relevant Director for review/comment.
- The Complainant is to be contacted and updated on the investigation and the actions taken.
- The complaint is to be discussed at the following *Progress Meeting* identifying the cause and the measures implemented to prevent any reoccurrence.
- Any changes to site procedures to prevent reoccurrence are to be documented and conveyed to site personnel in a *Tool Box Talk*.
- If the investigation indicates that the complaint has not been justified this will also be recorded on the *Noise and Vibration Complaints Form* (see *Appendix C*).

8.0 Noise and vibration mitigation procedure

Elevated noise and vibration levels may be identified by either:

- On-site reporting of noise/vibration by site personnel.
- Detection of noise/vibration at the site boundary as part of the monitoring procedure.
- By receipt of a noise/vibration complaint from a third party.

Any excessive noise/vibration levels identified are to be mitigated as follows:

- The Urban Regen Ltd. Project Manager will carry out an assessment of the works causing the excessive noise/vibration levels to ensure that it is being carried out as detailed in the relevant *Method Statement*.
- If works are found to be being carried out incorrectly all associated personnel are to be re-briefed on the associated *Method Statement* to ensure correct procedures are followed.
- If the works are identified as being carried out as detailed in the relevant *Method Statement*, and excessive noise/vibration levels are still being generated, works are to be modified to reduce the noise/vibration levels.
- If works cannot be modified sufficiently to reduce noise/vibration to an acceptable level, works are to cease, and specialist noise and vibration consultants appointed to assist with modifying working techniques. These are to be implemented as directed.
- Any outcome of the mitigation is to be documented and discussed at the following *Progress Meeting*.
- Operational procedures will be reviewed by the relevant Director to confirm compliance.

9.0 Emergency plan

Should an emergency incident occur all works are to stop, the Urban Regen Ltd. Project Manager is to be informed immediately, and the *Emergency Plan* is to be implemented.

The *Emergency Plan* is prepared as part of the *Construction Phase Plan* and provides information/details the procedures to be followed, in the event of physical injuries, mechanical damage or environmental impact etc.

As a minimum the *Emergency Plan* identifies the following:

- Emergency contacts (e.g., emergency services/Environment Agency/Waste Management and Spill Management contractors/water companies etc.)
- Site contact details
- Site specific restrictions (e.g., working hours/noise restrictions/protected and restricted areas etc.)
- Site layout plan detailing the main site features, foul and surface water drainage, waste locations (skips/stockpiles), sensitive receptors (inc' residents), protected or restricted areas, spill response equipment, firefighting equipment, first aid equipment etc.
- Record of fuels/oils/chemicals on site detailing location, quantity/volume, hazard and means of use.
- A flow diagram detailing the procedure to follow in the event of an incident.

All site personnel are to be briefed on the *Emergency Plan* during the *Site Induction*.

The *Emergency plan* is to be displayed on the site *Notice Board* at all times being updated as necessary as the works progress.

Accident/incident investigation is to be carried out by a Director/external health and safety consultant (or competent delegated person), in conjunction with the relevant Urban Regen Ltd. Project Manager. If, the accident/incident is notifiable, it is to be reported to the HSE accordingly.

In the event of an environmental incident, all appropriate steps are to be taken to contain and clean up any pollution as well as the notification of affected parties.

Recommendations following an accident/incident investigation are to be incorporated into the health and safety management process to prevent a re-occurrence of a similar incident.

A record of any accident/incidents and associated investigations, are to be retained on site; being held within the relevant register of the *Construction Phase Plan*.

9.1 Abnormal meteorological conditions

Extremely high winds following very dry conditions could give rise to excessive dust which passes beyond the site boundary.

Mitigation measures for works impacted by *abnormal meteorological conditions* are the same as those detailed in *Section 8.0*.

10.0 Appendices

Appendix A	Daily Noise and Vibration Inspection Form
Appendix B	Noise and Vibration Investigation Form
Appendix C	Noise and Vibration Complaints Form

Appendix A Daily Noise and Vibration Inspection Form



Daily Noise and Vibration Inspection Form					Date
Time of test					
Location of test (e.g. monitoring point location)					
Weather conditions (dry/rain/fog/snow etc.)					
Temperature (warm/cold etc. or degrees if known)					
Wind strength (none/light/steady/strong/gusty etc.)					
Wind direction (N/NE/E/SE/S/SW/W/NW)					
Noise intensity (see table below)					
Vibration intensity (see table below)					
Duration (intermittent/permanent)					
Nearest receptor sensitivity (see table below)					
Source (Where is the nuisance coming from)					
Comments/observations					
Sketch of test locations					
Intensity 0 – None 1 – Very faint 2 – Faint 3 – Noticeable 4 – Strong 5 – Very strong 6 – Extreme					
Receptor sensitivity Low (e.g. Footpath, road etc.) Medium (e.g. industrial or commercial workplaces etc.) High (e.g. SSSI woodland and wader habitats, housing, pub/hotel etc.)					

Appendix B Noise and Vibration Investigation Form

Noise and Vibration Investigation Form		
Date		
Time		
Location		
Reported by		
Weather conditions (dry/rain/fog/snow etc.)		
Temperature (warm/cold etc. or degrees if known)		
Wind strength (none/light/steady/strong/gusty etc.)		
Wind direction (N/NE/E/SE/S/SW/W/NW)		
Intensity (see table below)	Noise	Vibration
How long did the noise/vibration last?	Noise	Vibration
What do you think the source/cause was?	Noise	Vibration
What actions were taken?	Noise	Vibration
Comments/observations	Noise	Vibration
Intensity 0 – None 1 – Very faint 2 – Faint 3 – Noticeable 4 – Strong 5 – Very strong 6 – Extremely strong		

Appendix C

Noise and Vibration Complaints Form

Noise and Vibration Complaint Form		
Date of complaint		
Time of complaint		
Name of complainant		
Address of complainant		
Tel no. of complainant		
Date of noise/vibration		
Time of noise/vibration		
Location of noise/vibration (if not at the above address)		
Weather conditions (dry/rain/fog/snow etc.)		
Temperature (warm/cold etc. or degrees if known)		
Wind strength (none/light/steady/strong/gusty etc.)		
Wind direction (N/NE/E/SE/S/SW/W/NW)		
Complainant's description of the noise/vibration		
What did it sound like?		
What did it feel like?		
Intensity (see table below)		
Duration		
Constant or intermittent?		
Any other comments		
Are there any other complaints relating to the site/location either previously or relating to the same exposure?		
Any other relevant information		
What operations were being carried out at the time?		
Actions taken		
Form completed by	Signature	Date
Intensity 0 – None 1 – Very faint 2 – Faint 3 – Distinct 4 – Strong 5 – Very strong 6 – Extremely strong		

