**Introduction**

The purpose of this reference material is to provide guidance for employees planning activities that may lead to the generation of noise. It sets out the legislative and regulative framework that needs to be observed when planning such activities.

The guidance provides management actions to be followed by the Company and its subcontractors to prevent disruption to project programme and cost by enabling the identification of practices that need to be adopted to prevent, or minimize, the risk of to the generation of noise.

Activities can require authorisation to be gained from a local authority meaning that permit requirements have to be met or if suitable management controls are not adopted or followed these environmental risks can cause a statutory nuisance and pose a risk of causing environmental pollution.

**Abbreviations / Definitions**

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| --- | --- |
| **Noise** | The UK does not set a legislative maximum level of noise must not be exceeded by a specific activity before it is classified as a statutory nuisance. This means that noise from an activity can be deemed a statutory nuisance based on an individuals or communities perception of the level of noise. People experience back ground noise levels on a daily basis and view this level as ‘normal’ for that location that specific time of day.  People can view changes to this perceived ‘normal’ background level of noise depending on the time of day, the type of activity and period of time that they are exposed to the change in noise level. If after assessment this change is deemed to significantly change the usual back ground noise level then a local authority can classify the activity as a statutory nuisance. |
| **Nuisance** | The prevention of the use or enjoyment of your property and land. |
| **Statutory Nuisance** | A Local Authorities determination that an activity can or has had a local environmental impact that creates an unreasonable interference with the use and enjoyment of adjacent or nearby sites / premises. |
| **Local Authorities** | UK local government and their councils environmental health departments responsible for the implementation, management and monitoring of compliance to environmental law. |
| **Consents** | Consents issued and approved by Local Authorities for activities that can be completed within specific requirements based on their location and potential for local environmental impact. |
| **Permit** | Within this document permit means the authorisation from a regulator to carry out an activity within set criteria to eliminate or minimise the potential for noise generated by an activity to be viewed as a nuisance. |
| **Abatement notices** | Issued by local authorities to control activities that are deemed to be causing a statutory nuisance. |
| **Best Practical Means** | Management controls used and set to control activities that can generate statutory nuisances should consider the following points to determine their applicability and effectiveness:   * Regard to the current state of technical knowledge * The local conditions and circumstances * The financial implications * The means to be employed including the design, installation, maintenance and manner and periods of operation and plant and machinery, and the design, construction and maintenance of buildings and structures   So far as they are compatible with any duty imposed by law and has to be compatible with safety and safe working conditions. |
| **Best Available Technology** | Best available techniques not entailing excessive costs (BATNEEC), sometimes referred to as best available technology.  Best Available Techniques - means the most effective method to prevent and, where that is not practicable, to reduce emissions and the impact on the environment as a whole.  Techniques - includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned;  Available – techniques that are developed on a scale to allow implementation in a relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages as long as they are reasonably accessible to an operator;  Best - means most effective in achieving a high general level of protection of the environment as a whole. |

**Legislation and Regulation**

England, Wales Scotland and Northern Ireland **(EN) (W) (S) (NI)**

Environmental Protection Act, 1990: The Act recognises that activities from a site or premises can have local environmental impacts that can be deemed a statutory nuisance.

The Act provides Local Authorities with powers and duties to manage issues determined as a statutory nuisance through either remedial or preventative action, by the issue of consents or abatement notices that set out the requirements that have to be met by the approved activities.

Commercial activities, including construction, may have requirements set out in consents that are granted as part of the Local Authority planning process.

However a Local Authority can also place activities under consents retrospectively or issue abatement notices if they believe that commercial activities are generating a local environmental impact that causes a statutory nuisance. Non-compliance can result in prosecution, prohibition or improvement sanctions as well as the potential for compensation claims from the local community.

Local Authorities set general operating hours and minimum requirements for the management of noisy activities and details can be gained by review of the relevant local authority web page. The following provides general parameters for activities that should consider and engage with the local authority for the need to apply for consent:

1. Sites in operation for over 28 days
2. Significant number of local residents or businesses in a heavily urbanised area
3. Sensitive local receptors such as schools or hospitals that may be affected for a significant time
4. Any other site where it is highly likely the activity may lead to complaints

The Environmental Protection Act, 1990 also defines Best Practical Means as a framework for assessing the acceptability of the management controls applied to an activity to minimise and reduce the local environmental impact of the activity.

The main regulatory mechanism for the management of noise is Control of Pollution Act 1974, Section 61. Obtaining a Section 61 consent means that there is an agreement in place between Balfour Beatty and the local authority to allow an agreed level of noise disturbance to occur including the extent of noise, the hours of work when the noise will be generate, the control measures implemented to control the noise and the monitoring controls put in place to ensure the consent requirements are met.

Clean Neighbourhoods and Environment Act, 2005: Encompasses many areas of the law affecting local environmental quality. Provisions of this Act cover the following areas: crime and disorder, vehicles, litter and refuse, graffiti and defacements, waste, noise, dogs, and architecture and the built environment.

The Act classifies statutory nuisances (noise, vibration, artificial light, dust, odours, litter etc.) and provides local authorities, parish and community councils and the Environment Agency with more effective powers and tools to tackle poor environmental quality and anti-social behaviour. Local authorities have the power to issue a Section 60 for activities that exceed their minimum requirements and prosecute and fine if noise from the activity is defined as a statutory nuisance.

**What you need to do**

Identified works that could cause disturbance from noise

Does the council require a Section 61 Agreement?

Yes

Contact local authority at least 6 weeks before works are due to commence

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No

Begin to put together Section 61 Application using ENV-TF-0013b

Submit draft Section 61 Application to local authority for review and comments

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Identify noise and vibration minimisation methods in PMP

Are any modifications required to the application?

Yes

No

Make modifications to returned Section 61 Application from local authority

Obtain appropriate approvals and formally submit Section 61 Application to local authority for approval at least 28 days before works are due to commence

Write up community relations letters and get them approved by the client / stakeholders as required

Distribute approved letters to agreed properties at least 14 days before works are due to commence

Management of noise and control measures to be outlined in PMP and reflect Section 61 requirements

Complete noise monitoring programme with dates and times agreed prior to works commencing

If a complaint is received due to noise follow Communication and Consultation procedure HSES-PR-0010

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**Note 1 – Contact with local authority**

Contact should be made with the local authority. Initial contact should be made with the local authority at least 6 weeks before works are due to commence but ideally as soon as possible.

**Note 2 – Putting together the Section 61 Application**

ENV-TF-0013b Section 61 Prior Consent application template provides key headings for the information usually required by a local authority for such an application.

It is important that the application clearly details the scope of the works, methodologies, working times, proposed mitigation and management measures as well as reliable data for plant sound levels, baseline noise levels, and predicted noise levels.

If the required information is not provided in sufficient detail it may delay the application process and ultimately the timing of a signed-off agreement from the local authority.

**Note 3 – Management of noise and control measures**

The following pages of this reference material provide further guidance for management of noise and details of control measure that can be applied depending on the activity and its location.

**Back ground noise levels**

It should be noted the level of noise considered to be a nuisance is significantly lower than the level required for personal hearing protection for health and safety. The noise level which is considered to cause a nuisance is subjective.

The British Standards Institute (Bsi) Code of practice for noise and vibration control on construction and open sites (BS 5228-1:2009). Provides the following guidance:

*Noise from construction and demolition sites should not exceed the level at which conversation in the nearest building would be difficult with the windows shut.*

*Noise levels, between say 07.00 and 19.00 hours, outside the nearest window of the occupied room closest to the site boundary should not exceed:*

* *70 decibels (dBA) in rural, suburban and urban areas away from main road traffic and industrial noise;*
* *75 decibels (dBA) in urban areas near main roads in heavy industrial areas.*

*These limits are for daytime working outside living rooms and office. When working outside the normal hours say between 19.00 and 22.00 hours – the allowable noise levels from building sites will be less (a reduction of 10 dB(A) may often be appropriate).*

*Noisy work likely to cause annoyance locally should not be permitted between 22.00 hours and 07.00 hours.*

The standard also includes useful reference material in Annex C of what to expect from various piling operations. This includes “*Large rotary bored piling rig” 83 dB LAeq at 10m and “Bauer BG36 coring reinforced concrete pile” 72 to 87 dB LAeq at 10m”.*

Most Local authorities have stated standard expectation and requirements for noisy works and an example of how the British Standards Institute (Bsi) Code of practice for noise and vibration control on construction and open sites (BS 5228-1:2009) can be applied to create a set of minimum requirements is the City of London Code of Practice for deconstruction and construction which states:

*Noise should be restricted to hours outside the normal working day of 09.00 – 17.00 hours.*

*Contractors will adhere to these quiet hours at all times unless agreed advance negotiation with all parties and the Pollution Team.*

*The quiet hours are:*

* *10:00 - 12:00 (Monday to Friday);*
* *14:00 - 16:00 (Monday to Friday).*

*These periods may be subject to variation in particular circumstances, for example during lunchtimes adjacent to eating places or businesses where the majority of trade is carried out at lunchtimes.*

*During these quiet periods the following activities cannot carried out:*

* *Cutting using power tools;*
* *breaking or dismantling using power tools/machines/plant;*
* *the use of impact fasteners;*
* *the loading of heavy materials;*
* *other noisy activities, depending on the specific location of site and neighbours, deemed unacceptable by Environmental Health Officers.*

**Measurement of Noise levels**

If activities are going to fall outside of these generally expected levels in terms of:

* noise level
* hours of the day or;
* in close proximity to a sensitive location / member of the local community

The need to monitor background noise is often required to ensure that the planning of the Nosie that will be generated from the activities can be assessed and understood. This enables an understanding of the potential change in noise levels that may be experienced due to the planned activities.

This requirement can form part of the planning approval process or while gaining Section 61 consent approval.

It should be noted the level of noise considered to be a nuisance is significantly lower than the level required for personal hearing protection for health and safety. The noise level which is considered to cause a nuisance is subjective.

**Noise control measures**

1. Noise can be caused by a number of factors, including:

* Plant and equipment use
* Vehicle reversing alarms or engine idling
* Radios
* Employees shouting

1. Noise can have a number of impacts, including:

* Interrupted sleep
* Annoyance and nuisance
* interfering with peoples enjoyment of their property

Some land uses are generally regarded as being more sensitive to noise than others due to the types of population groups or activities involved. Noise-sensitive receptors in the project area include, but are not limited to:

* Residential Properties
* Commercial Properties
* Schools
* Hospital/Medical Facilities
* Churches
* Recreational Areas

Best Practicable Means and Best Available Technology should be considered in the planning of work to ensure that when the works are undertaken they are done so to prevent or reduce the impact on air quality and the environment as a whole due to the Company’s activities.

The following pages provide guidance as to how company activities can seek to reduce noise to as low a level as practicable, particularly for emergency works and other works outside of normal working hours.

Minimum methods to be adopted should include:

* All plant will be operated with covers closed and where available silencers fitted on equipment
* All plant will be fully maintained
* Plant and vehicles not in use will be switched off – implementation of a no idling policy
* A quiet night-time working ethic will be employed to ensure that all operatives have consideration for nearby residents
* The use of radios and shouting when entering, leaving and working on site will be minimised
* Where practicable, materials will be handled in a manner that reduces noise & vibration to an acceptable level
* Static plant will be shielded or provided with screens or enclosures where practicable
* Where possible, working hours will be planned to minimise impact on local residents and buildings

**Depot best practice**

Effective management of the depot can control the impact of noise levels on the surrounding area.Consideration should be given to the following:

* Working methods should be changed to include equipment or modes of operation that produce less noise (i.e. use of methods other than percussive piling in urban areas)
* Ensure workforce is informed of noise restrictions/requirements via toolbox talks and inclusion in Risk Assessment/Work Package Plans (Method Statements).
* Ensure that the workforce is informed of the sensitive neighbours and reminded to be sensitive when working or walking adjacent to the site boundaries
* Times of deliveries to suit the area.(i.e. restricting deliveries to during normal working hours (i.e. 9-5) in residential areas)
* Working practises that restrict noisy activities to certain periods of the day should be adopted.
* Loud equipment is placed in a position to minimise the impact.
* Consideration should be given to the position of welfare units and access routes for getting to and from welfare to work areas
* Those neighbouring the site will be kept informed of any specific activity likely to cause disruption or in the case of construction, inform the public how long the construction is likely to continue

**Working hours Monday – Friday**

* Where possible depot work activities should be planned to take place between 7.30am and 6.00pm in order to minimise nuisance complaints
* These hours may vary depending on the area being worked in and local council i.e. busy roads may require short working hours to reduce impacts on traffic congestion
* Where councils require reduced working hours, these should be requested in writing and included in method statements

**Working hours Saturday**

* Reasonable working hours are reduced on a Saturday to between 8.00am to 4.00pm
* These hours may vary depending on the area being worked in and local council
* Where councils require reduced working hours, these should be requested in writing and included in method statements

**Working hours Sunday**

* Working hours on a Sunday should always be checked with the local authority, as they may not allow any work on a Sunday without a specific permit
* Due to the increased likelihood on impact on people, reasonable Sunday hours are reduced further to between 9.00am and 4.00pm
* These hours may vary depending on the area being worked in and local council

**Council Consultation**

It is advised where work may be required out of normal hours the local council is consulted for advice and where possible a Section 61 Consent obtained. Where this consent is granted the conditions of the consent should be adhered to and incorporated into method statements. Copies of the consent should be retained on site at all times.

**Project best practice**

Effective management of the site can control the impact of noise levels on the surrounding area. Consideration should be given to the following:

* Working methods should be changed to include equipment or modes of operation that produce less noise (i.e. use of methods other than percussive piling in urban areas)
* Ensure workforce is informed of noise restrictions/requirements via toolbox talks and inclusion in Risk Assessment/Work Package Plans (Method Statements).
* Ensure that the workforce is informed of the sensitive neighbours and reminded to be sensitive when working or walking adjacent to the site boundaries
* Times of deliveries to suit the area.(i.e. restricting deliveries to during normal working hours (i.e. 9-5) in residential areas)
* Working practises that restrict noisy activities to certain periods of the day should be adopted.
* Loud equipment is placed in a position to minimise the impact.
* Consideration should be given to the position of welfare units and access routes for getting to and from welfare to work areas
* Those neighbouring the site will be kept informed of any specific activity likely to cause disruption or in the case of construction, inform the public how long the activity is likely to continue.

**Selection of Equipment**

The correct selection and usage of equipment and machinery, in combination with the proper maintenance can reduce the impact of the activity with regard to the amount of noise emitted.

* Where practicable use electrically powered machinery rather than diesel or petrol driven particular when working adjacent to sensitive receptors
* Operate plant properly so that it does not create excessive noise, and shut it down when not in use
* Provide adequate silencers mufflers or other control measures for plant i.e. percussive tools
* Rotating or impacting machinery must be fixed on rotating or impacting machines on anti-vibration mountings

**Screening**

If designed and used correctly screening can considerably reduce the noise levels emitted from an establishment. Acoustic enclosures or screens can be used where plant and equipment are in continuous operation and or close to sensitive receptors

* Factors affecting the efficiency of a screen include the distance between the source and the receiver of the noise, the density of the material being used as a screen, the position of the screen relative to noise reflecting surfaces
* The screen may be purpose built or can consist of an existing feature
* When screening an individual item from a receptor, position the screen around three sides of the source on the sides nearest the receptor, place it as near as possible to the noise source; and ensure it is built approximately 1m above the highest sight line

**Plant Use**

Static plant must be positioned as far as practicable from site boundaries, sensitive receptors and public areas where they have potential to cause a nuisance:

* Quiet and low or reduced vibration plant, equipment and working methods must be used where possible e.g. super-silenced generators
* When operating equipment, use noise control devices such as jackets, covers and shrouds. Ensure that all hoods and doors are closed and well fitted / sealed
* Acoustic doors, hoods and covers must be kept shut when plant and equipment are in use
* Plant with potential to generate vibration from the transfer medium and place must be isolated on a heavy base where practicable
* All plant and equipment must be turned off when not in use
* All plant must be maintained in accordance with the manufacturer’s instructions
* Drop heights into hoppers, lorries or other plant must be minimised

**Piling**

Typical mitigation measures for piling operations include:

* Using modern, quiet and well maintained equipment
* Using fully silenced modern piling rigs with engines to highest Euro Standard
* Careful operation of the rig so there is no reversing of the Kelly/auger bars
* Off-site preparation of as many materials as possible
* Avoidance of unnecessary noise (such as engines idling between operations, shouting, loud radios or excessive revving of engines) by effective site management

**Monitoring**

The checking of all noise control measures should be documented in the management plan and should include the ongoing review of the effectiveness of the control measures.

More detailed monitoring may be required under planning and/or contractual conditions or through agreement with the local authority.

The following forms should be used to generate records of any noise monitoring requirements:

|  |  |  |
| --- | --- | --- |
| **Business Unit** | **Document Reference** | **Document Title** |
| BBUK | [ENV-SF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8801) | Noise Monitoring Record |
| BB Rail | R-ENV014-01 | Noise Monitoring and Exposure Form |
| BB Rail | R-ENV016-01 | Noise Monitoring Programme |
| BBLP | EN-SF-666 | Noise Assessment Summary |

Remember the companies golden rules 1) be fit for work 2) always receive a briefing before starting work 3) report all unsafe events and conditions 4) stop work if anything changes.

If the control measures fail follow the emergency arrangements set for the activity if needed and stop the works to review risk assessment and control measures and/or agreement and conditions of the consent or permit.

**Reporting Incidents**

Any incidents must be reported and notified as set out in [HSES-PR-0005](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8639) Incident Reporting and Investigation and as per business unit reporting requirements.

**Supplementary Information**

* The British Standards Institute (Bsi) Code of practice for noise and vibration control on construction and open sites (BS 5228-1:2009)
* City of London Code of Practice for deconstruction and construction (May, 2013)

**UK Documentation**

|  |  |  |
| --- | --- | --- |
| **Reference** | **Type** | **Title** |
| [ENV-TF-0015b](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8854) | Template | Section 61 Prior Consent application template |
| [ENV-SF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8801) | Form | Noise Monitoring Record |
| [ENV-TB-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8799) | Toolbox Talk | Noise and Vibration (detailed) |
| [ENV-TB-0015b](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-12060) | Toolbox Talk | Noise and Vibration (summary) |
| [ENV-AD-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-9524) | Advice Note | Section 60 Notices |

**Existing forms**

|  |  |  |
| --- | --- | --- |
| **Business Unit** | **Document Reference** | **Document Title** |
| BB Rail | R-ENV005-02 | Section 61 Application |
| BB Rail | R-ENV014-01 | Noise Monitoring and Exposure Form |
| BB Rail | R-ENV016-01 | Noise Monitoring Programme |
| BBLP | EN-SF-666 | Noise Assessment Summary |