Environmental Protection

Supplementary Planning Document

Adopted July 2024

WARRINGTON
Borough Council

Contents

1. Introduction

1.1 Purpose

Planning and Development Management has an important role to play in protecting the environment and improving peoples' health, wellbeing and amenity. It is therefore essential to ensure that all forms of pollution are considered, managed and suitably mitigated against as part of the development process.

This Supplementary Planning Document (SPD) sets out the Council's approach to assessing planning applications for their impacts on Environmental Protection matters for human health and amenity relating to air quality; contaminated land; light pollution; and noise.

All planning applications, including applications for discharge of planning conditions, are screened for their potential environmental impacts and, where necessary, the Environmental Protection Team at the Council are consulted. Recommendations typically are that the planning application can be approved, approved subject to appropriate Planning Conditions, or refused.

The recommendations made are considered, and given due weight, by Development Management Officers in determining any planning application.

1.2 How to Use the SPD

This SPD is designed to be used by developers, Planning Applicants and the public. Each chapter sets out the approach required for relevant planning applications for each subject matter.

It is strongly advised that the Applicant/Developer seek pre-planning advice from the Council's Planning and Development Management Team. This is to encourage high quality planning applications and to reduce the potential of planning applications being refused due to a lack of information with the submission. If an application does not contain sufficient information to be able to determine Environmental Protection impacts, then a refusal recommendation based on lack of information will be made.

The Council's pre-application advice service is accessible from:
www.warrington.gov.uk/pre-application-advice

This SPD has been prepared in accordance with the relevant legislation and guidance at the time of publication. Any Planning Applicants should be aware of any amendments to legislation and guidance since publication and use the latest relevant versions.

1.3 Local Policy Context

The Council's Local Plan sets out the development policy for the Borough to 2038/39. The Environmental Protection SPD will supplement the following Local Plan (2021/22-2038/39) Policies:

- INF1 (Sustainable Travel and Transport)
- DC1 (Warrington's Places)
- DC3 (Green Infrastructure)
- ENV3 (Safeguarding of Minerals Resources)
- ENV8 (Environmental and Amenity Protection)

The Local Plan is available to view on the Council website at:
www.warrington.gov.uk/LocalPlan

Consideration should also be given to other relevant Council planning documents. These include the Council's adopted SPDs – the Parking Standards SPD, Town Centre SPD; House Extensions SPD and the Hot Food Takeaway SPD- and the Warrington Design Guide SPD and Planning Obligations SPD. Consideration should also be made to the Council's Local Transport Plan, Climate Change Strategy and Public Health strategies.

1.4 National Policy Context

The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these should be applied on environmental protection matters.
To view the NPPF, please see the Government website:
www.gov.uk/government/publications/national-planning-policy-framework--2

1.5 Contacts

For specific queries relating to the subjects covered by this SPD, please contact the Environmental Protection Team by email at environmental.health@warrington.gov.uk

For any information for current planning applications, for making a new application or to register a pre-application, please contact the Development Management Team or visit the Council website:
www.warrington.gov.uk/planning-and-building-control

2. Air Quality

2.1 Introduction

Air pollution and poor air quality have detrimental impacts on health particularly relating to respiratory and cardiovascular illness. Exposure to air pollution has been linked to some cancers, leading to reduced life expectancy and there is growing evidence that longer term exposure can lead to dementia as well as reduced cognitive function.

The planning system plays a key role in minimising the impacts of poor air quality and air pollution. Therefore air quality is an important material consideration in many planning decisions and is essential to be considered at an early stage in the application process so to:

- help to prevent people from being exposed to unacceptable levels of air pollution and to improve the health and wellbeing of residents;
- prevent the need to further designate formal air quality management areas due to exceedances of the National Air Quality Objectives;
- prevent development adversely impacting upon current air quality management areas (AQMAs);
- To ensure that air quality considerations are given due weight in the decision making process.

This Chapter of the SPD sets out the Council's requirements for reducing air pollution emissions, including odour, from any new development as well as protecting 'new receptors' from an existing air quality problem or issue.

To assist developers in assessing air quality as part of their planning application.
The approach set out within this chapter is based on relevant national guidance including:

- Defra Local Air Quality Management Technical Guidance; and the
- Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) guidance on Land-Use and Planning & Development Control: Planning for Air Quality (as amended) and the Guidance on the Assessment of Odour for Planning.

2.2 Regulatory Objectives

The Council has a statutory duty under the Environment Act 1995 to work towards compliance with the health-based 'Air Quality Objectives' for key pollutants in the national Air Quality Standards Regulations (as amended) and the National Air Quality Strategy. Public Health managers also have responsibilities to respond to air quality impacts detailed under the Public Health Outcomes Framework (PHOF).

Local planning decisions have an important role to play in achieving these outcomes since they can significantly affect local air quality through the design and location of emission sources and receptors.

2.2.1 National Policy

The NPPF places an emphasis on sustainable development and states that air quality is a material consideration in the planning process. It provides specific guidance on how planning can take account of the impact of new development schemes on air quality.

Development schemes should:

1. Minimise the need to travel through locating developments in sustainable locations;
2. Exploit opportunities for sustainable transport modes;
3. Incorporate facilities for charging plug-in and other ultra-low emission vehicles;
4. Not cause unacceptable impacts on air quality;
5. Contribute towards compliance with relevant limit values and national air quality objectives;
6. Properly consider the impact on Air Quality Management Areas (AQMA) and Air Quality Action Plans (AQAP);
7. Consider the cumulative impacts of air quality; and
8. Consider mitigation measures to reduce emissions

The local authority has a duty to assist in the implementation of national strategies and guidance through the national Air Quality Strategy (as amended), the Environment Act (as amended) and

the Clean Air Act (as amended). The planning process is an important aspect in meeting the legislative aims of improving air quality and health.

2.2.2 Local Policy

The Local Plan references air quality throughout the document and includes a specific policy on air quality, ENV8 and objective W6.

The Council's Local Transport Plan (LTP) contains a number of objectives, policies and plans as a framework to address current and future local transport issues. The LTP imbeds air quality throughout and sets out measures to improve emissions from local transport, for example through active travel and use of low emission vehicles.

The Warrington Health and Wellbeing Strategy 2024-2028, 'Living Well in Warrington', sets out health and wellbeing priorities for the Borough. This acknowledges the importance of air quality in health.

In addition, the Council has declared a Climate Emergency and produced a Climate Emergency Strategy. This Strategy acknowledges the links between air quality and climate mitigation and by taking action locally can help to create.

2.2.3 Local Air Quality

In Warrington, the main pollutants of concern are nitrogen dioxide (NO_2) and particulate matter (PM2.5 and PM10). Source apportionment work has established that traffic movements are the current dominant source of NO_2 with emissions adversely affecting local air quality.

Emissions of PM2.5 are also from traffic but there is a significant component from other sources including domestic burning and heating, industrial, agriculture and transboundary impacts.

Levels of the annual mean NO_2, as well as PM2.5 in certain areas are a significant health concern, and the concentration of these pollutants and their associated health impacts need to be reduced. The Council is committed to improving air quality across the Borough by use of the Planning system to encourage low emission and sustainable development.

Where there are exceedances for specific pollutants in the national objective limits, then the Council is under a statutory duty to declare Air Quality Management Areas (AQMAs). Following the declaration of any AQMA, an Air Quality Action Plan (AQAP) must be produced to recommend a range of activities to tackle poor air quality and to meet the objectives. All development should consider and support the measures and as objectives set out in the AQAP. The latest air quality data and information on the status of AQMAs and the AQAP is contained within Annual Status Reports (ASR). These, and further information, is available on the Council website: www.warrington.gov.uk/airquality

Sites and developments that fall under other regulatory regimes, including environmental permitting and Environmental Impact Assessment (EIA) regulations, may require alternative or additional assessments relating to air quality. Certain types of development, listed in the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999, require an Environmental Impact Assessment (EIA) to be submitted. Potentially polluting developments in sensitive areas may also be required to submit a Health Impact Assessment (HIA). This should be linked to any Air Quality or Transport Assessment (TA).

2.3 When is an Air Quality Assessment Required?

An appropriate assessment of air quality must be included with any planning application that may adversely affect local air quality or that would be located and be unduly influenced upon by existing levels. It is vital that the Applicant/Developer considers the need for any assessment at the project conception stage, as it may not be possible to determine a planning application without first having a proper understanding of the air quality impact. The information required and mitigation measures needed to support an application will depend upon the nature of the development, its location and whether it would contribute to a cumulative impact of traffic which would affect air quality.

An air quality assessment is undertaken to inform decision making. It should be robust and be appropriate to the scale of the likely impacts.

The following set of indicative criteria provides specific guidance for when an air quality assessment is likely to be required, in line with the EPUK guidance document:

The Development Scheme will:	Indicative Criteria where Air Quality Assessment required:
Cause a significant change in Light Duty Vehicle (LDV) traffic flows on local roads with relevant receptors. (LDV = cars and small vans 3.5t gross vehicle weight).	A change of LDV flows of: ▪ More than 100 AADT within or adjacent to an AQMA ▪ More than 500 AADT elsewhere
Cause a significant change in Heavy Duty Vehicle (HDV) flows on local roads within relevant receptors. (HDV = goods vehicles + buses >3.5t gross vehicle weight).	A change of HDV flows of: ▪ More than 25 AADT within or adjacent to an AQMA ▪ More than 100 AADT elsewhere.
Realign roads, i.e. changing the proximity of receptors to traffic lanes.	Where the change is 5m or more and the road is within an AQMA.
Introduce a new junction or remove an existing junction near to relevant receptors.	Applies to junctions that cause traffic to significantly change vehicle accelerate/decelerate, e.g. traffic lights, or roundabouts.
Introduce or change a bus station.	Where bus flows will change by: ▪ More than 25 AADT within or adjacent to an AQMA; ▪ More than 100 AADT elsewhere.
Have an underground car park with extraction system.	The ventilation extract for the car park will be within 20 m of a relevant receptor. Coupled with the car park having more than 100 movements per 24 hour day (total in and out).

The Development Scheme will:	Indicative Criteria where Air Quality Assessment required:
Have one or more substantial combustion processes, where there is a risk of impacts at relevant receptors. **NB:** This includes combustion plant associated with standby emergency generators (typically associated with centralised energy centres) and shipping.	Typically, any combustion plant where the single or combined NO emission rate is less than 5 mg/sec is unlikely to give rise to impacts, provided that the emissions are released from a vent or stack in a location and at a height that provides adequate dispersion. In situations where the emissions are released close to buildings with relevant receptors, or where the dispersion of the plume may be adversely affected by the size and/or height of adjacent buildings (including situations where the stack height is lower than the receptor) then consideration will need to be given to potential impacts at much lower emission rates. Conversely, where existing nitrogen dioxide concentrations are low, and where the dispersion conditions are favourable, a much higher emission rate may be acceptable.

Where an air quality assessment is identified as being required, then this may take the form of a Detailed Assessment completed with the aid of predictive techniques using dispersion modelling.

Prior to undertaking an air quality assessment, it is important that whoever undertakes the assessment obtains an agreement with the Council regarding the scope and methodology. This will include an agreement on appropriate datasets including appropriate local air quality data, meteorological data, background concentrations, traffic flows/trip generation data, model type and verification procedures.

The assessment methodology should be in accordance with national Defra guidance document LAQM.TG (as amended).

2.3.1 Construction Impacts

The impact of the construction, including any demolition works, phase of a development on air quality should be considered as part of any air quality assessment. Primary concerns relate to emissions of dust and particulate matter arising from the movement and storage of materials and from the various construction activities. The IAQM "Guidance on the Assessment of Dust from Demolition and Construction" provides further information on the carrying out of an assessment.

Emissions from vehicles and mobile plant used on the site including HGV vehicles bringing material to and from the site should also be considered for the local area. For all developments, best practicable means should be adopted to control and reduce emissions and therefore any assessment should also detail measures that will be used to mitigate the various sources.

Site specific mitigation may be required and would be contained within a Construction Environmental Management Plan (CEMP) to control dust and mobile plant emissions. Development sites should have a means for damping down temporary haul roads and storage compounds should be located away from housing. A CEMP can be provided upfront with the planning application. Alternatively, this can be required as a condition that will then be needed to be discharged before site works commence.

A CEMP condition is likely to be required for developments greater than five residential, for major commercial/industrial or for any development close by to existing sensitive receptors.

Demolition works involving asbestos should be notified to the Council's Building Control team. Any works should be carried out by an approved contractor and details contained with the CEMP.

It should also be noted that mobile crushing plant used on site should be permitted under the requirements of the Pollution Prevention and Control Act 1999 and the Environmental Permitting 2016 Regulations (as amended).

Burning is not an appropriate method of disposing of waste and therefore no burning should take place during construction or demolition works. Fires on demolition sites are likely to be expressly

forbidden by either the Environment Agency or under the Building Control approval. The Council can also take action under its statutory nuisance provisions.

2.3.2 Odour

An Odour Impact Assessment (IOA) will be required for any development with a potential for emitting odour, or that will add receptors to an area that may then be subject to odour from existing activities.

Unlike Local Air Quality Management, there are no prescribed limits for odour. The subjectivity of the human response to odour means that it is often not easy to set objective odour exposure standards. However, these difficulties must not preclude the use of objective measurements, in assessing potential nuisance and in identifying control measures, where these can be justified and are considered to be appropriate.

In all cases where the generation of odours from the development can be readily anticipated, the authority shall expect to be provided with objective evidence that demonstrates that odour emissions will be adequately controlled to prevent any significant loss of amenity to neighbouring sensitive land users. This is important not least because possible odour mitigation measures could in themselves have land use and amenity implications.

Careful consideration needs to be given to the location of new odour sensitive developments such as residential developments, schools, care homes, health centres, hospitals and employment areas near to existing odour sources. Encroachment of odour sensitive development around such odour sources may lead to problems with the site becoming the subject of complaint, essentially creating a problem where there was not one before.

Ideally a robust screening process at the planning application submission stage should help to identify new developments where adverse odour impacts may arise. Screening should aim to identify planning applications where odours are a potential issue, whether the application site is the source, or the application site is close to potential odour sources. If such new developments are identified early on, this allows early consultation with the local authority.

Assessments should be carried out using the EPUK*"Guidance on the Assessment of Odour for Planning"*, which can be found on the IAQM website.

2.3.3 Biomass Heating

Due to health concerns relating to increasing of emissions of particulate (PM10 and PM2.5) and NO_2 in urban areas, the Council does not encourage biomass type heating in urban areas. Any planning applications that do propose the use of biofuel and biomass-fuelled systems are required to submit a detailed air quality assessment. Air quality assessments should be conducted referencing LAQM.TG and Technical Guidance: Screening Assessment for Biomass Boilers.

The Applicant/Developer should demonstrate that the heat generated from biomass is an effective alternative to conventional or alternative fuels and is not in conflict with the Council's AQAP, Environment Act and the Clean Air Act.

2.3.4 Indoor Air Quality

Indoor air quality is not assessed as part of the Council's air quality management duties. Whilst this SPD is not specifically designed to address indoor air quality, design of buildings should incorporate best practice measure to reduce exposure from poor indoor air quality. Measures should include adequate ventilation, choice of building materials to reduce VOC levels, insulation, and appropriate heating and cooking facilities.

Further information is available in the Council's Design SPD. Reference should also be made to the EPUK IAQM Indoor Air Quality Guidance: Assessment, Monitoring, Modelling and Mitigation.

2.4 Air Quality Assessment Technical Guidance

Where an air quality assessment is identified as being required, then this may take the form of a Detailed Assessment completed with the aid of predictive techniques using dispersion modelling. The assessment methodology should be agreed with the Council and be in accordance with the latest Defra national guidance document LAQM.TG and relevant guidance.

The assessment should include three basic steps:

1. Assess the existing air quality in the study area (existing baseline);
2. Predict the future air quality without the development in place (future baseline which may or may not include the contribution of committed development);
3. Predict the future air quality with the development in place (with development).

The possibility of cumulative impacts from other approved developments should be considered. Assessments are carried out for the first year of the proposed development's use as this will generally represent the worst-case scenario. In some cases, depending upon location, it may be appropriate to carry out air quality monitoring over a period of time, on accordance with LAQM.TG to assist with model verification.

Air Quality Assessment Reports should contain the following as a minimum:

- Relevant details of the proposed development.
- The policy context for the assessment.
- Description of the relevant air quality standards and objectives.
- The basis for determining significance of effects arising from the impacts.
- Details of the assessment methods and model inputs including traffic data, met data, surface roughness and vehicle emission factors.
- Model verification.
- Identification of sensitive locations.
- Description of baseline conditions.
- Assessment of impacts.
- Description and assessment of construction phase impacts.
- Cumulative impacts and effects.
- Mitigation measures.
- Summary of the assessment results.

2.4.1 Agreement of Data and Assessment Methodology

Prior to undertaking an air quality assessment, it is important that whoever undertakes the assessment obtains an agreement with the Council's Environmental Protection Team regarding the scope and methodology. This will include an agreement on appropriate datasets including appropriate local air quality data, meteorological data, background concentrations, traffic flows/trip generation data, model type and verification procedures.

2.4.2 Describing the Impacts

The suggested framework for describing impacts on air quality is set out below and in the EPUK guidance and is as follows:

Long-term Average Concentration at Receptor in Year of Assessment:	% Change in Concentration Relative to Air Quality Assessment Level (AQAL):			
	1:	2-5:	6-10:	>10:
75% or less of AQAL	Negligible	Negligible	Slight	Moderate
76-94% of AQAL	Negligible	Slight	Moderate	Moderate
95-102% of AQAL	Slight	Moderate	Moderate	Substantial
103-109% of AQAL	Moderate	Moderate	Substantial	Substantial
110% or more of AQAL	Moderate	Substantial	Substantial	Substantial

The framework is only designed to be used with annual mean concentrations, however the EPUK guidance explains how the objective value for the daily mean PM10 concentration, also relevent for PM2.5 can be translated into an equivalent annual mean value for the AQAL.

2.4.3 Identifying Receptors

Any assessment should consider air quality levels at relevant sensitive receptors. Full details are contained in LAQM.TG. The Environmental Protection Team should be contacted prior to any assessment to agree the location of the relevant receptors to be assessed.

2.4.4 Selection of Modelling Methodology

Air quality assessment is a scientific exercise and as such there are continuous improvements and scientific developments within the discipline. Consequently, this Chapter does not set out a detailed prescribed method or choice of modelling methodology to be following. However, advice is given within LAQM.TG on the types of modelling method that should be used.

2.4.5 Assessing Significance

Impacts on air quality will have an effect on human health that can be judged as 'significant' or 'not significant'. An impact is the change in the concentration of an air pollutant, as experienced by a receptor. This may have an effect on the health of a human receptor; the significance of this effect and the severity of the impact, requires judgement. Significance is typically assessed at two stages in the overall process of examining air quality as a material planning consideration:

- Set out the change in magnitude and significance of any air quality impacts within the air quality assessment, using the professional judgement of the assessment authors; and
- An evaluation by the local planning authority of the assessment of the significance of any air quality impacts using the professional judgement of its officers, to help reach a decision on the planning application.

Any judgement on the overall significance of an effect needs to take into account:

- Existing and future air quality in the absence of development;
- Extent of current and future population exposure; and
- Influence/validity of assumptions adopted when undertaking a prediction of impact.

Impact descriptors are used for individual receptors i.e. slight, moderate or substantial, however the overall effect may not be significant. The assessor will need to consider the number of people exposed to impacts in the various different categories of severity, in order to reach a conclusion on the significance of effect.

Where the baseline concentrations are close to the objective value at a receptor, but not exceeding it, a case may be made for the development's predicted contribution being significant.

A significant number of smaller developments may all add traffic to an urban location that already has an air quality problem. An air quality assessment will therefore need to take into account cumulative impacts from a number of developments but there is no prescriptive approach as multiple factors are likely to be involved.

2.4.6 Odour Impact Assessments

OIA must be used in support of planning applications where the potential for odour problems has been clearly identified and where such studies are considered to be necessary and proportionate to the extent of odour problems. A properly structured OIA will need to identify:

1. All potential sources of odour and their estimated rates of emission from the new development;
2. The potential for fugitive emissions of odour together with the means to control these emissions;
3. The location of sensitive receptors;
4. A wind rose for the site in question;
5. Potential pathways to sensitive receptors;
6. A description of the potential impacts including evidence provided by dispersion models taking cognisance of topographical features;
7. Details of any necessary odour abatement systems or other mitigation measures with justifications for the measures being proposed; and
8. Details of an odour management plan (OMP) with contingency arrangements for responding to any unforeseen or unusual odour emission episodes.

The degree of detail provided in an OIA should be proportionate to the risk of odour impact, taking account of factors including the proximity of receptors, the scale of the proposed activity and the nature of the proposed development.

We would recommend that a developer consults with any operators of existing odour sources, for example waste water treatment works or industrial sources, when an OIA is being carried out.

Small scale developments, such as a new hot food takeaways, a relatively simple risk assessment based approach is likely to be appropriate. An example of an Odour Risk Assessment Protocol for commercial kitchens is provided in the EMAQ guidance "Control of Odour and Noise from Commercial Kitchen Exhaust Systems". Reference should also be made to the *"Hot Food Takeaways"* SPD published by the Council.

Higher risk developments, such as a new sewage treatment works, a more rigorous approach to evaluating odour impact may be appropriate. OIAs are typically based on computer models which predict odour dispersion from the proposed development based on local weather records and estimated or predicted odour emissions from the proposed development. The outputs from dispersion modelling should be presented as odour contours or "isopleths" on a base map of the area to allow potential odour impact to be predicted at odour sensitive receptor locations.

Larger scale industrial developments with odour potential are likely to fall under Environmental Permitting legislation. Odour assessment should be considered jointly for any permit and planning application. Any odour assessment for higher risk sites should relate to the most appropriate and current guidance, for example to the Environment Agency H4 Odour Management Guidance.

It is advised that the Environmental Protection Team should be contacted prior to any odour assessment for agreement on the most suitable method of assessment.

2.5 Mitigation

The Council will require mitigation from any developments that are detrimental to air quality where appropriate. It is expected that developers incorporate key design and sustainability principles into their schemes, unless this is demonstrated not to be practicable. Mitigation measures should be complementary to other policies, for example reducing carbon emissions and building regulations.

The type of measures proposed to reduce or mitigate air quality impacts will depend on the nature and scale of the proposed development.

Even where developments are proposed outside of AQMAs, and where pollutant concentrations are predicted to be below the objectives/limit values, the proposed development should incorporate good design principles and best practice measures.

Where impacts cannot be satisfactorily mitigated, there will be a strong presumption against the granting of planning permission.

The following are examples of potential mitigation measures that should be considered. It is not designed to be an exhaustive list and there may be other mitigations which are more suitable.

Design Stage to Reduce Impacts

Locate developments close to existing public and sustainable transport infrastructure to encourage and enable sustainable travel behaviour from the outset.

Ensure that the air quality impacts on nearby sensitive receptors, including schools, care homes and hospitals, are given careful consideration at the design stage.

Configure buildings and layout in a way that enables effective pollution dispersion and avoids the creation of ‘street canyons’.

Layouts should be designed in such a way as to reduce the need for people to travel short distances by car.

Minimise public exposure to pollution sources through effective design, for example by locating habitable rooms away from busy roads and set back distances of residential building away from roadsides.

For industrial and commercial premises, directing combustion and odour pollutants through appropriately located vents or chimney stacks.

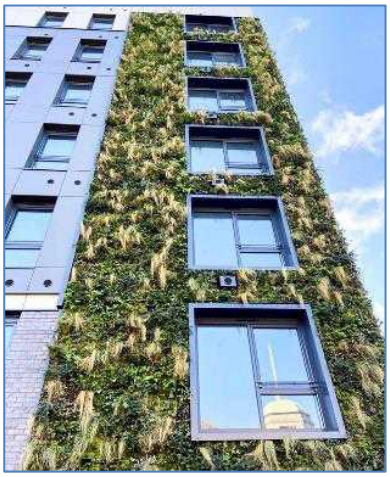
Building Standards

Consider opportunities to improve the environmental performance of buildings, including applying BREEAM standards.

Applicable standards for air quality include the provision of low NOx space heating and hot water systems, air or ground source heat pumps, solar panels, and appropriate ventilation.

Orientate buildings so they can effectively absorb solar energy to minimise the need to heat buildings using non-renewable sources should be considered.

Green Infrastructure



Incorporate green infrastructure, for example trees, green roofs/living walls and landscaping, to provide adequate shading and to filter emissions.

The species of tree(s) used will need to be considered effectively to ensure that the filtering of emissions is optimised and to reduce the risk of the street canopy impeding effective pollution dispersion.

Sustainable Travel

Encouraging a modal shift from motorised transport to active travel such as walking and cycling. This can be delivered by providing safer, direct and better quality walking and cycling connections between homes and key destinations such as schools, shops, leisure centres, health facilities, community hubs, public transport services, workplaces and other local amenities. Within the site itself, appropriate infrastructure (e.g. cycle parking, car share parking spaces) should be provided to encourage travel by these modes.

It can also be delivered by promoting the wider societal and environmental benefits of active travel through the development of travel plans for schools, residential areas, and workplaces. The travel plan should also include a range of promotional measures to promote active and sustainable modes of transport. This could include setting up travel guides / websites to inform site users of the variety of transport options available and incentivizing use (e.g. through the provision of discounted bus tickets). Providing safe, direct and good quality walking and cycling connections from new homes to schools, shops, health facilities, public transport services, workplaces and other local amenities reducing the need to travel by car.

Electric Vehicle Infrastructure

Incorporate charging points for electric vehicles into residential developments and other developments which attract vehicles, such as retail and employment proposals. Preferred parking arrangements for low emission vehicles and car share should be considered.

The Council's Electric Vehicle Strategy outlines the current situation in relation to EV charging infrastructure, alongside a range of measures and initiatives to encourage greater use of electric vehicles.

Low Emission Public Transport

Contribute to the introduction of new or improved low emission modes of public transport, such as, the provision of electric buses.

Ensure that new developments are located within close proximity to bus stops to allow site users to access these services.

Reduce Construction Impacts

Implement measures during construction, operation and demolition works including dust control, site and monitoring and CEMP. Use low emission mobile plant for equipment.

Indoor Air Quality

Consider indoor air quality measures, for example ventilation schemes, use of building materials and heating and cooking systems to reduce indoor air quality impacts.

Odour Control Mitigation

Consider ventilation designs and location of extracts, filter systems such as carbon or ozone filter.

2.6 How will the Council Assess Air Quality for a Development Scheme?

The Council will consider the relative merit of the planning application with regard to national and local planning policy. The relative weight given to air quality will depend on the significance of any impact.

The Council is committed to reducing air quality levels in places where people live, work, study and relax and it accepts that the National Air Quality Objectives provide the basis for assessing significance as detailed in this document.
Any development that would interfere with an Air Quality Management Plan, result in a breach of a relevant objective or create a potential new AQMA will be treated as significant.

2.7 Further information

Warrington Borough Council	Planning Technical Guidance: Air Quality Air Quality Annual Status Report Air Quality Action Plan Local Transport Plan (LTP) and including parking standards and travel plans Electric Vehicle Strategy Health & Wellbeing Strategy Climate Emergency Strategy
Department for Environment, Food & Rural Affairs (DEFRA)	National Air Quality Assessment Guidance LAQM.TG
Environmental Protection UK (EPUK)	IAQM Guidance
Environment Agency	National Odour Assessment Guidance

3. Contaminated Land

3.1 Introduction

Certain types of land contamination are known to be hazardous to human health, controlled waters and the wider environment. Typical causes of land contamination include previous industrial or commercial usage, mining, and the land-filling of wastes. Land may also become contaminated due to its close proximity to contaminated areas.

Contaminating substances include metals, organic substances, ground gases and volatile vapours. Contamination may not occur solely as a result of human activities. Land can also become contaminated as a result of natural processes.

Information relating to land contamination submitted in support of planning applications must be of an acceptable minimum standard in order to satisfy the Council in its role as a Local Planning Authority. The guidance contained within this chapter aims to inform developers of the procedural requirements of a risk-based approach to land contamination, as defined in current national legislation and guidance.

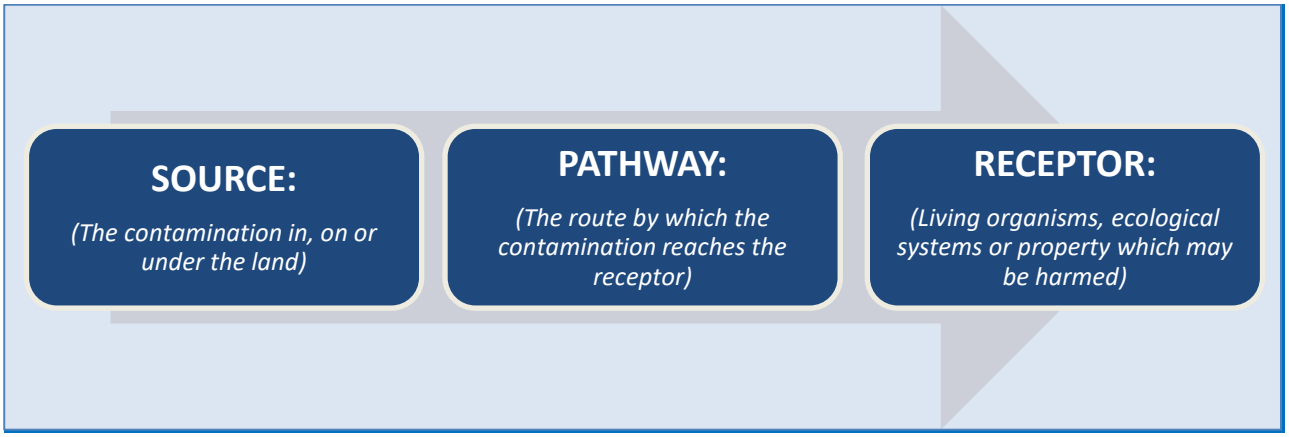
3.2 Regulatory objectives

Contaminated land is regulated under national legislation as well as the planning system. Regulation seeks to mitigate risk posed by contamination to human health and controlled waters and ensure that land and development schemes are suitable for the proposed end use.

3.2.1 National Policy

The definition of 'contaminated land' is defined in Section 78A (2) of the Environmental Protection Act (EPA) 1990). With respect to controlled waters, Chapter 37, Section 86 of the Water Act 2003 amends the second part of the definition.

In most cases, local authorities are the enforcing authorities for the contaminated land regime under Part 2A of the EPA (1990). Local Authorities have a duty to identify contaminated land within their jurisdiction and (except for certain categories) to derive and implement remediation if required. A key element of the Part 2A regime is the Source-Pathway-Receptor pollutant linkage concept. Each element is defined as follows:



Without the clear identification of all three elements of the pollutant linkage, land cannot be determined as 'contaminated land' under the regime.

Part 2A was introduced specifically to address the historical legacy of land contamination, whereas the planning system aims to control development and land use in the future. Assessing risks in relation to the future use of any land is primarily a task for the planning system. The Applicant/Developer should always to take into account Part 2A, because a change in use may cause the land to fall within the statutory definition of contaminated land by creating a pollutant linkage.

The Council has published a Contaminated Land Inspection Strategy to comply with the requirements of the Part 2A regime. This document can be downloaded at: www.warrington.gov.uk/contaminated-land

The planning system, under the National Planning Policy Framework (NPPF), uses a slightly different definition for contaminated land, which is not based solely on the legal definition set out in Part 2A. A wider range of contamination and receptors is relevant to planning but the degree of harm or pollution and the approach to remediation are essentially the same.

The NPPF sets out several considerations with respect to land contamination that are integral to the regulation of affected land and development schemes under the planning system.

To avoid confusion with the term 'contaminated land', the planning regime often, but not exclusively, uses the wider term 'land affected by contamination' or 'land contamination'. This is

intended to cover all cases where *"The actual or suspected presence of substances in, on or under the land may cause risks to people, human activities or the environment, regardless of whether or not the land meets the statutory definition in Part 2A".*

When compared with Part 2A, the primary difference under the planning system, is that risks have to be assessed based upon the new or intended use of the land, rather than the existing use. However, the principles underlying both regimes are fundamentally the same, namely, the identification and remediation of land that may pose a risk to human health, property and/or the wider environment.

Part 2A was intended to encourage voluntary remediation and for use where no appropriate alternative solution exists. Consideration of contaminated land under planning permission represents an alternative solution and as such, investigation and remediation of land under planning permission will always be given preference to statutory action under Part 2A.

3.2.2 Local Policy

Contaminated land is considered through the Local Plan, specifically Policy ENV8 'Environmental and Amenity Protection' and in paragraph 9.8.7, where the industrial heritage of the Borough are acknowledged.

3.2.3 Contaminated Land in Warrington

Warrington has a legacy of industrial activity, land reclamation works and land-filling activities. These 'Brownfield' land uses can represent a potential source of soil or water contamination and as such, are classified as 'Potentially Contaminated Land' (PCL) by the Council. Equally, land with no known industrial usage, may also be contaminated and classified as PCL.

Due to available land and the impetus from central government towards the re-use of Brownfield sites, the Council in Warrington is receiving an increasing number of planning applications to redevelop Brownfield land.

3.3 When is a Contaminated Land Assessment Required?

When applying for planning permission for a given development scheme, the Council will consider contaminated land as part of the planning consultation. Contaminated land is likely to be a consideration if any, or all, of the following criteria are met:

A precautionary approach should be assumed when considering planning applications located on or adjacent to Potentially Contaminated Land (PCL) or for development schemes proposing a 'Sensitive' end use.

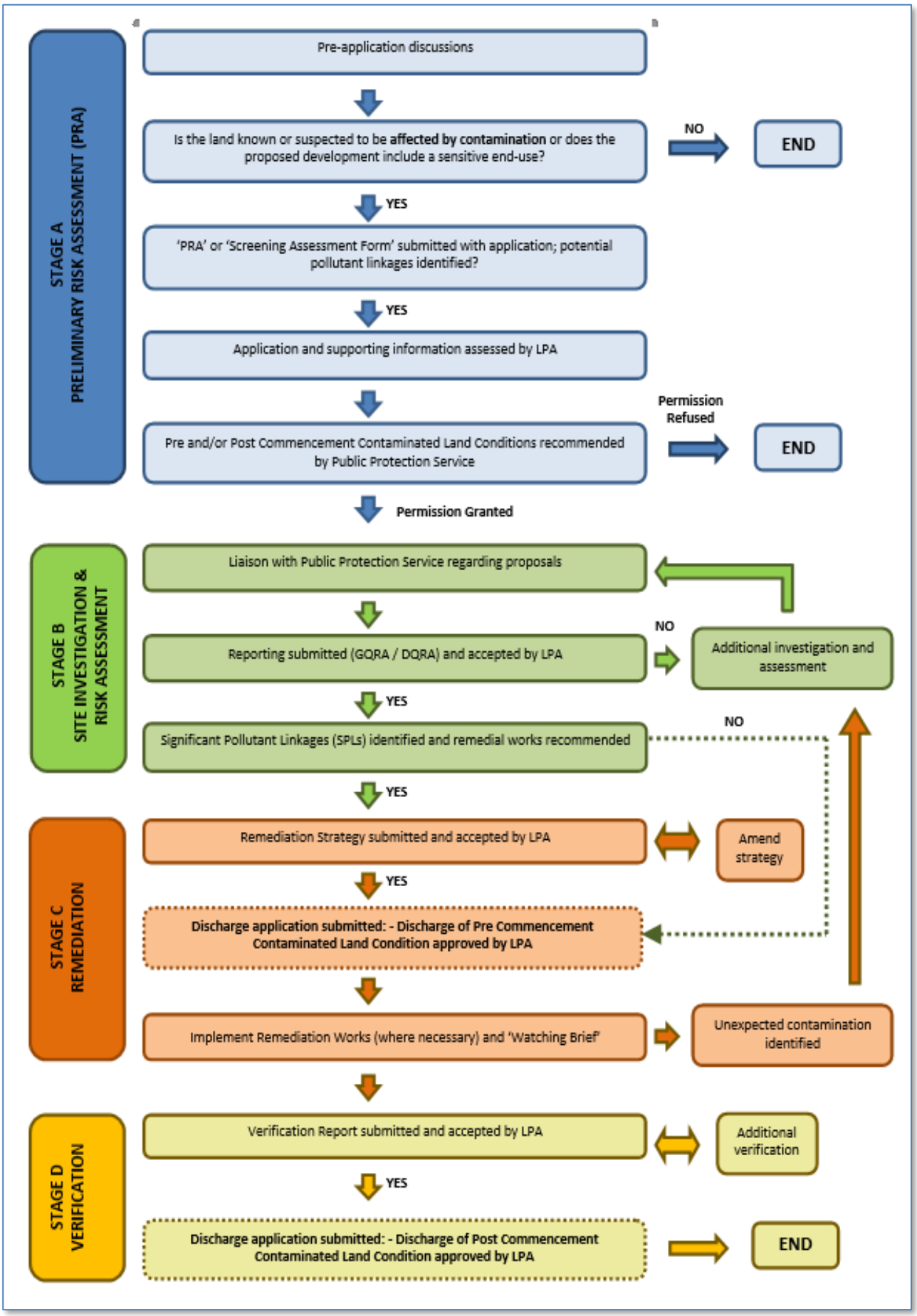
PCL includes land that has had a previous industrial use or has been reclaimed or in-filled. 'Sensitive' uses for development schemes include the following land uses:

3.3.1 Planning Applications Procedure

Where a development scheme is proposed on land that is or may be affected by contamination, an assessment of risk should be carried out by the Applicant/Developer and submitted with the planning application to enable the Council to make a determination.

Any existing or new unacceptable risks should be identified and proposals made to deal with them effectively as part of the development process.

The flowchart on the following page sets out the procedure for managing contaminated land under the planning system.


STAGE A
PRELIMINARY RISK ASSESSMENT (PRA)
Pre-application discussions
Is the land known or suspected to be affected by contamination or does the proposed development include a sensitive end-use?
NO
END
YES
'PRA' or 'Screening Assessment Form' submitted with application; potential pollutant linkages identified?
YES
Application and supporting information assessed by LPA
Pre and/or Post Commencement Contaminated Land Conditions recommended by Public Protection Service
Permission Refused
END
Permission Granted
STAGE B
SITE INVESTIGATION & RISK ASSESSMENT
Liaison with Public Protection Service regarding proposals
Reporting submitted (GQRA / DQRA) and accepted by LPA
NO
Additional investigation and assessment
YES
Significant Pollutant Linkages (SPLs) identified and remedial works recommended
NO
YES
STAGE C
REMEDIATION
Remediation Strategy submitted and accepted by LPA
Amend strategy
YES
Discharge application submitted: - Discharge of Pre Commencement Contaminated Land Condition approved by LPA
Implement Remediation Works (where necessary) and 'Watching Brief'
Unexpected contamination identified
STAGE D
VERIFICATION
Verification Report submitted and accepted by LPA
Additional verification
YES
Discharge application submitted: - Discharge of Post Commencement Contaminated Land Condition approved by LPA
END

The application, with supporting information, will be assessed to determine whether there is the potential for contamination to influence the land or development scheme, whether suitable measures have been proposed to address any risks and whether the proposed development is acceptable.

If there is the potential for contamination to affect the site, or the end-use is particularly sensitive, recommendations will be made that Contaminated Land Planning Conditions are be imposed upon any planning permission granted. These Planning Conditions are intended to ensure that the site is made suitable for its proposed end use and to ensure the safety of site workers, future site users and the wider environment.

It is essential that the Applicant/Developer provides as much information to the Council at every stage of the planning process. **The onus is on the Applicant/Developer to keep the Council well informed about the development scheme** so that decisions can be made swiftly and the consultation completed as quickly as possible. If a response from the Council is not immediately forthcoming, this should not be taken as confirmation that document submissions have been approved or that work on site can proceed. The Applicant/Developer must obtain written approval from the Council for any documents/information submitted in support of a planning application.

3.3.2 Contaminated Land information and advice

General advice in relation to land contamination can also be obtained via the 'Contaminated Land Pre-planning Advice Service' offered by the Environmental Protection Team. The service is subject to a time recovery fee charged nominal officer hourly rate. Further information can be found on the Council website: www.warrington.gov.uk/contaminated-land.

This service though does not offer formal pre-application advice, this should be applied for through the Development Management Team at www.warrington.gov.uk/apply-planning-permission

Contaminated Land Pre-planning Advice Service:

- If you are applying for planning permission and would like to know if contaminated land will affect your planning application, then you can ask the Environmental Protection Team for advice before you submit your planning application. Speaking to us early can ensure that you are aware of any contaminated land requirements and ensure the planning application process is as smooth as possible.
- Services include: Reviews of contaminated land documents you intend to submit in support of your planning application; Specialist advice about Planning Conditions; Phone calls and virtual (MS Teams) meetings to help manage your planning application. A quotation can be obtained by contacting the Environmental Protection Team on: contaminatedland@warrington.gov.uk

Viewing of Planning Documents:

- The Environmental Protection Team holds historic and current information about contaminated land within the Borough. In addition, the copies of all contaminated land investigation and risk assessment reports submitted under the planning system are also held on record. Companies or individuals can view information or reports at Council Offices by prior appointment.
- Intellectual property rights will need to be respected and duplicate copies of material subject to copyright laws will not be made or allowed.
- For further details contact the Environmental Protection Team on: contaminatedland@warrington.gov.uk

Contaminated Land / Environmental Search Service:

- The Council offers an 'Environmental Search Service', which can provide additional information to companies or individuals wishing to determine if a particular site or parcel of land is affected by contamination. There are several different types of search available.
- Information included relates to historic land uses, potentially contaminated land, status under Part 2A of the Environmental Protection Act (1990), as well as details of any contaminated land reports held on record by the Council.
- Details of search types and associated charges can be obtained by contacting contaminatedland@warrington.gov.uk and requesting information about the Environmental Search Service.

3.3.4 Planning Permission

The Council may grant planning permission where, based on the contaminated land information provided, it is satisfied that the proposed development scheme will be appropriate. This permission will be subject to Contaminated Land Planning Conditions where necessary.

The Council may refuse permission if, on the basis of the contaminated land information provided by the Applicant/Developer or the responses of those consulted, it is not satisfied that the development would be appropriate. This could include cases where:

Circumstances/information available to the LPA suggest the possibility of contamination or of unacceptable risk and **insufficient information** has been provided or obtained that excludes the reasonable possibility of such contamination or risk

The LPA considers that unacceptable risk exists and **cannot be dealt with** adequately to deliver a development scheme that is suitable for its intended use and which results in the removal of such risks

The steps needed to deliver a development scheme suitable for use and deal with unacceptable risk are not already in place and **cannot be secured by suitable Planning Conditions** (eg: matters are beyond the control of the Developer or on neighbouring land

3.3.5 Contaminated Land Planning Conditions

In some cases, the information available when a planning application is being considered will be sufficient to approve the proposals, but insufficient to render the site suitable for use.

In these circumstances planning permission can be granted subject to Planning Conditions. Contaminated Land Planning Conditions are designed to effectively regulate land contamination issues associated with a given development scheme and fall into two main classifications: Pre-commencement; and completion conditions.

PRE-COMMENCEMENT PLANNING CONDITIONS:

These are Planning Conditions or parts of Conditions that are required to be satisfied prior to a development scheme commencing.

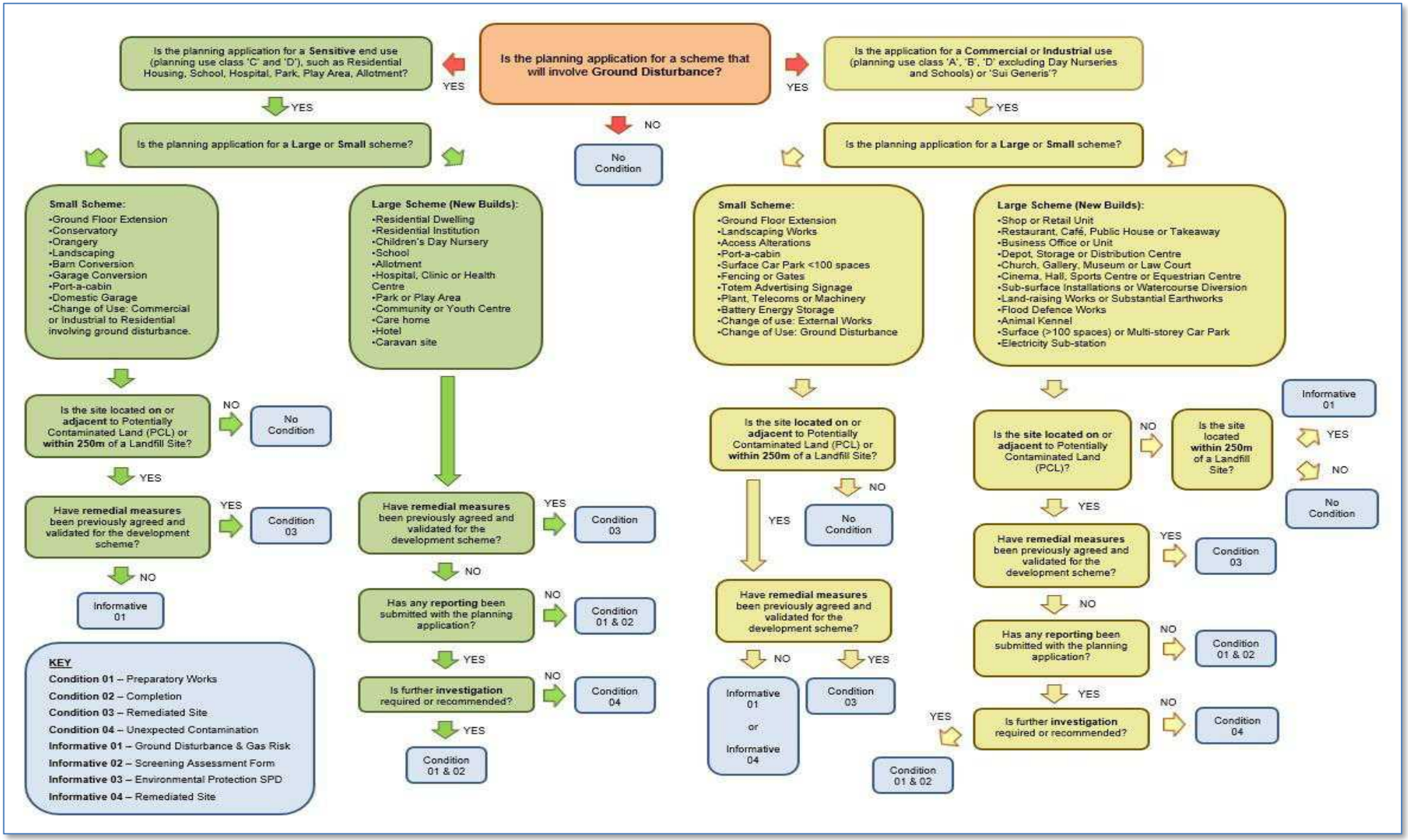
These Planning Conditions include the requirement to investigate and risk-assess the land as well as (if applicable) the submission of an approved Remediation Strategy. These Planning Conditions permit certain works prior to being discharged, but must be satisfied **prior to excavation and/or construction works** commencing.

COMPLETION PLANNING CONDITIONS:

These are Planning Conditions or parts of Conditions that are required to be (or can only be) satisfied once site works have completed.

Completion Conditions include the requirement to report unexpected contamination; provide verification for remedial action taken; and to account for imported and exported fill materials. These Planning Conditions must be satisfied **prior to occupation of new buildings** and/or the scheme being taken into use.

The methodology by which the Environmental Protection Team apply Contaminated Land Planning Conditions to planning applications is shown on the following page.


Is the planning application for a scheme that will involve Ground Disturbance?
NO
No Condition
YES
Is the planning application for a Sensitive end use (planning use class 'C' and 'D'), such as Residential Housing, School, Hospital, Park, Play Area, Allotment?
YES
Is the planning application for a Large or Small scheme?
Small Scheme:
•Ground Floor Extension
•Conservatory
•Orangery
•Landscaping
•Barn Conversion
•Garage Conversion
•Port-a-cabin
•Domestic Garage
•Change of Use: Commercial or Industrial to Residential involving ground disturbance.
Is the site located on or adjacent to Potentially Contaminated Land (PCL) or within 250m of a Landfill Site?
NO
No Condition
YES
Have remedial measures been previously agreed and validated for the development scheme?
YES
Condition 03
NO
Informative 01
Large Scheme (New Builds):
•Residential Dwelling
•Residential Institution
•Children's Day Nursery
•School
•Allotment
•Hospital, Clinic or Health Centre
•Park or Play Area
•Community or Youth Centre
•Care home
•Hotel
•Caravan site
Have remedial measures been previously agreed and validated for the development scheme?
YES
Condition 03
NO
Has any reporting been submitted with the planning application?
NO
Condition 01 & 02
YES
Is further investigation required or recommended?
NO
Condition 04
YES
Condition 01 & 02
KEY
Condition 01 – Preparatory Works
Condition 02 – Completion
Condition 03 – Remediated Site
Condition 04 – Unexpected Contamination
Informative 01 – Ground Disturbance & Gas Risk
Informative 02 – Screening Assessment Form
Informative 03 – Environmental Protection SPD
Informative 04 – Remediated Site
YES
Is the application for a Commercial or Industrial use (planning use class 'A', 'B', 'D' excluding Day Nurseries and Schools) or 'Sui Generis'?
YES
Is the planning application for a Large or Small scheme?
Small Scheme:
•Ground Floor Extension
•Landscaping Works
•Access Alterations
•Port-a-cabin
•Surface Car Park <100 spaces
•Fencing or Gates
•Totem Advertising Signage
•Plant, Telecoms or Machinery
•Battery Energy Storage
•Change of use: External Works
•Change of Use: Ground Disturbance
Is the site located on or adjacent to Potentially Contaminated Land (PCL) or within 250m of a Landfill Site?
NO
No Condition
YES
Have remedial measures been previously agreed and validated for the development scheme?
NO
YES
Informative 01 or Informative 04
Condition 03
YES
Condition 01 & 02
Large Scheme (New Builds):
•Shop or Retail Unit
•Restaurant, Café, Public House or Takeaway
•Business Office or Unit
•Depot, Storage or Distribution Centre
•Church, Gallery, Museum or Law Court
•Cinema, Hall, Sports Centre or Equestrian Centre
•Sub-surface Installations or Watercourse Diversion
•Land-raising Works or Substantial Earthworks
•Flood Defence Works
•Animal Kennel
•Surface (>100 spaces) or Multi-storey Car Park
•Electricity Sub-station
Is the site located on or adjacent to Potentially Contaminated Land (PCL)?
NO
Is the site located within 250m of a Landfill Site?
YES
Informative 01
NO
No Condition
YES
Have remedial measures been previously agreed and validated for the development scheme?
YES
Condition 03
NO
Has any reporting been submitted with the planning application?
NO
Condition 01 & 02
YES
Is further investigation required or recommended?
NO
Condition 04

3.3.6 Discharge of Planning Conditions

Any discharge of a Planning Condition must be the subject of a formal discharge application made to Development Control. The Environmental Protection Team will make recommendations that Planning Conditions, or parts of Conditions, relevant to the submitted information can be discharged.

The status of any Contaminated Land Planning Condition on a given planning consent can be provided by commissioning a 'Discharge of Contaminated Land Planning Condition Review' from the Environmental Protection Team. The service is subject to a nominal fee set by the Planning Inspectorate.

3.3.7 Best Practice and Professional Advice

All assessments should be carried out by, or under the direction of, a suitably qualified person and in accordance with national guidance and best practice.

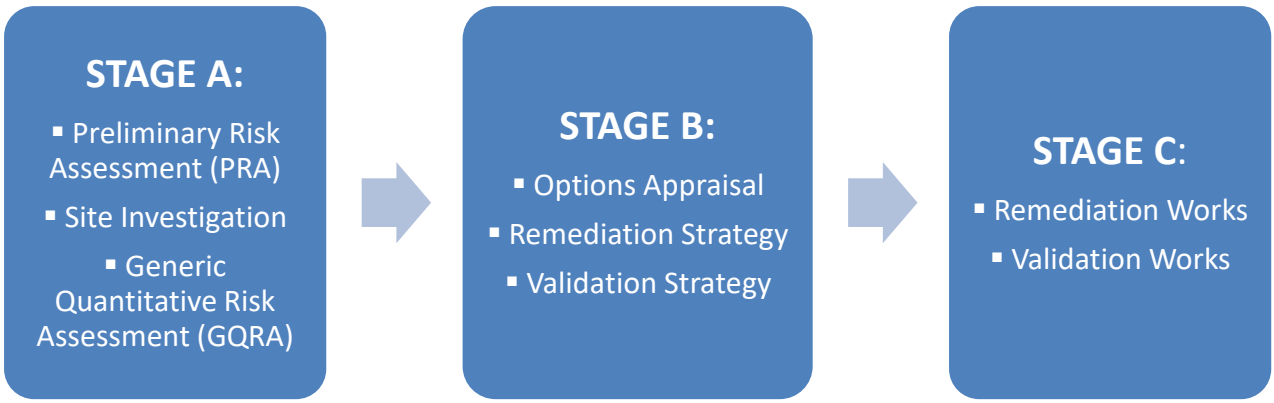
All aspects of investigation and risk assessment relating to land contamination should also follow the guidelines laid out within the Land Contamination Risk Management (LCRM) website. An assessment of the presence of contamination and of the significance of the risks that may be posed requires careful professional judgement and competent expert advice. The Applicant/Developer is responsible for ensuring the safe development and secure occupancy of a site.

A detailed technical framework for investigating and dealing with land affected by contamination is contained within the Environment Agency (EA) "A Land Contamination Risk Management" document on the LCRM website. The LCRM website provides details on the process of identifying, making decisions and taking appropriate action to deal with land contamination in a way that is consistent with government policies and legislation.

An overview of the LCRM process and how it works to manage land contamination can be found on the Environment Agency website here:
www.gov.uk/government/publications/land-contamination-risk-management-lcrm/lcrm-before-you-start#using-the-lcrm-guides

3.4 Contaminated Land Assessment Technical Guidance

Components of a contaminated land assessment submitted in support of a Planning Application would generally follow the Stages (A-C):



3.4.1 Preliminary Risk Assessment (PRA)

A PRA (also known as a 'Phase 1 Investigation' or 'Desk Study') should provide an initial assessment of risk by interpreting historical information, the likelihood of contamination being present and making an initial risk assessment.

A PRA Report typically consists of a desk study, site reconnaissance, industry profiling, development of a preliminary Conceptual Site Model (CSM) and a basic risk assessment.

Further details can be found on the LCRM website:

- Preliminary Risk Assessments (PRA)
- Industry Profiling

3.4.2 Generic Quantitative Risk Assessment (GQRA)

A GQRA ('Phase 2 Site Investigation') aims to reduce the uncertainties identified in the preliminary CSM by quantifying contamination at the site. The data obtained will be used to inform a decision as to whether a risk is posed and if remediation is required.

A GQRA Report generally consists of an intrusive site investigation conducted in accordance with British Standard BS10175:2011 *"Investigation of Potentially Contaminated Sites - Code of Practice"* and a risk assessment.

The investigation process should seek to clearly identify and characterise source-pathway-receptor linkages at the site and provide information for the refinement of the preliminary CSM.

Further details can be found on the LCRM website:

- Intrusive Site Investigations
- Chemical Testing of Soils
- Generic quantitative Risk Assessments (GQRA)

3.4.3 Detailed Quantitative Risk Assessment (DQRA)

If the GQRA Report findings indicate that no contamination concerns exist at the site and the Council review and approve the report, further action may not be necessary.

However, sometimes a Detailed Quantitative Risk Assessment (DQRA) is required because the GQRA has not adequately characterised potential risk. The DQRA will utilise approved site-specific criteria in to better refine the CSM. Further details can be found on the LCRM website:

- Detailed Quantitative Risk Assessments (DQRA)
- Contaminated Land Exposure Assessment (CLEA) Modelling

3.4.4 Remedial Options Appraisal and Strategy

On the basis of the risk assessment, an 'Options Appraisal' is carried out, where various remedial options are considered and the preferred option is selected. The Remediation Strategy then presents the preferred remedial option(s).

3.4.5 Validation Strategy

The Validation Strategy, or Verification Plan, presents protocols to be adopted for verifying any remediation to be carried out at the site or as part of the development scheme as described in the Remediation Strategy. As a minimum the Validation Strategy should include:

- information relating to the handling of imported fill materials;
- the handling of site-won fill materials proposed for re-use;
- the management of exported fill materials proposed for re-use/disposal;
- contingency measures to be adopted for encountering unexpected or previously-unidentified contamination; and an undertaking to provide a Validation Report upon completion of site works

Further details can be found on the LCRM website:

- Remedial Options Appraisal
- Remediation Strategy & Validation Strategy

3.4.6 Remediation Works

The remediation works detailed in the approved Remediation Strategy are then carried out in accordance with agreed terms. Some of these works may be conducted prior to commencement, while others are conducted closer to completion of the development scheme.

3.4.7 Validation Works

Where contamination has been found and/or remediated, the Planning Applicant/Developer will then carry out validation works, as detailed in the Validation Strategy. This will verify remedial works and account for other regulatory considerations, such as fill movements and unexpected contamination. A Validation Report, often known as a 'Verification Report' or 'Completion Report', is then prepared.

Further details can be found on the LCRM website:

- Remediation & Validation Works

3.4.8 Validation Report

If the planning permission comprises a Contaminated Land Planning Condition which includes completion or pre-occupancy requirements, a Validation (or Verification) Report **will be required** to secure discharge of that Planning Condition.

This document should provide confirmation that all measures outlined in the approved Remediation Strategy and Validation Strategy have been successfully completed.

The Validation Report should be submitted upon completion of construction/excavation works and prior to the development scheme being taken into use. The Validation Report must:

1. Be prepared upon **completion** of the development scheme;
2. Comprise **information agreed** to be provided under the Remediation Strategy and/or Validation Strategy;
3. Verify that the Remediation Strategy and Validation Strategy **have been followed**;
4. Be submitted **prior** to occupation of new buildings and/or the development scheme being taken into use.

This report must verify (or 'validate') the following as a minimum:

- Remediation measures or works
- Imported or Site-won fill materials
- Exported materials or waste materials
- Unexpected or previously-unidentified contamination

Even if remediation is not required as part of the development scheme, then as a minimum the Validation Report should include information relating to the handling of imported fill materials; the handling of site-won fill materials proposed for re-use; the management of exported fill materials proposed for re-use/disposal; and details of any unexpected or previously-unidentified contamination encountered.

3.4.9 Single Dwelling Development Schemes

If the planning application is for the construction of a single residential property (i.e., one dwelling with a garden) and it is not located on PCL, a 'Contaminated Land Screening Assessment Form', may be used as a basic contamination assessment to satisfy Contaminated Land Planning Conditions or to avoid Planning Conditions being attached to the consent. If potential sources of contamination are identified, then further investigation may be required.

A copy of the 'Contaminated Land Screening Assessment Form' can be requested from the Environmental Protection Team.

3.5 Key areas of consideration

Whilst not representing an exhaustive summary, the following section outlines key areas of contaminated land that should be considered, together with any internal standards adopted by the Council.

Consideration should be given to soil contamination and ground water contamination.

3.5.1 Contamination Screening and Assessment Criteria

Generic Assessment Criteria (GAC) are screening thresholds used to ascertain whether concentrations of contamination are at a level that presents a risk to sensitive receptors, such as human health or controlled waters.

Where a more detailed assessment is required, Site Specific Assessment Criteria (SSAC) can be derived in order to more accurately characterise contamination and enable a DQRA to be carried out. Where site-specific target levels are used ,they should be calculated based on suitable and reasonable assumptions as well as current best practice and associated briefing notes and guidance. Reference should also be made to statistical analysis of the resulting data from the intrusive investigation.

Further information about GAC's, computer modelling for GQRA and DQRA can be found on the Environment Agency website:

www.gov.uk/government/publications/land-contamination-risk-management-lcrm/lcrm-stage-1-risk-assessment#tier-2-generic-quantitative-risk-assessment:~:text=Define%20the%20generic%20quantitative%20risk%20assessment%20objectives

3.5.2 Hazardous Ground Gases

If the development scheme is situated **within 250m of a significant gas generation source**, such as a landfill site, or **is located on land suspected of having the potential to generate ground gas**, it will be necessary to assess potential risk with a PRA.

If a risk is identified, then gas protection measures may be required for the site and/or new buildings.

Guidance for monitoring, risk assessment and mitigation of ground gases can be found in various guidance notes, including:

CIRIA C665	**Construction Industry Research & Information Association (2007)** *"Assessing risks posed by hazardous ground gases to buildings"*
BS8485:2019	**British Standards Institution (2019)** *"Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings"*
BS8576:2013	**British Standards Institution (2013)** *"Guidance on investigations for ground gas. Permanent gases and Volatile Organic Compounds (VOCs)"*
CIRIA C735	**Construction Industry Research & Information Association (2014)** *"Good practice on the testing and verification of protection systems for buildings against hazardous ground gases"*
BS10175:2011	**British Standards Institution (2011)** *"Investigation of potentially contaminated sites. Code of practice. Code of practice"*
CIRIA C748	**Construction Industry Research & Information Association (2014)** *"Guidance on the use of plastic membranes as VOC vapour barriers"*

If the PRA identifies a potential source of ground gas that may affect the subject site or development scheme, then gas monitoring may be required. A phased, risk-based approach to ground gas assessment is recommended for use when deriving the frequency and duration of gas-monitoring for a given site. Once sufficient gas monitoring data has been obtained, a ground gas risk assessment should be carried out to determine if gas protection measures are required.

Spike testing and data obtained from trial pit installations are not acceptable data collection methods for ground gas risk assessment. Equally, the pre-emptive installation of gas mitigation measures in the absence of gas-monitoring data is also not accepted.

Where a potential risk exists, adequate data should be collected to assess and quantify that risk, otherwise the remedial specification to mitigate that risk cannot be relied upon.

If ground gas or vapour protection measures are required for new buildings or external areas within the development scheme, details should be provided as to how these remedial measures will be validated so as to ensure their presence, specification and installation in accordance with guidance and best practice. This information should be provided as part of the Validation Strategy.

Concreting at GL A 16-19

Seal pipes at 1J

Once remedial works are completed, the design of the protection measures should confirm that works have been carried out in accordance with the Remediation Strategy within **all** new buildings and/or confined spaces. It is important that all components of the agreed protection system are verified. Depending on the risk classification of the development scheme and the type of protection required, protection measures requiring verification could include:

- Floor slabs and foundations
- Gas or Vapour-resistant membranes
- Ventilated sub-floor void or dispersal layer
- Active ventilation systems or alarms

Protection measures installed within external areas of the site, such as venting trenches or virtual curtains, will also require verification. The nature of the data collected will be dependent on the type of measures installed, but should confirm that the agreed specification has been installed in accordance with the Remediation Strategy.

Whether verifying internal or external protection measures, validation data would typically be collected by means of visual inspection, manufacturer documentation, photographic evidence and integrity testing during and after installation. Some protection measures also require confirmation of practices in accordance with specified guidance, such as Construction Industry Research &

Information Association (2014) guidance document C735 *"Good Practice on the Testing and Verification of Protection Systems for Buildings Against Hazardous Ground Gases".*

Where verification of practises in accordance with specified guidance is required, confirmation should be provided alongside other validation data collected. Data verifying the presence, specification and installation of gas or vapour protection measures should be included within a Validation Report for submission to the Council upon completion of proposed works and prior to the development scheme being taken into use.

A Ground Gas Risk Assessment or Remediation Strategy cannot be approved until such time as all monitoring has been completed.

Further information about ground gas risk assessment and links to guidance notes can be found on the Environment Agency website.

3.5.3 Japanese Knotweed and Invasive Plant Species

Japanese knotweed is an invasive species of plant not native to the British Isles. It has spread across the UK, particularly along watercourses, transport routes and waste areas. Japanese knotweed is not just a problem for our native wildlife, the vigorous growth can also damage buildings and hard surfaces.

Neither the Environment Agency nor the Council are responsible for controlling Japanese Knotweed, other than that growing on Council-owned land or land that is subject to planning permission. In all other circumstances, managing invasive plant species is the responsibility of the land owner/occupier.

Where invasive species are present on land subject to planning permission, the matter will be dealt with by means of a Planning Condition.

3.5.4 Asbestos

There are three issues relating to asbestos and asbestos-containing materials (ACM) that may require the Applicant/Developer to consider as part of a planning application:

Dealing with Asbestos as part of a Contaminated Land Planning Condition	Where Asbestos or ACM has been identified in soil on a development scheme, this will be dealt with as part of **the PRA and Remediation Strategy** for the development scheme. Further analysis may be required in order to determine a management strategy and/or disposal method. Where Asbestos or ACM is encountered in an existing building due for demolition, this will be dealt with as part of the Asbestos Survey and management strategy.
Public concern about Asbestos in dwellings or associated with nearby development schemes	Where Asbestos or ACM has been identified in a dwelling, garage or outbuilding, specialist advice should be sought prior to attempting to repair or remove it. Contact the Health & Safety Executive for further advice. Where works are being carried out and Asbestos or ACM is suspected to be having an impact on an individual or members of the public beyond the site boundary then the Environmental Protection team of the Council and the Health & Safety Executive (HSE) should be contacted.
Public concern about working with and/or being exposed to Asbestos in the workplace	Where Asbestos or ACM has been identified in the workplace, the HSE should be contacted.

3.5.5 Unexploded Ordnance (UXO)

Unexploded bombs and munitions dropped on the UK during historic military conflicts such as World War II, are collectively known as Unexploded Ordnance (UXO). Unexploded ordnance can be an issue both at those locations that were targeted, but also at those facilities where munitions were stored or sent for disposal. As such, former Military Installations, Training Camps, Airfields, Factories and Dockyards are all at an elevated risk from UXO.

Warrington comprises a vast former Military Airfield (Ex-RAF Burtonwood) and former Military Munitions Factory (Risley Moss Royal Ordnance Factory).

Development schemes on these locations will require a UXO Assessment as part of the contaminated land consultation under planning. This is usually carried out at the PRA stage, as part of a desk-based appraisal of available information. Where further UXO assessment is required, it is recommended that a UXO specialist carries out the work.

3.5.6 Radiological Contamination

Whether naturally occurring or man-made, radiological contamination is a material consideration in certain circumstances, most notably associated with the storage, maintenance and scrapping of World War II aircraft.

A luminous coating was applied to instrument panels and dials installed within these military aircraft, a coating which exhibited a low-level radiological signature (Radium226). When the aircraft were serviced, maintained and scrapped, the luminous coating would become damaged, dislodged or ground to dust. This resulted in concrete floor slabs of buildings and airfield hard standing at some airbase sites being exposed to radioactive materials.

Development schemes on sites within the former RAF Burtonwood Airbase sometimes require a **Radiological Assessment** within the **PRA**. This is usually where development proposals are found to be located on former airbase buildings (e.g., hangars) or airfield hard standing (e.g. aprons, taxiways, runways).

3.5.7 Radon

Radon is a colourless, odourless radioactive gas that is formed by the radioactive decay of small amounts of uranium that occur naturally in all rocks and soils. High radon exposure is associated with an increased risk of lung cancer. Whilst the majority of Warrington is unaffected by radon, an assessment of potential risk from radon would be required as part of any contaminated land assessment. This is usually included in the PRA, as part of a desk-based appraisal of environmental information.

3.5.8 National Quality Mark Scheme (NQMS)

The NQMS is a scheme that has been developed to provide visible identification of contaminated land technical documents that have been checked for quality by a "Suitably Qualified and experienced Person (SQP)". While the Council is content to accept any NQMS-approved documents in support of Planning Applications, documents will be reviewed in accordance with the same guidance and standards as applied to other planning consultations.

3.6 Remediation measures

There are a large number of potential remediation techniques and technologies available to land contamination professionals. While not representing an exhaustive summary of available remedial options, the following section summarises some common remediation measures and standards.

3.6.1 Growth Media for Gardens & Soft-landscaping

An adequate growth medium for plants and vegetation within garden areas and soft landscaping should be incorporated into a Remediation Strategy; however, this is not a remedial technique designed to mitigate risk from contamination. Where a growth medium is proposed alongside remediation proposals, care should be taken not to confuse a growth medium with a 'cover system'.

The idealised depth and specification of a growth medium, as provided in British Standard BS3882:2015 *"Specification for Topsoil"*, has been adopted by the Council.

	Minimum depth requirements
Grass/Plants	450mm
Shrubs	600mm
Trees	900mm

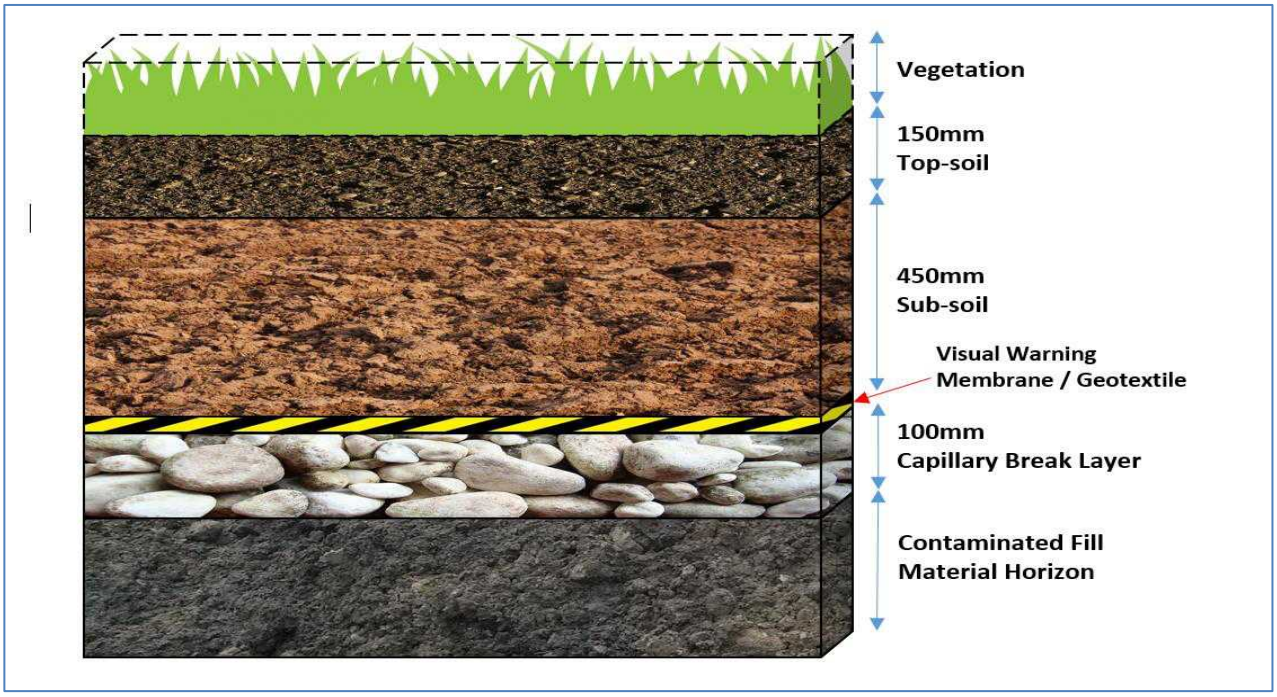
Where a growth medium is proposed to be formed from imported fill materials, the materials should be chemically-tested after import (but prior to placement) so as to confirm suitability for use. Validation information of imported fill material suitability must be provided.

3.6.2 Cover Systems for Gardens and Soft-landscaping

Cover systems, or 'capping layers', are a common remedial technique used over garden and soft-landscaped areas. The cover system encapsulates any residual non-mobile contamination under a layer of clean fill material.

Fill materials usually comprise top-soils and sub-soils, but sand can be appropriate in some circumstances. A layer of granular fill material or geotextile membrane can also be installed at the base of the cover system to act as a Capillary Break Layer or anti-dig layer.

Minimum acceptable depths for cover systems have been adopted by the Council.



The minimum total depth of cover for **gardens is 600mm**. Total depth can include any engineered components (eg: Capillary Break Layer or Geotextile) and depth will need to verify upon completion. The minimum 600mm depth of cover for gardens has been adopted for the following reasons:

- Root systems for shrubs are typically up to 600mm;
- Excavations are unlikely to be deeper than 600mm in typical gardening activities;
- Bioturbation (soil-mixing by biological organisms) is typically limited to the top 600mm of the soil profile;

- Excavations by children or pets are unlikely to exceed 600mm.

The minimum total depth of cover for **soft-landscaping is 450mm**. This includes common areas and Public Open Space. Total depth can include any engineered components and depth will need to be verified upon completion. The minimum 450mm depth of cover for soft-landscaping, common areas and Public Open Spaces has been adopted to reflect the reduced risk afforded by diminished exposure of human health receptors to potentially contaminated soils within these public areas via direct contact.

Details must be provided as to how these remedial measures will be validated so as to ensure their presence, depth, specification and suitability for use. This information should be provided as part of the **Validation Strategy**.

Once remedial works are completed, the depth and specification of a proposed cover system should confirm that works have been carried out in accordance with the **Remediation Strategy** within **all** garden and soft-landscaped areas.

3.6.3 Gas and Vapour Protection Measures for New Buildings

Gas and vapour protection systems are mitigation measures installed within buildings and/or confined spaces to prevent ingress of ground gases and volatile vapours.

The requirements for a gas or vapour protection system and its design/specification are always derived by carrying out a **ground gas or vapour risk assessment**. Typical gas protection systems include a combination of building foundations, physical barriers and dispersion layers to ensure gas ingress does not occur or if it does occur, that accumulated gases are allowed to dissipate freely.

The presence and specification of a gas protection system must match the design agreed in the **Remediation Strategy** and will need to be verified upon completion. Further details can be found on the LCRM website: www.gov.uk/government/publications/land-contamination-risk-management-lcrm/lcrm-stage-1-risk-assessment/#ground-gases-and-vapour

Details must be provided as to how these remedial measures will be validated so as to ensure their presence, specification and installation in accordance with guidance and best practice. This information should be provided as part of the **Validation Strategy**.

3.6.4 Source-removal of Contamination

Source-removal of contamination describes the removal by means of excavation or pumping of contaminant sources that have been identified as presenting a potential risk to the development scheme and/or sensitive receptors.Typical remediation works might include the excavation and removal of contamination hot-spots or statistical outliers identified in surface soils, or a more widespread removal of Made Ground deposits across the wider site (ie: a site strip).

Works may also include the pumping of contaminated groundwater from beneath the site or from perched locations in shallow strata.

Details must be provided as to how these remedial works will be validated so as to ensure the effectiveness of the remediation. This information should be provided as part of the **Validation Strategy**. Once remedial works are completed, validation of the source-removal of contamination, whether in the form of hot-spots, statistical outliers or larger-scale stripping of fill materials, should confirm works have been carried out in accordance with the **Remediation Strategy**.

3.6.5 Land-Raising Earthworks and Soil Inversion

Earthworks carried out prior to a development scheme commencing are relatively commonplace and include land raising works for reasons of flood defence and cutting/filling works to create a suitable development platform. Largescale earthworks are regulated for land contamination to ensure that upon completion, the land is suitable for the intended use.

While earthworks can be regulated under a Materials Management Plan (MMP), a Site Waste Management Plan (SWMP) or the CL:AIRE (2011) *"Definition of Waste: Code of Practice"*, these documents do not supersede the **Remediation Strategy and Validation Strategy** agreed with the Council under a given planning permission.

Whether earthworks utilise site-won or imported fill materials, these fill materials must be chemically-tested to confirm suitability for use and works should be carried out in accordance with the agreed **Remediation Strategy**.

A methodology and detail as to how works will be verified upon completion are required to be provided. This information should be provided as part of the **Remediation Strategy and Validation Strategy**. Once earthworks are completed, validation should confirm that works have been carried out in accordance with the **Remediation Strategy**.
Data verifying works associated with land-raising earthworks should be included within the **Validation Report** for submission to the Council upon completion of proposed site works and prior to the development scheme being taken into use.

The process of 'soil inversion', whereby shallow contaminated fill materials are placed at depth and uncontaminated strata are placed at the surface, is a methodology not accepted as suitable by the Council.

3.6.6 Biological Treatment of Contamination

Biological treatment of soils, also known as 'bioremediation', is the biological degrading processes for the treatment of contaminated soils and groundwater. The process relies on micro-organisms using contaminants as a food source, resulting in the degradation and breakdown of the contaminant in question.

Remediation methodologies include 'biostimulation', which encourages the natural attenuation of soil contaminants and 'bioaugmentation', which relies on the introduction of micro-organisms to promote and enhance degradation of contamination.

Remediation works can be carried out in-situ, whereby soils are left undisturbed while treatment is carried out. More commonly, remediation is carried out ex-situ, where soils are removed and placed in bio-piles and bioreactors to expedite treatment in a controlled environment.

If biological treatment of contaminated soils and/or groundwater are required as part of remediation works, a methodology and details as to how works will be verified upon completion are required to be provided as part of the **Remediation Strategy and Validation Strategy**.

Once earthworks are completed, validation should confirm that works have been carried out in accordance with the **Remediation Strategy**.

3.6.7 In-situ stabilization of Contamination

Stabilisation of contamination and contaminated soils can be achieved through 'chemical stabilisation', which involves the chemical treatment the soils so as to render contaminants immobile or reduce their toxicity. Alternatively, stabilisation can be achieved through 'solidification', a technique which is encapsulates contaminants within solidified materials.

Stabilisation, via solidification, often involves mixing of impacted soils with stabilisation binders (eg: cement, lime, fly ash, clays) in proportions that will achieve a desired soil quality or leachability standard.

Carrying out stabilization works and soil mixing in-situ soil mixing often allows for uniform stabilisation of areas impacted by contamination, improving both geotechnical properties of the ground and reducing leachability of contaminants. The final design of the in-situ stabilisation is often contingent on the outcome of a remediation trial/pilot, which seeks to establish the most appropriate binder material, mix and distribution.

3.6.8 Imported and Site-won Fill Materials

If imported and/or site-won fill materials are proposed for use in the development scheme (especially where said materials are to be placed in sensitive areas), they are required to be chemically validated to confirm suitability for use. This is achieved through validation sampling of fill materials at prescribed frequencies and apply to both site-won and imported fill materials.

Sampling frequencies are based on both the intended end use of the material and the nature of its place of origin.

All procedures in relation to the validation of imported and/or site-won fill materials should be provided as part of the **Validation Strategy**.

As a minimum, that the following validation sampling frequencies for imported and/or site-won fill materials are adopted:

Intended end use	Source/origin of fill material			
	Greenfield:	Remediated Site:	Brownfield:	Unknown:
Gardens:	1:250m^3	1:100m^3	1:50m^3	1:50m^3
Soft-landscaping:	1:250m^3	1:150m^3	1:100m^3	1:100m^3
Public Open Space:	1:250m^3	1:150m^3	1:150m^3	1:150m^3
Other:	1:250m^3	1:250m^3	1:250m^3	1:250m^3

Imported fill materials must be chemically-tested at the above frequencies **after** materials have been imported to site.

It is recognised that granular fill materials are generally more difficult to validate, owing to size and composition and where fill materials are classified are 'virgin quarried material', validation is unlikely to be required.

Chemical testing suites should be scheduled to include a broad range of potential contaminants. Validation testing should include as a minimum:

- Metals & Metalloids
- Speciated Polyaromatic hydrocarbons (PAH's)
- Speciated Petroleum hydrocarbons (TPHCWG)
- Asbestos Screen
- Other specific potential contaminants as defined by prior risk assessment

Confirmation should also be provided if imported or site-won fill materials were **not** used or re-used on site or as part of the development scheme. Data verifying works associated with the validation of imported and site-won fill materials should be included within a **Validation Report** for submission to the Council upon completion of proposed site works and prior to the development scheme being taken into use.

3.6.9 Exported Fill Materials and Waste Management

If fill materials or waste materials are to be exported from site for disposal or re-use, details of how they will be managed are required to be provided.

Information must include as a minimum: stockpile management procedures; retention of duty of care, permit and waste transfer documentation; and an undertaking to provide details of export volumes; export destinations; and relevant paperwork to the Council.

All procedures in relation to the validation of exported fill materials and waste materials should be provided as part of the **Validation Strategy**.

Once the development scheme has completed, fill material and waste material export data and relevant documentation should be collated and a commentary prepared. Confirmation should also be provided if fill materials or waste materials were **not** exported from site as part of the development scheme.

Data verifying works associated with exported materials should be included within **a Validation Report** for submission to the Council upon completion of proposed site works and prior to the development scheme being taken into use.

3.6.10 Unexpected Contamination

Even the most rigorous site investigation cannot be guaranteed to identify all contamination associated with a given area of land, particularly if contamination is at depth or associated with an unrecorded subterranean feature. As such, procedures detailing as to how unexpected contamination encountered during site works will be managed, assessed and if required, remediated and validated are required to be provided.

Contingency procedures should include: cessation of works in the affected area; notification of the Authority; and appropriate risk assessment and remediation/validation procedures.

All procedures in relation to the management of unexpected contamination should be provided as part of the **Validation Strategy**.

Once the development scheme has completed, information and documents pertaining to any unexpected or previously unidentified encountered should be collated and a commentary prepared. Confirmation should also be provided if unexpected contamination was **not** encountered during the course of the development scheme.

Data verifying works associated with unexpected or previously-unidentified contamination should be included within the **Validation Report** upon completion of proposed site works and prior to the development scheme being taken into use.

3.7 How will the Council Assess Contaminated Land for a Development Scheme?

The Council will consider the relative merit of the planning application and information submitted in relation to national and local planning policy. Land contamination is a consideration where a Sensitive end use is proposed, particularly where the development scheme is to be located on Potentially Contaminated Land or land with a former industrial land use. By regulating the investigation, risk assessment and if necessary, remediation of contaminated sites, the Council seeks to ensure that a given development scheme and the land upon which is located, is suitable for the intended use.

3.8 Further information

Warrington Borough Council	Contaminated Land Webpage
Contaminated Land: Assessment in Real Environments (CL:AIRE)	Definition of Waste: Code of Practice
UK Health Security Agency (UKHSA)	National Public Health Guidance Asbestos General Information UK Radon Website
Environment Agency (EA)	Land Contamination Risk Management (LCRM) Webpages LCRM: Stage 1 risk assessment - GOV.UK (www.gov.uk) National Invasive Plant Species Guidance

4. Light Pollution

4.1 Introduction

Lighting in itself is not necessarily a problem, but it may become so where it is excessive, poorly designed, badly installed or poorly maintained. Excessive lighting can impact upon sleep and wellbeing of residents, be a source of annoyance and impact upon wildlife. Artificial lighting needs to be considered when a development may increase levels of lighting, or would be sensitive to prevailing levels of artificial lighting.

The Environmental Protection Team of the Council is a consultee for any planning applications that may have a light impact. This chapter sets out the approach to dealing with artificial lighting (referred to as "lighting schemes") when consulted. Advice and guidance is set as to what is expected in a planning application for lighting schemes to explain the considerations, factors and criteria that will be taken into account for consultation and used in determining the permission.

The primary aim is to minimise impacts on amenity. The Council can also provide advice on domestic and/or security lighting which is outside the scope of planning control.

This approach is based on guidance information currently available from a range of organisations that are actively involved in lighting matters.

4.2 Regulatory objectives

The Local Planning Authority will consider the positive benefits to be gained from any lighting proposal, particularly for safety of movement, security of property, extension of working practices, extension of sporting and leisure activities, advertising of commercial enterprises and enhancing the amenity value of important buildings and settlements.

Warrington Borough Council encourages good practice and, if necessary, will impose Planning Conditions or informatives on planning permissions, where necessary. Careful consideration must be given to all lighting proposals. All schemes should demonstrate that the scale of the proposal and the level of lighting will not have a significant adverse impact.

4.2.1 National policy

The NPPF, in paragraph 185, sets out considerations with respect to artificial light with reference to Conserving and Enhancing the Natural Environment.

4.2.2 Local Policy

The Local Plan, section 9.8 Environment and Amenity Protection and Policy ENV8, sets out the policy on lighting schemes.

4.3 When is a Lighting Assessment Required?

An appropriate assessment of lighting must be included with any planning application that includes lighting schemes. It is vital that the Applicant/Developer considers the need for any assessment at the project conception stage, as it may not be possible to determine an application without first having a proper understanding of the impact. The information required and mitigation measures needed to support an application will depend upon the nature of the development and its location.

An assessment **is not** required for maintenance, improvements, alterations, interior works or for residential security/decorative lighting. If there is any doubt as to what is required, then it is strongly advised to apply for pre-application advice before submitting the full planning application.

A Lighting Assessment will be required if:	
A Development Scheme includes:	**Criteria:**
A lighting Scheme	Proposals for any new developments which include external lighting installations, such as flood or security lighting. Typical examples include warehousing, sports facilities, car parks.
Illuminated Signage	Proposals for any developments which include signs or advertisements that are illuminated internally or externally and could cause light nuisance. Examples include retail fascia or billboard/digital advertising.

4.4 Lighting Assessment Technical Guidance

An appropriate assessment should be included with the planning application and contain the following as a minimum, where relevant:

Content:	Details:
Lighting Statement	Setting out why a lighting scheme is required, the proposed users, and the frequency and hours of use in terms of hours of illumination (summer and winter time use).
Site Survey	Showing the area to be lit relative to the surrounding area, the existing landscape features and proposed landscaping features to mitigate the impacts of the proposed lighting on and offsite.
Technical Report	Prepared by a qualified competent person (e.g. Lighting Specialist) setting out the type of lights, performance, height and spacing of lighting columns. The light levels to be achieved over the intended area, at the site boundaries and, for large schemes, 50m outside of the boundary of the site should be superimposed on a map of the site and its surrounding area.
Additional Information (for Illuminated Advertisements)	Details of the proposed location, positioning and dimensions of the sign face, the sign face maximum luminance in candelas per square metres, the number, size and type of light sources and details of the sign face materials. Also, the type of illumination – internal or external; static or intermittent, details of the make and catalogue number of any luminaires/floodlights, size, type and number of lamps fitted within any luminaire or floodlight, the mounting height of the luminaires specified.

4.5 Mitigation

The following are examples of potential mitigation measures that should be considered. It is not designed to be an exhaustive list and there may be other mitigations which are more suitable.

4.5.1 Design and planning

It is possible to reduce many of the negative effects of lighting through proper design and planning. Use lighting only where and when necessary, and use an appropriate strength of light with adjusting light fittings to direct the light to where it is required.

Illuminance should be appropriate to the surroundings and character of the area as a whole.

Avoid 'over lighting' and use shields, reflectors and baffles to help reduce light spill to a minimum. Use specifically designed equipment that, once installed, minimises the spread of light above the horizontal.

4.5.2 Direction of Light

Light should be directed downwards wherever possible to illuminate its target, not upwards. Many floodlit buildings are lit from the ground with the beams pointing into the sky. This often leads to columns of stray light pointing up into the sky creating vast amounts of light pollution and wasting energy.

Provide lighting that does not glare on approach and which places light onto the ground and not into the sky where it is wasted. In other cases, simply lowering the angle of the beam will stop light from overshooting the building into the sky. To keep glare to a minimum, ensure that the main beam of all lights directed towards any potential observer is kept below 70°. It should be noted that the higher the mounting height, the lower the main beam angle can be.

In places with low ambient light, glare can be very obtrusive and extra care should be taken in positioning and aiming. Wherever possible use floodlights with asymmetric beams that permit the front glazing to be kept at or near parallel to the surface being lit.

4.5.3 Amount of Light

Rural lighting should be kept to a minimum necessary for safety. Highway authorities should be encouraged to apply this principle when building new roads or bypasses in the open countryside or upgrading existing installations with the use of low energy, light efficient fittings. Care should be taken where and when they are lit.

4.5.4 Illuminated Advertisements

Advertisement signs have the potential to impact on residential amenity and highway safety. The Council has adopted the folowing strict limits:

	Maximum levels
Where the illuminated area is not more than 10 square metres	600 candela per square metre
Where the illuminated area is more than 10 square metres	300 candela per square metre.

4.5.5 Energy Saving

Energy efficient lighting helps lower electricity bills and carbon dioxide emissions, all without reducing the quality of light in dwellings and commercial premises. LED and halogen technology are now used for energy efficiency reasons. However, the characteristics of LED lighting is different to older lamp technology, and careful consideration should be given to avoid unnatural luminance (daylight effect), glare and spill problems.

4.5.6 Examples of Lighting Requirements

A list of land uses/developments are contained below as examples with some advice set out for each one. This is not an exhaustive list and each planning application will be considered for its relative merits.

Type of Scheme:	Advice:
Commercial & Industrial Developments	Avoid use of lights simply to create a 'presence' at night. Concentrate lights where they are needed and establish a clear hierarchy, with minimum lighting around the outer, perimeter of the complex.
Advertisements	All advertisement planning applications should conform to the recommendations set out in guidance referring to acceptable light levels for the locality. Signs should not be positioned where they disturb those living close by. Consideration should be given to reducing digital signage brightness in darkness hours to avoid impacts on residential amenity.
Security Lighting	Passive infrared detectors should control lighting. Avoid sensors that can be tripped by road or footway users. Lamps of higher intensity create too much light, more glare and darker shadows. Lighting should be directed down to illuminate its target and mounted below the property boundary height so as to reduce light spill. Develop an integrated approach to security lighting, balancing levels of light with other lighting in and around the site to avoid glare and light spill as well as dark spots.

Type of Scheme:	Advice:
Floodlighting (eg: Sport Facilities, MUGA)	Most sporting facilities require lighting of a uniform level over the whole playing area. This is normally best provided by downward facing lights mounted on columns. The Institution of Lighting Professionals recommends that the most effective way of achieving this and preventing light spillage into surrounding areas is to use floodlights with an asymmetric beam that, while producing the main beam at around 60-70 degrees, permits the front glass to be kept horizontal. The upper limits to the beam will also need to be specified depending on circumstances but should normally not exceed 70 degrees from the downward vertical. Only use well focused light for sporting areas to avoid light spill. Use landscaping and orientation to protect neighbouring areas. Floodlighting usage should be restricted more during winter months where hours of darkness are longer.
Golf Courses Golf Driving ranges	Some sports facilities such as golf driving ranges present particular difficulties for lighting. Most sites tend to be in open countryside and have lights aimed either horizontally or slightly above the horizontal plane to enable players to follow the flight of the ball. These lights, which are often of considerable intensity and with a wide beam, can cause inconvenience to neighbours and can be a safety hazard; particularly where dazzle affects highway users. Golf driving range lights are probably one of the most polluting forms of floodlighting in that they invariably illuminate a much larger area than is required. The only circumstances where a horizontal beam of this nature may be permitted are where the natural landform or a permanent natural or manmade landscape feature can effectively contain the light.

Type of Scheme:	Advice:
Agricultural Uses Horticultural Uses	Mount lights below the roof height of buildings and direct light downwards, to where it is needed reducing light spillage. Avoid use of sensors that can be tripped by animals. As far as possible, position lights so that they are shielded by buildings and are not visible from the surrounding countryside. The potential impact of light from glasshouses will be considered as part of the planning application.
Railway Stations Road or Rail Interchanges	Design the lights for the station as a whole, balancing the need for lighting in different areas and considering the impact of light in views from the surrounding countryside. Concentrate on lighting to enhance the architectural character of the station building rather than on creating an 'urban' level of light on the platform and in the station forecourt. Direct car park and security floodlights downwards and to where the light is required
Petrol Filling Stations	Canopy lights should be positioned to avoid light spill from the sides of the canopy. Avoid the use of dish diffusers, which cause additional glare. Reduce lighting or avoid it during daylight hours. Integrate design for promotional signage with that of the canopy. Avoid lighting internal fascia around canopy. Design and position signs so that they are visible only from the carriageway and not from the surrounding landscape
Car Parks	Direct lighting downwards and design equipment to control levels of light spill and glare. Site lighting equipment carefully, making use of the backdrop provided by any existing vegetation and introducing new planting within the car

Type of Scheme:	Advice:
	park to help integrate the lighting structures and minimise the visual impact of both equipment and lighting. Use new hedgerows or tree planting to help minimise the impact of car park lights around the car park boundaries.
Mineral Extraction	Mount lights below the roof height of buildings, and perimeter fencing, and direct light downwards, to where it is required. Position lights so that they are shielded by buildings or permanent plant and are not visible from the surrounding area. Avoid lights mounted on the side of the buildings that shine directly out, dazzling users of the facility.
Decorative Buildings Domestic Security Lighting (Planning permission not required)	Keep lighting understated and aim to enhance rather than swamp architectural character. Ensure light is directed only at the structure, and using baffles and shielding where possible. Minimise up lighting where it distorts architectural detailing. Consider timing of lighting to maximise the visual beauty of the building to the public at night-time but not to floodlight the building at dusk or nightfall. Consider the choice of surface materials being illuminated, the reflectance value may be high causing reflected light to generate excessive glow. For domestic and small scale security lighting there are two options. The use of 'Passive Infra-Red Sensors' (PIR) or all-night lighting at low brightness. If correctly aligned and installed, a PIR Sensor that switches on lighting when an intruder is detected, often acts as a greater deterrent than permanently floodlit areas, which also allow the potential intruder to look for weaknesses in security i.e. open windows.

4.6 How will the Council Assess Light Impact for a Development Scheme?

The Council will consider the relative merit of the planning application with regard to national and local planning policy. The relative weight in the planning decision given to lighting will depend on the significance of any impact depending upon location and light impact. A planning application that is considered to have a potential light impact but has not submitted an adequate light assessment will be recommended for refusal based on lack of information.

4.7 Further Information

Institute of Lighting Professionals	www.theilp.org.uk Technical Guidance Notes
National Protection Security Authority	www.npsa.gov.uk
Sport England	www.sportengland.org
CIBSE: Lighting Guide: Sports Lighting LG04	www.cibse.org
International Commission on Illumination	www.cie.co.at
Rail Industry Standard for Lighting at Stations	www.rssb.co.uk
Energy Savings Trust	www.energysavingtrust.org.uk

5. Noise

5.1 Introduction

This chapter of the SPD outlines when, and how, noise impacts that should be considered within planning applications. Good acoustic design needs to be considered early in the process.

Excessive environmental noise in increasingly recognised as having a significant and adverse impact leading to poorer health. Therefore, we need to be able to routinely assess when noise may be an issue and then put in place appropriate mitigation to reduce the level of noise so that it does not disturb amenity and health.

Noise can be a material consideration in many planning decisions. It may be from the proposed development itself including from demolition and construction; the impacts the development itself creates; or the impacts that the surrounding environment may have upon the proposed development. Where there are risks from noise emitted from the development itself or noise from surrounding uses that may have impacts on the proposed development, then a detailed planning consideration of the likely acoustic impacts must be made.

Good acoustic design is imperative in the development of concepts for an application site. The process should ideally review design options from the start and identify the proximity of sensitive receptors and noise sources, then identify appropriate mitigation to protect sensitive receptors from adverse impacts from noise. Inclusion of an acoustic design led development can result in a lessening of mitigation requirements to protect residential amenity.

5.2 Regulatory objectives

Warrington Borough Council encourages good practice and, if necessary, will impose Planning Conditions or informatives on planning permissions, where necessary. Careful consideration must All schemes should demonstrate that potential noise will not have a significant adverse impact.

5.2.1 National Policy

The NPPF identifies noise and impacts and where they should be considered under planning.
It reviews considerations for adverse impacts upon health but also identifies that achieving a good standard of amenity is a critical factor in determining planning applications.

The planning system should be used to prevent new and existing development from contributing to, or being put at unacceptable risk from, or being adversely affected by, unacceptable levels of noise pollution.

It also introduces and identifies the *'Agent of Change'* principle. Any new development must consider existing and surrounding uses and to implement appropriate mitigation where necessary to protect and to ensure adverse impacts due not affect those existing uses and businesses.

5.2.2 Local Policy

The Local Plan Policy ENV8 covers Environmental and Amenity Protection matters and sets out identified aims and general principles which apply to noise.

5.2.3 Building regulations

The Building Regulation process is a completely separate legislative process that provides guidance through Approved Documents for how buildings are constructed providing detail on minimum requirements for a variety of key areas.

These Approved Documents have direct implications and overlap with the planning process when it comes to noise given that planning conditions and requirements often look to limit external noise impacting on the inside of a dwelling or building or minimising noise in private amenity spaces, makes glazing recommendations as well as ventilation and/or overheating recommendations within planning responses, however each regime looks for different details from one another. The approved documents though, look to attain minimum performance and safety standards for areas which planning does not get involved with.

Planning however considers residential amenity and how to attain suitable standards through new or changed uses within development areas.

5.3 When is a noise assessment required

A noise assessment will be required for any planning application that has the potential to cause noise impacts or will locate any development within an area with existing high levels of noise.

Each case will be determined upon its own merits depending upon the proposal. Consideration will be given to the planning use class, the type of planning application, location and potential scale of impact.

A Noise Assessment will be required for:	
Residential Development Scheme Planning Use Class C Development Schemes	To consider location and existing noise from road and rail traffic; industrial and commercial; licenced premises. An assessment is not required for house holder planning applications.
Industrial Development Scheme	To consider location and any noise impacts that may occur that could affect neighbouring areas for example residential, and/or other businesses.
Commercial Development Scheme	To consider location and any noise impacts that may occur that could affect neighbouring areas for example residential, and/or other businesses.
Licenced Premises	Entertainment noise impacts on nearby residential.
Listed Buildings	Need to consider cross over with listed building consent for mitigation
Demolition Scheme	Consider appropriate controls within a Construction Environmental Management Plan

5.3.1 Residential Development Schemes

Any residential use needs to consider all types of noise in the vicinity of the proposed new residential site. This can be transportation noise from road or rail; noise from commercial or other business activities ; and noise from entertainment and leisure venues close to the site.

The Council has adopted the World Health Organization (WHO) guideline values on domestic noise impacts. These guideline values should be attained wherever possible to minimise the adverse impacts on health, reduce sleep disturbance and reduce the various other physiological and psychological adverse health effects from elevated or excessive environmental noise.

Specific environment	Critical health effect(s)	L_{Aeq} [dB(A)]	Time base [hours]	L_{Amax} fast [dB]
Outdoor living area	Serious annoyance, daytime and evening	55	16	-
	Moderate annoyance, daytime and evening	50	16	-
Dwelling, indoors	Speech intelligibility & moderate annoyance, daytime & evening	35	16	
Inside bedrooms	Sleep disturbance, night-time	30	8	45
Outside bedrooms	Sleep disturbance, window open (outdoor values)	45	8	60

The WHO guidelines suggest within the wider text that the 45dB LA, Max level should not be exceeded by more than 10-15 times per night.

In addition, the Council has adopted BS8233 target noise levels for residential and other 'C' planning use classes. Noise levels are specified for different room types for daytime periods but with additional levels for bedrooms at night time. The standard also details external amenity space levels.

The following table and notes provide a summary of target guideline noise values, with both internal and external equivalent noise levels considering a partially open window scenario.

	Daytime			Night Time		
	1	2	3	1	2	3
	Internal Target Level - BS8233	External Equivalent Level (with partially open window)	5dB flexibility (near busy roads)	Internal Target Level - BS8233	External Equivalent Level (with partially open window)	5dB flexibility (near busy roads)
Lounge	**35**	**50**	**55**			
Dining Room	**40**	**55**	**60**			
Bedroom	**35**	**50**	**55**	**30**	**45**	**50**
Amenity Space		**50**	**55**			

Column 1 - Target internal levels according to BS8233:2014 guidance
Column 2 - Uses 15dB attenuation for part open window to represent external noise level whilst attaining Column 1 levels
Column 3 - 5dB flexibility in levels for locations near to busy roads

Maximum internal noise levels of 45dB LAmax should not be exceeded more than 10 to 15 times per night in a bedroom to protect sleep and prevent sleep disturbance. Where a site is likely to be impacted by such noise (with part open or closed windows) then acoustic mitigation will be necessary to protect future occupiers.

Any noise assessments for residential development need to consider this target internal maximum noise level in addition to BS8233 guideline values.

BS8233 allows for up to 5dB flexibility on internal noise levels near to major roads however this is the upper permissible limit rather than the target limit. The lower limits should be aimed for in all circumstances, however where reasonable mitigation cannot reach such levels, then a slightly higher level can be considered with justification.

Similarly for external private amenity space noise levels, 50dB is the target level however 55dB can be considered if normal acoustic barriers and fences cannot achieve a lower level. In exceptional cases the Standard realises that the higher target level cannot always be achieved due to the specific location indicating a compromise of higher levels may be permissible. This must be accompanied by consideration and inclusion of all reasonably feasible mitigation to achieve the lowest practicable noise levels in any given location.

Where a development in a noisy area does not recommend any acoustic mitigation to lower noise levels in amenity spaces closer to the target standard levels, then this is likely to be refused.

If it is shown where acoustic mitigation is included and that despite reasonable attempts to lower noise being in place it still cannot meet the targets then this would be viewed more favourably provided some areas of the amenity space meet the criteria.

5.3.1.1 Transportation noise from road/rail

DEFRA noise mapping sets out noise levels for key road and rail transport networks. “Important Areas for Planning” (IA) are also available which show areas of noise which are considered to be in the top 1% of noisiest areas for residential development in England. Noise sensitive development in IA’s should expect mitigation to be essential as a routine requirement.

The information provided by noise mapping is used to screen the planning application and determine whether transportation noise poses any threat to sensitive end uses. Whilst most commonly used for assessing transport noise at or near to new residential development, this data can also be used to inform recommendations for more sensitive commercial or public facilities for example as medical centres, care homes, schools, or places of worship.

ProPG guidance provides the best methods to tackling residential development in high transportation noise areas advocating an acoustic design approach. This should be considered early in the design process to reduce the mitigation requirements under planning conditions.

5.3.1.2 Vibration

A vibration assessment will be required where railway lines are within 75m of a proposed vibration sensitive development site such as dwellings, medical facilities or educational facilities.

Building services, plant and equipment, including air conditioning and air handling plant, may generate vibration and in turn, re-radiate noise within buildings. All building services plant and equipment should be supported on proprietary anti-vibration mounts.

5.3.1.3 Commercial or industrial near residential development schemes

Residential developments which are proposed close to existing commercial or industrial uses or other business activities need to be considered as to whether noise from the existing businesses may have adverse impacts on future residential amenity.

Assessments for commercial or industrial noise activities should utilise BS4142 although there are some limitations on what this can be used to assess. It is recommended to agree beforehand any assessment methodologies, especially where the activities fall outside of remit of BS4142 or other relevant guidance and standards.

Where cumulative rated noise levels from business activities are just above the background noise levels at the proposed new residential development then this is an indication of potential adverse impact so appropriate mitigation may need to be identified.

Where cumulative rated noise is significantly above the background noise levels then this may give rise to adverse impacts on amenity for future occupiers. These planning applications will be refused unless appropriate and effective mitigation can be identified and implemented.

Under the “agent of change” principle within the NPPF, new development should not cause existing businesses to have unreasonable restrictions placed upon them as the result. Where mitigation is practical for this then it should be implemented within the new development. Consideration of noise transmission into private amenity spaces or through partially open windows is a factor which whilst mitigation may help to reduce noise levels, may not eradicate noise to a satisfactory level, in which case a refusal recommendation might be made.

Just because a window can be closed to achieve acceptable internal noise levels does not mean that the future occupier will choose to keep it closed. From an acoustic point of view, any development relying on closed windows to achieve acceptable internal noise levels, due to nearby business use, should ensure that these are not openable as if they are opened then adverse impacts and future complaints are likely.

5.3.2 Entertainment Noise and Licenced Premises

Entertainment noise arising from new proposed or existing businesses will always be challenging to nearby residential amenity, especially where an existing pub or club or similar venue is adjoining or near to a development site or where party walls or floors are shared. Licensed premises can pose specific issues to residential amenity depending on the specific activities and hours which they propose to operate.

Where a new licensed premises, or significant changes to an existing premises, is proposed then consideration of potential impacts must be undertaken to determine whether adverse impacts on residential amenity may result.

Whilst attenuation of noise at the source is typically the preferred acoustic way of reducing noise, "agent of change" principles apply and therefore mitigation has to be identified by the new development and applied entirely within the red line site boundary.

Noise may result from music noise at the premises but can also result from patrons in external areas and any plant or equipment associated with the premises. The hours of use are a further consideration. Entertainment venues often operate into the night time period, therefore can potentially have greater adverse impacts on sleep and disturbance affecting health. Planning Conditions restricting hours for music or entertainment activities will always form part of a wider noise mitigation strategy for any given site.

It is strongly recommended that pre-application discussions are entered into wherever entertainment venues are proposed to agree a suitable noise measurement methodology.

5.3.3 New Industrial or Commercial Development Schemes

Any proposed new commercial or industrial uses will have to consider any noise impacts that they may create and how that may impact adversely on existing nearby or neighbouring noise sensitive uses.

Noise may arise from activities associated with the use; manufacturing noise; hours of operation; vehicular noise from deliveries or collections; heating or ventilation systems; or other specific aspects of the business that may create noise.

Where a business operates during office hours or similar then impacts are likely to be lesser but this does not guarantee that no impacts will result. Equipment associated with the use may operate beyond the actual trading hours.

Where a larger development for B2 or B8 uses is proposed then a supporting noise assessment will be required if it is near to existing residential or other noise sensitive uses.

Other business uses may also have specific impacts arising from their use - especially the entertainment industry or late night hot food establishments given the hours for such uses can extend well into the night time period. A BS4142 type assessment is likely to be required if a new business is proposed close to existing noise sensitive uses.

Assessments will need to ensure that the cumulative rated noise level from all activities including plant, service yard activities and vehicular movements will not exceed the ambient background noise level, however, there are exemptions to certain standards such as BS4142 which preclude their use for specific activities.

Where such activities are involved then discussion is advisable to ensure a suitable assessment methodology is agreed prior to undertaking any such assessment.

Any proposed industrial development that may require an A1 Permit under the Environmental Permitting Regulations, should ensure that the permit requirements for noise control do not conflict with the planning.

It is recommended that pre-application discussions are held if any of the following planning application types are to be submitted and the agreement of a suitable noise assessment should be provided to support any planning application:

- Airstrip
- BMX or Skateboard Ramps
- B2 or B8 Use Class developments
- Child Nurseries
- Clay Pigeon Shooting / Gun Clubs / Rifle Ranges
- Dog Day Care, Dog Exercise Grounds or Pet Kennels
- Electricity Substations/Transformers/Switchgear (large)
- Flying of Model Aircraft
- Motor Vehicle Testing / Proving Grounds
- Nightclub
- Off Road Motorbike Tracks / Go Kart
- Power Generation or Power Backup facilities
- Sports Stadia or Outdoor Sports Facilities
- Waste Handling Facilities
- Wind Turbines / Wind Farms

5.3.4 Listed Buildings and Conservation Areas

As the fabric of the building is protected, mitigation which requires alterations to the building and appearance cannot easily be implemented. Routine mitigation such as replacement windows or glazing, ventilation ducts and vents cannot be easily incorporated without causing damage to the building structure.

Given the complexities of incorporating any acceptable change to the existing building structure, mitigation will need to be identified with the planning application itself. Failure to provide such information up front is likely to result in either a refusal recommendation or at least a delay on any decision being made until such necessary information is provided.

It will be necessary to assess noise levels against relevant standards prior to the planning application being submitted, where a listed or heritage building is proposed for redevelopment and the ambient noise levels are high; or the site is impacted by traffic and bus/HGV movements; or nearby entertainment noise.

Mitigation proposed to protect residential amenity must be focused on also protecting the building and the protected assets associated with the building and should be linked in with any listed building consent application.

5.3.5 Construction and Demolition

Construction and demolition activities are inherently noisy. Adoption of appropriate and proportionate acoustic mitigation techniques should be used.

Construction noise assessments are not typically required for construction activities however will typically be needed when larger Environmental Impact Assessment planning applications are submitted. BS5228 provides guidance on noise levels typically emitted from a range of construction activities. These levels are often used to inform noise assessments for construction activities.

Construction Environmental Management Plans (CEMP's) are required to risk assess noise and identify relevant mitigation to reduce the overall level of impact. They can be included with a planning application or can be requested as a Planning Condition prior to the commencement of works on site.

A CEMP Planning Condition for noise would only typically be recommended for residential developments larger than 5 dwellings. They would invariably be recommended for medium to large industrial/commercial developments close to residential or noise sensitive dwellings.

Noise mitigation measures included within a CEMP must include consideration of appropriate hours for activities and actual noise minimisation and mitigation measures. Construction hours, site opening/closing hours (where employees arrive before the commencement hours) & delivery hours are all relevant to neighbouring amenity.

Restriction on certain activities before or after certain hours should be considered. This is especially relevant where piling activities occur. Construction and demolition hours recommendations relate to works audible beyond the site boundary. This is to limit noisy works whilst leaving quieter finishing works relatively unrestricted. The recommended construction hours are:

Monday to Friday inclusive	08.00 hrs to 18.00 hrs
Saturday	08.30 hrs to 13.30 hrs
Sunday	No noisy works permitted
Public Holidays and Bank Holidays	No noisy works permitted

Restricting noisy construction hours recognises that noisy works will be permitted but only at certain times. These hours provide some respite for residential and other noise sensitive uses close to construction sites. These hours should be replicated with a CEMP but may be controlled by Planning Condition or informative as appropriate.

5.3.6 Air Source Heat Pumps

Air source heat pumps are considered to be permitted development and will not need planning permission **unless** they meet certain criteria and certain conditions are met.

Air source heat pumps can be noisy and must comply with Microgeneration Certification Scheme Planning Standards (MCS 020) standards for noise. Where these can't be met, planning permission will be required with mitigation proposals out to meet the standards.

Planning permission will be required for air source heat pumps if:
Noise levels may exceed the Microgeneration Certification Scheme Planning Standards (MCS 020), or equivalent, for noise impacts. If the MCS 020 standard for noise is exceeded then mitigation measures must be provided within the planning application.
The volume of an air source heat pump unit (including housing) exceeds 0.6 cubic metres
There is an existing air source heat pump on a building or within the gardens or grounds
It is within 1m of the property boundary
It is on a pitched roof or less than 1m from the edge of a flat roof
On a wall which fronts a highway, and any part of that wall is above the level of the ground storey
In a conservation area, it would be on a wall or roof which fronts a highway, or be nearer to any highway which adjoins the property than any part of the building
Your house or flat is a listed building, or within the garden or grounds of a listed building. If you live in a listed building, you will need both planning permission and listed building consent.
If a wind turbine is installed on the same building or within the curtilage of the dwelling house or block of flats
If stand-alone wind turbine is installed within the curtilage of the dwelling house or block of flats

In addition, the following conditions must be met:
the air source heat pump is used solely for heating purposes
the air source heat pump is, so far as practicable, sited so as to minimise its effect on the external appearance of the building
the air source heat pump is, so far as practicable, sited so as to minimise its effect on the amenity of the area
the air source heat pump is removed as soon as reasonably practicable when no longer needed

5.4 Noise Assessment Technical Guidance

Any noise assessment should be carried out in accordance with best practice and the most relevant guidance available. This is not meant to be an exhaustive list but the table below refers to the most commonly used standards:

Type of development	Guidance
Residential or Class C	BS8233
Commercial or industrial	BS4242
Entertainment	1995 Code of Practice on Environmental Noise Control at Concerts; DEFRA report on Noise from Pubs and Clubs; NANR 45 - Proposed criteria for the assessment of low frequency noise (Salford University 2005).
Air Source Heat Pumps	Planning Standards (MCS 020) assessment form

5.5 Mitigation

The Council will use Planning Conditions to mitigate noise impacts from any developments where appropriate. It is expected that developers incorporate key design and sustainability principles into their schemes, unless this is not practicable.

Mitigation measures should be complementary to other policies, for example air quality, energy efficiency building regulations and entertainment licences. The type of measures proposed to reduce or mitigate noise impacts will depend on the nature and scale of the proposed development and be led by the findings of any relevant acceptable noise assessment.

If it acoustic mitigation is included and that despite reasonable attempts to lower noise being in place it still cannot meet the targets with justification, then this would be viewed more favourably provided some areas of the amenity space meet the criteria.

The following page contains examples of potential mitigation measures that should be considered. It is not designed to be an exhaustive list and there may be other mitigations which are more suitable.

Design Stage to Reduce Impacts

Configure buildings and layouts to reduce impacts from the development scheme and/or exposure to existing noise sources through effective design, eg: locate habitable rooms away from busy roads or set back residential buildings away from industrial or commercial areas.

Ventilation Schemes

Ventilation schemes are suitable for locations where existing noise will impact upon the development scheme. Consider use of trickle vents, mechanical and heat recovery systems. Consideration of impacts at design stage.

Acoustic Glazing

Appropriate for new residential to be located close to existing noise sources such as busy roads. For listed buildings, secondary glazing may be suitable depending upon agreement with the listed building consent. To consider requirements for different facades of the building.

Acoustic Fences or Barriers

Suitable for new residential to mitigate against existing noise sources including busy road or industrial. Need to consider the scale and type of barrier and future maintenance and liabilities for repairs.

Acoustic Enclosures

To be considered for any external heating or air conditioning units or industrial plant and fans.

Licenced Premises

To consider hours of operation, building integrity and wall/ceiling insulation, controls to limit level of any amplified noise for example noise limiting devices.

Construction and Demolition

Mitigation is usually required for the appropriate use of Construction Management Plans or similar. To include hours of operation, silencers and acoustic covers, use of white noise reversing alarms, erection of temporary noise barriers, radio use and shouting policies.

Combination of Measures

A combination of mitigation measures is often required, for example enhanced glazing alongside ventilation scheme. For smaller residential schemes and a moderate noise levels, a matrix can be used to determine likely mitigation based on daytime and night time levels.

Daytime mitigation requirements

Noise Map Level (external)	Internal Effect - Daytime (Lounges & Bedrooms)	Likely Mitigation Requirements - Internal Noise Levels	External areas
50-54.9	Slight Exceedence of noise levels, Informative would be appropriate in relation to include normal trickle vents but not necessarily acoustic ventilation.	Normal glazing is sufficient. Ventilation informative likely (trickle vents)	No action/fence informative
55-59.9	Over flexibility limit for lounges and bedrooms with part open windows. Standard glazing will be acceptable but with part open windows then internal levels are exceeded. May consider mechanical ventilation upgrade but will need basic acoustic trickle vents.	Normal glazing still acceptable. Acoustic trickle vent condition	Acoustic fence condition?
60-64.9	Significant noise levels. Glazing upgrades not yet necessary but becoming a consideration. Mechanical Ventilation system (PIV, MEV or MVHR) with a manual boost facility likely to be required as opening windows not really practical apart from short term purge ventilation	Normal glazing still acceptable. Forced ventilation required (with or without acoustic trickle vents according to system)	Noise assessment
65-69.9	Acoustic glazing and mechanical ventilation system (with manual boost) needed - acoustic glazing performance of between 30 to 35dB Rw+Ctr needed. Mechanical ventilation essential as opening windows is now only for purge ventilation for comfort reasons.	Acoustic glazing upgrades essential. Forced ventilation with manual boost essential.	Noise assessment
Above	Unacceptably noisy location - likely also in a NIA. Presumption for refusal. High performance glazing and ventilation upgrades essential if development is permitted. Standard glazing unsuitable, Mechanical ventilation essential.	Likely refusal but if development is to proceed then acoustic glazing and mechanical ventilation will be essential..	Noise assessment

Night time mitigation requirements

Noise Map Level (external)	Internal Effect - Night Time (Bedrooms)	Likely Mitigation Requirements - Internal Noise Levels
Less than 50 (not mapped)	Just within tolerance if 45-49dB	None
50-54.9	Over noise flexibility limit for bedrooms. Standard glazing acceptable but with part open windows internal levels exceeded. May require ventilation upgrade beyond normal trickle vents to allow for peaceful sleeping.	Normal glazing is sufficient. Trickle vent informative but no other essential acoustic mitigation.
55-59.9	Significant noise levels. Glazing upgrades not yet necessary but a consideration. Mechanical Ventilation system (PIV, MEV or MVHR) with a manual boost facility likely to be required as opening windows not really practical apart from short term purge ventilation	Normal glazing still acceptable. Forced ventilation (PIV or MEV) with manual boost recommended with trickle vents. Trickle vent attenuation up to 30dB required (virtually standard for non-acoustic trickle vents).
60-64.9	Acoustic glazing and mechanical ventilation system (with manual boost) needed - acoustic glazing performance of between 30 to 35dB Rw+Ctr needed. Mechanical ventilation essential as opening windows is now only for purge ventilation for comfort reasons.	Acoustic glazing upgrades essential. Forced ventilation with manual boost essential (PIV or MEV with acoustic trickle vents, MVHR needs no trickle vents).
65-69.9	Acoustic glazing and mechanical ventilation system (with manual boost) needed - significant acoustic glazing performance of between 35 to 40dB Rw+Ctr needed. Mechanical ventilation essential as opening windows is now only for purge ventilation for comfort reasons.	Acoustic glazing upgrades essential. Forced ventilation with manual boost essential (MVHR would be preferred solution with inlet/outlet on quieter façade of building).
Above	Unacceptably noisy location - likely also in a NIA. Presumption for refusal. High performance glazing and ventilation upgrades essential if development is permitted. Standard glazing unsuitable, Mechanical ventilation essential.	Refusal or significant acoustic mitigation required. Acoustic glazing upgrades essential. Forced ventilation with manual boost essential (MVHR is preferred solution with inlet/outlet on quieter façade of building).

5.6 How will the Council Assess Noise Impact for a Development Scheme?

The Council will consider the relative merit of the planning application with regard to national and local planning policy. The relative weight given to noise will depend on the significance of any impact and the merits on the application. Following a review of the specific planning proposal, consultation comments are provided to the Council's Development Control team who determine the application. A conclusion will be reached by the Environmental Protection Team and a formal recommendation will be made.

A recommendation will be made for refusal if there is insufficient supporting information provided with the planning application, or if it deemed that there is no appropriate mitigation and that the proposal would be unacceptable in noise terms.

5.7 Further information

Department for Levelling Up, Housing & Communities **Ministry of Housing, Communities & Local Government**	www.gov.uk/guidance/noise--2
Department for Environment, Food & Rural Affairs (DEFRA)	Noise Mapping Resources Noise Policy Statement for England
Institute for Acoustics	ProPG Planning & Noise Guidance for Residential
MCS Standards for heat pumps	MCS Certified | Giving you confidence in home-grown energy