CHAPTER 21: CLIMATE RESILIENCE + ADAPTATION



INTRODUCTION

21.01 Haringey is facing increasing impacts and risks related to climate change as evidenced by recent floods and heatwaves. In this context, it is vital that the borough takes steps to adapt to climate change and build resilience against it.

21.02 Climate adaptation and climate resilience are closely related concepts, but they focus on different aspects of addressing climate change. Climate adaptation refers to the process of adjusting to the effects of climate change. It involves understanding the effects or likely effects of climate change, such as extreme heat, storms or droughts, and taking proactive action to prepare for, adapt to and minimise these. For example, this would include sustainable urban drainage schemes to manage rainwater runoff and reduce flood risk. Climate resilience, on the other hand, means building capacity to withstand and recover from climate-related stresses and shocks. A resilient system can continue to operate despite the changes or challenges posed by climate change. An example of this would be planting trees to help management of extreme heat in urban areas.

21.03 The Council has already taken steps to adapt to climate change and improve the borough's resilience to negative impacts. These include:

- declaring a Climate Emergency
- adopting a Climate Change Action Plan
- expanding coverage of cool spaces in the borough
- setting up an Adverse Weather and Health Group (AWHG)
- undertaking evidence building and vulnerability mapping analysis, including through the Council's Joint Strategic Needs Assessment (JSNA)
- installing Sustainable Urban Drainage (SUDS) schemes across the borough and undertaking investigations in response to the 2021 floods; and
- preparing a Climate Resilience and Adaptation Plan.

21.04 The new Local Plan seeks to contribute further in this regard and, consistent with Chapter 14 of the NPPF, takes a proactive approach to adapting to climate change, taking into account the long-term implications for flood risk, water supply, and the risk of overheating and drought from rising temperatures.

21.05 Adapting to climate change and building resilience to it is at the heart of our new Local Plan, forming the basis of the Placemaking Objective to achieve a 'Sustainable and Resilient Place, with strong communities, a regenerating natural environment and on target to be net zero carbon by 2041'. Policies which support climate adaptation and climate resilience in Haringey are woven throughout all chapters of this plan. This dedicated chapter provides detailed policies to ensure that development proposals respond appropriately to flood risk, overheating, drought and subsidence and air pollution risks. In doing so it aims to ensure that our communities and infrastructure are prepared for the impacts of climate change, safeguarding health and wellbeing for everyone - especially Haringey's most vulnerable residents.

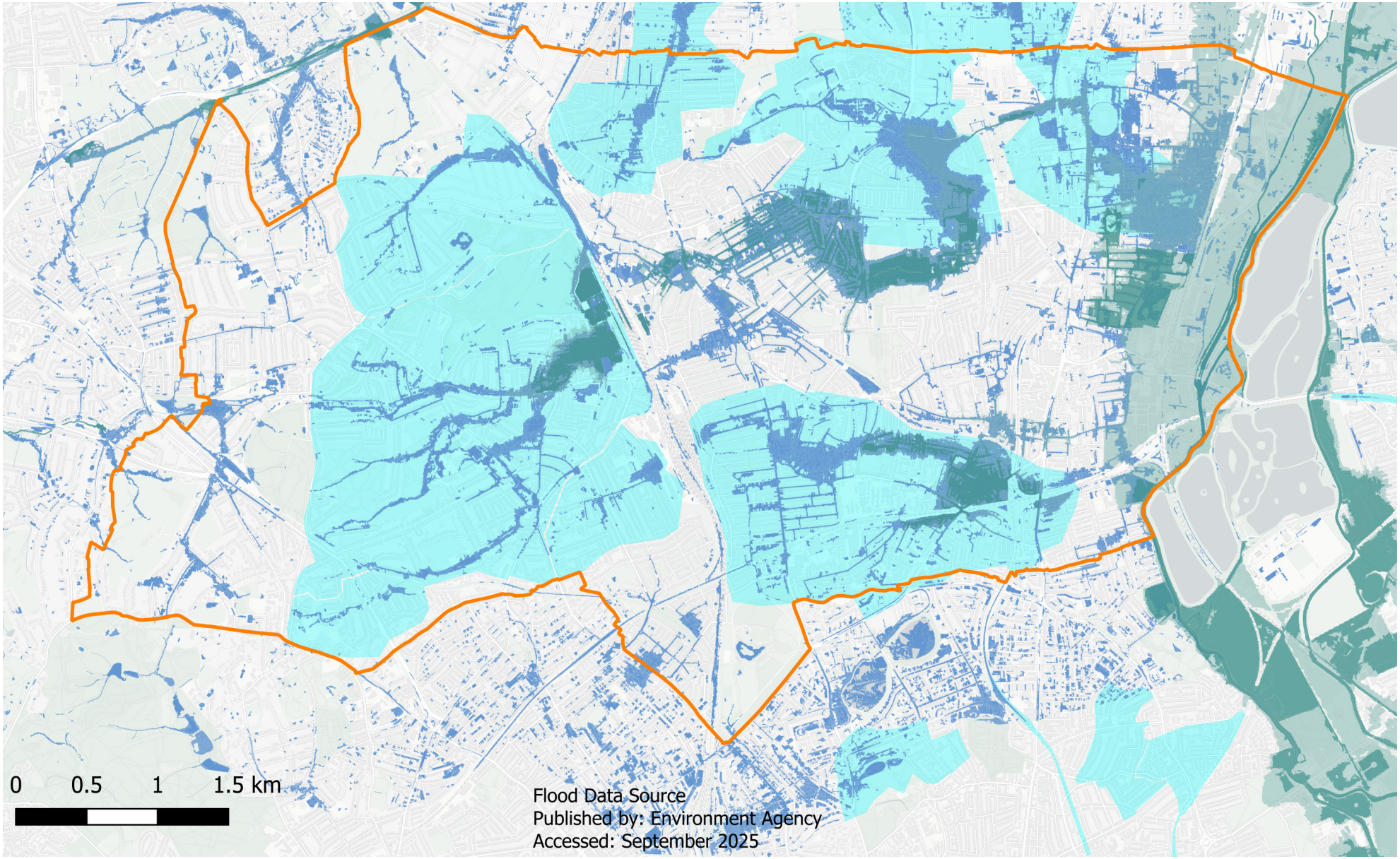


FIGURE 204 | Map of Flood Risk and Critical Drainage Areas

Policy CR1: Climate Resilience and Adaptation

A. The Council will act to ensure the borough and its communities are able to adapt to a changing climate and have sufficient resilience to withstand, and recover from, the increasing frequency and risk of extreme weather events. To achieve this, the design and location of development will be required to:

(1) Support urban cooling and minimise any contribution to the urban heat island effect in accordance with Policy CR2

(2) Minimise overheating risk in buildings in accordance with the Haringey Cooling Hierarchy set out in Policy CR3

(3) Manage and reduce flood risk consistent with Policy CR4

(4) Control surface water-run-off in accordance with Policy CR5

(5) Ensure a high standard of water efficiency in line with Policy CR6

(6) Avoid and/or address subsidence risks in accordance with Policy CR7

(7) Prioritise the improvement of air quality in accordance with Policy CR8.

B. Wherever possible, proposals should utilise nature-based solutions to address climate change risks.

C. Proposals must be informed by an understanding of which areas and populations in the borough are most vulnerable to negative impacts of climate change and will be required to demonstrate how potential impacts on those at higher risk will be avoided and/or satisfactorily addressed.

D. Proposals should complement and integrate with strategic borough-wide measures to address risk from climate change.

21.06 This policy contributes to the Haringey Placemaking objectives as follows:

A FAIR PLACE

Requires development to be located and designed to respond and be resilient to a changing climate and increased climate risks.

A HEALTHY & SAFE PLACE

Ensure people are comfortable inside buildings, particularly in the context of a changing climate

A SUSTAINABLE & RESILIENT PLACE

Recognises that climate change affects vulnerable populations and locations more severely, and requires development to address these impacts by prioritising protection and support for those most at risk

Supporting Text

Climate resilience in London

21.07 The UK Climate Projections (CP18) forecast that by 2061 London could see an increase in average temperatures ranging from 2°C to 6°C. While the total annual rainfall is projected to stay roughly in line with current levels, the distribution of rainfall is expected to shift, with drier summers, wetter winters, and more frequent intense storms and prolonged dry spells in general.

21.08 The London Climate Resilience Review (2024) identifies several key climate risks the city is expected to face because of its changing climate, highlighting the importance of protecting vulnerable groups. In particular, the review identifies a heightened risk of:

→ overheating;

- flooding (particularly from surface water and sewer surcharges);
- drought;
- storms;
- subsidence; and
- wildfires.

21.09 The impacts may also give rise to secondary risks such as increased risk of diseases caused by increased temperatures.

21.10 The above mentioned risks bring significant costs to our economy, ecosystems, infrastructure and impact our health and wellbeing. It is essential that new development is located and designed so that our buildings, public spaces and infrastructure can adapt to our changing climate and remain resilient over their lifetime.

Prioritising nature-based solutions

21.11 Nature-based solutions to increasing climate resilience should be prioritised because they provide additional social, economic and environmental benefits, are cost-effective, and support greater long-term resilience by harnesses biodiversity and ecosystem services. They should be well-integrated into proposals using a design-led approach, in accordance with Haringey's Green & Blue Infrastructure principles.

Protecting vulnerable groups

21.12 Climate risks will have a higher impact on vulnerable populations. During the summer of 2022 heatwave, the borough suffered 21% higher excess deaths compared with the 5-year average. The largest increases in excess deaths occurred in care homes and more deaths were recorded amongst rough sleepers during the summer compared with winter.

21.13 Proposals should identify climate-related impacts on vulnerable populations and demonstrate how these will be addressed through the development. The Greater London Authority (GLA) has produced a climate risk map, identifying areas within London that are most exposed to climate impacts with high concentrations of vulnerable populations. In addition, the Council's Public Health department produces Joint Strategic Needs Assessments that identify local impacts on health and wellbeing, including from climate risks.

Strategic borough-wide measures

21.14 Following recommendations from the London Climate Resilience Review (2024), the Mayor of London is beginning work to develop a clear strategic vision and delivery plan for a climate-resilient London. The Council is committed to working collaboratively and positively with the Mayor of London to support this work.

21.15 The Council is preparing a Climate Resilience and Adaptation Plan which sets out strategic measures that are being undertaken to strengthen the borough's climate resilience.

21.16 Proposals should have regard to local and regional climate resilience strategies and, where appropriate, contribute to strategic schemes that improve climate resilience through direct delivery or financial contributions.

Policy CR2: Supporting Urban Cooling

A. Proposals must help to deliver urban cooling and avoid worsening the Urban Heat Island effect. To achieve this, proposals should:

(1) be informed by urban heat island mapping of Haringey and demonstrate a positive response to identified risks.

(2) contribute to passive cooling and shading in proposed external amenity space through urban form, surface treatment and the orientation of buildings and the public realm, supporting heat and sunlight dissipation during heat waves;

(3) maximise nature-based solutions to improve evaporation cooling and provide shading;

B. Proposals that capture waste heat from development proposals or existing buildings or transport infrastructure for beneficial use will be supported, having regard to policy CE5.

C. All major development which is providing public or communal space and is in an area where there is a deficiency of cool spaces should include either an indoor or outdoor Cool Space which, as a minimum, meets the 'tier 2' standard of the GLA 'Cool Spaces' criteria.

Supporting text

21.17 Urban cooling is a critical strategy for addressing rising temperatures in London and protecting the health and wellbeing of Haringey's residents against the impacts of climate change.

21.18 As average annual temperatures continue to rise due to climate change, overheating is impacting everyone. However, protection from overheating is particularly important for heat vulnerable groups who are not as able to adapt to changing environmental conditions, such as older people, young children, people suffering from chronic illness, disabled people and people living in poverty. In extreme situations heat exposure can have serious health implications and in the worst cases it can lead to fatalities.

The Urban Heat Island effect (UHI)

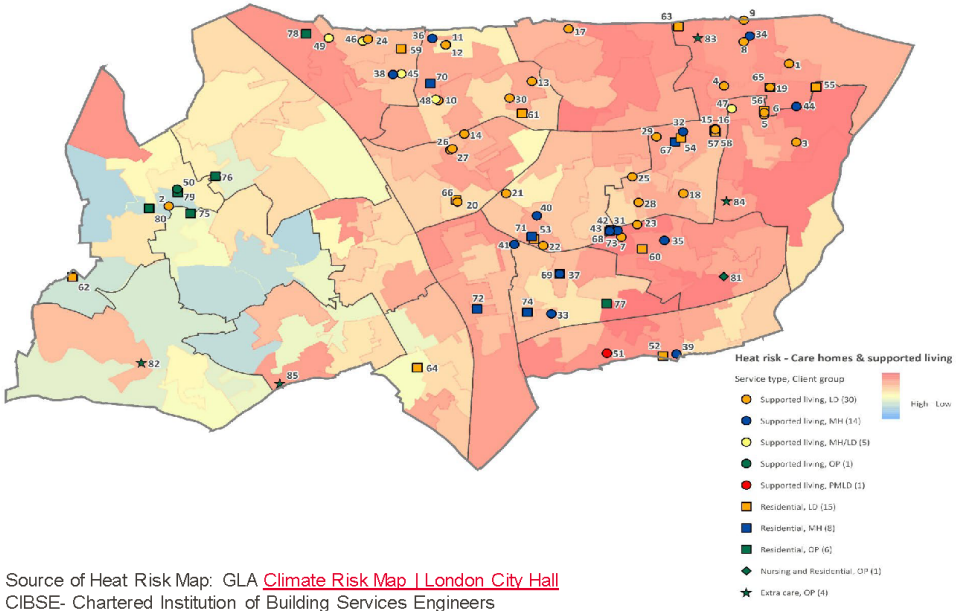
21.19 The Urban Heat Island effect (UHI) refers to higher average air temperatures in urban areas compared to rural areas. London can be up to 10 degrees warmer than neighbouring rural areas . This happens for a variety of reasons but includes a lower amount of trees and other vegetation, an increased amount of hard, reflective urban surfaces which radiate heat, and a higher concentration of heat sources. Due to climate change, Haringey is experiencing hotter and drier summers that are further intensified by the UHI.

Heat risk

21.20 Urban cooling measures should be prioritised in areas of higher heat risk. The GLA has produced the London Climate Risk Maps which show climate vulnerabilities, including heat risk, at the borough level. Applicants should use this data and, if appropriate, undertake additional site-specific heat mapping analysis of the local area to ensure an appropriate response to climate risks.

21.21 In Haringey, vulnerability to heat risk is concentrated overwhelmingly in the east of the borough, as shown on the map below:

Vulnerable settings – care/nursing homes



Source of Heat Risk Map: GLA Climate Risk Map | London City Hall
CIBSE- Chartered Institution of Building Services Engineers

FIGURE 205 | This heat vulnerability map is from Haringey's 2024 Joint Strategic Needs Assessment (JSNA). The maps overlays care and nursing homes with the GLA's heat risk data. Most of the east of the borough falls within in the 'red' zone for high heat risk. This is also where the highest number of care and nursing homes are located in the borough, indicating that it is particularly important to address health risks associated with overheating in the east of the borough.

Urban form

21.22 Proposals should demonstrate how they will contribute to passive cooling and shading, supporting heat and sunlight dissipation in the external environment during periods of extreme hot weather. In assessing potential impacts, applicants should consider how spaces are used, for example whether people are passing through or expected to dwell in the space or if there are vulnerable users.

21.23 The urban form should be designed to provide sufficient shading through layout, height, bulk and massing to prevent overheating. For example, this could include buildings providing shade to a proposed courtyard or play area during summer months at hotter times of the day.

21.24 External shading is one of the most effective ways to reduce overheating risk within buildings and in the public realm. Where nature-based solutions cannot be sufficiently provided, external shading solutions in combination with seating areas should be explored to provide comfortable rest spaces during warmer months.

21.25 Solutions must be design-led, having regard to Haringey's Design and Heritage policies and established design guidance including the Good Homes Alliance Shading Design Guide.

Surface treatments to support urban cooling

21.26 Urban surfaces with a high solar reflectance, or albedo, enable heat to be quickly radiated back into the atmosphere without retaining the heat. Conventional materials, such as red brick, will have a lower albedo and retain more heat at the building structure which is radiated back into the atmosphere when surrounding temperatures drop. Lighter coloured surfaces, such as white, have a higher albedo or solar reflectance.

21.27 Appropriate measures to support cooling can include:

- Cool roofs with light-coloured materials (high albedo) if not proposing a living roof
- Lighter-coloured façade materials

- → Cool pavements (high albedo)

21.28 Measures must be design-led and must have regard to Haringey's Design and Heritage policies.

Nature-based solutions

21.29 The cooling benefits of green and blue space in cities is critical to maintaining comfortable air temperatures in our warming climate and should be considered early in the design process. Appropriate measures include providing new green spaces, tree canopy cover, sustainable urban drainage systems, living roofs and walls, pergolas with climbing plants, and incorporating blue infrastructure like lakes and water features.

Cool Spaces

21.30 'Cool Spaces' are indoor or external spaces for Londoners to shelter from the sun, cool down, rest and take respite during heat waves. Cool Spaces must be designed in accordance with the GLA's detailed criteria for the provision of Cool Spaces.

21.31 Overheating is a public health emergency and as such the Council must ensure that residents and visitors alike have easy access to Cool Spaces. As such, proposals will be required to provide them in locations where local deficiencies are identified.

21.32 The New Local Plan seeks to ensure there are Cool Spaces within a 10-minute walking distance (or 800m) of all homes, in accordance with GLA guidance, Public Health England guidelines and the NHS Heatwave Plan. The GLA's Cool Spaces map identifies gaps in provision in Haringey. Where Cool Spaces are not already available within an 800m distance from residential areas, major development that provides public or communal space must meet the 'Tier 2' indoor or outdoor Cool Space criteria.

21.33 Cool spaces should be able to continue to function during national grid power outages.

21.34 It is important for people to have access to water, particularly during heat waves. Developments should, where appropriate, contribute to or deliver water fountains in areas of deficiency as part of providing Cool Spaces.

Policy CR3: Minimising Overheating Risk in Buildings

A. Proposals must minimise overheating risk in new and existing buildings in accordance with the Haringey Cooling Hierarchy, which sets a hierarchy of highest priority measures (1) to lowest priority measures (8):

Haringey Cooling Hierarchy

(1) Integrate external shading into all building openings except facades that face due north.
(2) Minimise the amount of heat entering a building by using passive cooling measures (including building orientation and natural ventilation).
(3) Minimise internal heat generation through energy efficient building services design.
(4) Prioritise natural ventilation, avoiding single aspect dwellings.
(5) Manage heat within the building through exposed internal thermal mass and high ceilings.
(6) Provide mechanical ventilation where necessary.
(7) Provide active cooling only where robustly justified and it is demonstrated that the above passive measures have been prioritised.
(8) Demonstrate a retrofit plan with feasible mitigation measures that will mitigate more extreme heatwaves in the future.

B. Proposals must demonstrate that waste heat from building services is minimised and has been located to mitigate negative heating impacts on future occupants and neighbouring sites.

C. Overheating assessments must be undertaken for all buildings where people spend a significant amount of time.

Supporting text

21.35 In the past, buildings in Haringey were not typically designed to adapt to heat waves as heat waves were infrequent events and when they did occur they did not last for long. Today, overheating risk in buildings poses a significant and increasing risk to public health and well-being and is also contributing to global warming as people turn to active cooling solutions that are energy-hungry and increase carbon emissions. As such, it is essential that buildings in Haringey are designed to minimise overheating risk.

21.36 Overheating can occur in both existing and new buildings with impacts depending on the uses and design of the building, as well as the vulnerability of its occupants, their adaptability and thermal comfort ranges, and their ability to control internal temperatures.

21.37 Mitigation measures must therefore be integrated as part of all proposed development, including retrofit projects, strengthening climate resilience and reducing the need for retrofitted active cooling such as fans or air conditioning which rely on external power sources to remove heat. Avoiding active cooling will also reduce additional energy demand and heat exhausts associated with active cooling, which worsen London's urban heat island effect.

External shading

21.38 External shading is the most effective way to prevent overheating. In particular, south and west facing windows should be shaded as the most effective way to prevent overheating. Shading should be designed to allow passive solar heat gains during cooler months, when the sun is at a lower angle in the sky.

21.39 External shading may include:

→ architectural features such as overhangs or inset balconies

- shutters
- louvers
- brise soleil
- awnings
- pergolas (in combination with climbing plants)

21.40 Curtains and internal blinds have minimal impact on overheating as the solar heat gains have already passed through the glass and will heat up internal air between the curtains/blind and glass that will then circulate internally. This is therefore not an acceptable mitigation measure.

21.41 External shading has a visual impact on the external appearance and character of proposals and as such should have regard to this plan's design and heritage policies.

Passive cooling measures

21.42 Passive cooling is about designing buildings so that indoor spaces are comfortable and avoid overheating while remaining energy efficient. Proposals should take a design-led approach to integrating passive cooling measures in new and existing buildings. The most impactful measures require consideration during early design stages as they can have an impact on the visual appearance of buildings. Passive cooling measures may include:

- building massing and orientation;
- layout (e.g. dual or triple aspect for cross-ventilation);
- window-to-wall ratio (known as 'glazing ratio');
- external shading (to openings);
- high albedo materials;
- well-insulated building envelope;
- exposed thermal mass;
- high ceilings; and
- the provision of greenery directly adjacent to the building that provides external shading to glazing (Nature-based Solutions).

Energy efficient building services design

21.43 Building services should be designed to minimise heat losses from heat distribution infrastructure in habitable spaces and corridors, and use efficient appliances. Reducing hot water usage will also help to reduce heat losses.

Prioritising natural ventilation

21.44 The location, orientation and layout of buildings and their openings should be considered early in the design process to support natural ventilation, provide shading, and manage exposure to sunlight. Dual or triple aspect layouts are preferred for residential proposals to support cross-ventilation.

Exposed thermal mass

21.45 Proposals should be designed to use materials with high thermal mass, such as concrete, brick, or stone, where appropriate, as they can absorb heat during the day and release it slowly at night. This should be paired with ventilation to purge excess heat at night, and high ceilings, which allow hot air to rise and cooler air to stay at occupant level, naturally regulating temperatures.

Mechanical ventilation

21.46 Mechanical ventilation should always be combined with passive cooling measures to improve effectiveness. Passive night ventilation (night purge cooling) can be used to flush out warm indoor air at night when outdoor temperatures are lower, to reduce overheating in naturally ventilated buildings. This works best in buildings with high thermal mass which absorb heat during the day and release it at night.

21.47 All mechanical ventilation heat recovery (MVHR) systems should include an automatic summer bypass mode to reduce overheating risk during summer months.

21.48 Mechanical ventilation with pre-cooling (evaporative cooling or earth tubes) may also be considered as part of mitigation measures.

Active cooling

21.49 Active cooling, including air conditioning and reversible air source heat pumps (that provide cooling), will be resisted and will only accepted where justified through dynamic thermal modelling which proves that all other mitigation measures have been exhausted.

21.50 Where active cooling systems are proposed, they must be demonstrated to be the lowest carbon option available, be designed very efficiently to reduce costs for occupants and reuse waste heat that is produced. Applicants must demonstrate that all opportunities to connect to low carbon heating systems have been explored and that the cooling demand is reduced to less than 15Wh/m2/year.

Minimising waste heat

21.51 Proposals should demonstrate how the placement and design of heat pumps and air conditioning units (only where robustly justified) have been designed to avoid adverse impacts of waste heat on the surrounding environment.

Overheating risk assessments

21.52 Overheating assessments should be undertaken for any buildings where people spend a significant amount of time.

21.53 Overheating risk assessments should be prepared in accordance with the GLA's Energy Assessment Guidance.

21.54 Major development proposals should include:

- A method statement demonstrating application of the Cooling Hierarchy
- A massing and shading study which demonstrates how urban form and orientation are designed to mitigate overheating risk in buildings. 3D modelling is encouraged.
- Dynamic thermal analysis demonstrating compliance with CIBSE TM59 (residential developments and residential institutions), CIBSE (naturally ventilated non-residential developments, and/or CIBSE Guide A (mechanically ventilated non-residential developments), or equivalent guidance as updated.
- Modelling of current and future weather files, complying with the current 2020s and 2050s weather file for Design Summer Year (DSY) 1 and demonstrating through a retrofit plan how the development will comply with future mitigation measures for DSY2 and DYS3 (2020s), and DSY1 (2080s) weather files.
- Submit a 'retrofit guide' to demonstrate how the building(s) can easily be retrofitted with mitigation measures (in line with the Cooling Hierarchy) to ensure it does not overheat in more extreme weather events (DSY2 and 3 under 2020s) and future (2080s), how this will be managed and delivered and who will manage the overheating risk when the development is occupied.
- Modelling for developments accommodating vulnerable users should apply user occupancy profiles in accordance with current GLA Energy Assessment guidance.

21.55 Minor development proposals, including retrofit, should be designed to achieve a low overheating risk using the Good Homes Alliance Overheating Risk Assessment Method. More detailed modelling (e.g. as listed above) may be required for specific 'at risk' properties.

21.56 Development that will have a high likelihood of use with a vulnerable user group (elderly, ill, young) or where moving the user group will be difficult (holding facilities, schools, hospitals etc.) will be expected to achieve a higher standard to ensure occupants remain safe.

Policy CR4: Managing and Reducing flood risk

A. Development must avoid and reduce all forms of flood risk, addressing residual risks and protecting people, buildings and infrastructure from current and future climate change impacts.

B. Proposals will not be permitted that increase flood risk elsewhere, or that would result in an unacceptable standard of safety in the event of flooding.

C. Proposals must be designed to be safe for a 1% annual exceedance probability (AEP) event with the appropriate allowance for climate change.

Locating development

D. Proposals should be directed to areas in Haringey with the lowest flood risk in accordance with the sequential test in the National Planning Policy Framework (NPPF) and having regard to Haringey's Strategic Flood Risk Assessments (SFRA). If it is determined that the proposed development cannot be located in an area with a lower probability of flooding, the Council will apply the Exception Test in line with the NPPF.

E. Having regard to the Flood Risk Vulnerability Classification in the NPPF, the following will not be permitted:

(1) Within Flood Zone 3b, uses classed as 'highly vulnerable', 'more vulnerable' or 'less vulnerable' and all basement development
(2) Within Flood Zone 3a, uses classed as 'highly vulnerable' and all basement development.
(3) In Flood Zone 2, self-contained basement dwellings and bedrooms.

F. All development located in areas at risk of flooding must:

(1) preserve overland flood and flow routes, where applicable;
(2) ensure no net loss of on-site flood storage for both fluvial and surface water flood risk, or in exceptional circumstances provide off-site temporary storage;
(3) demonstrate that it will be safe throughout its lifetime without increasing flood risk elsewhere, taking into account the vulnerability of its users;
(4) avoid flood risk through site layout, design and through applying lower vulnerability uses to higher risk areas;
(5) maintain or provide new or upgraded flood infrastructure and/or provide a financial contribution towards wider measures which reduce and mitigate against flood risk, where appropriate;
(6) incorporate flood resilient and flood resistant design measures in accordance with current Environment Agency (EA) guidance and local standards,
(7) apply appropriate construction techniques to limit potential disturbance to natural groundwater flows;
(8) manage residual flood risks, including through:
(9) providing property level protection for developments located in Flood Zones 3a and 3b; and
(10) providing evacuation plans and flood warning arrangements, where appropriate.

Assessing Flood Risk

G. Proposals must assess the risk of flooding from all sources in accordance with the Council's most recent SFRA.

H. Site-specific Flood Risks Assessments (FRAs) will be required for major development where proposals are located within Flood Zone 2 or 3 (a and b) and for proposals located within Flood Zone 1 where:

(1) the site area is 1 hectare or more;
(2) the EA's flood mapping shows the proposed site will be at increased risk of flooding from rivers, seas or surface water flooding during the development's lifespan;
(3) Haringey's SFRA identifies the proposed site as being at increased risk of flooding during the development's lifespan;
(4) proposals are located within a Critical Drainage Area, having regard to policy CR5;
(5) proposals would increase the vulnerability classification; or
(6) proposals may be subject to sources of flooding other than river and sea flooding, including surface water, ground water and sewer flooding.

I. Site-specific Flood Risk Assessments will be required for minor development and proposed changes of use if they:

(1) are located outside of Flood Zone 1;
(2) are located within a Critical Drainage Area, having regard to policy CR5;
(3) change the existing footprint of the building(s); or
(4) are at risk from any other sources of flooding.

J. Groundwater Screening Assessments will be required for all major and minor development where there is a risk of groundwater flooding.

Supporting Text

21.57 Haringey's topography, geology, dense urban character and high coverage of non-absorbent or impermeable surfaces mean it has a comparatively high risk of surface water flooding than many other places. In addition, large parts of the east of the borough are susceptible to river (fluvial) flooding associated with the River Lee. Projections indicate that climate change will place a greater number of people, properties and infrastructure in the borough at risk of flooding.

Strategic flood risk management in Haringey

21.58 It is not possible to completely stop flooding, but steps can be taken to reduce flood risk in Haringey through designing new development to be more climate resilient and through Council-led strategic measures and maintenance programmes. Proposals should ensure that they take opportunities to support and contribute positively to the Council's flood risk mitigation strategies wherever possible.

21.59 In its role as "Lead Local Flood Authority", the Council has primary responsibility for managing flood risks from surface water, groundwater, and some culverted watercourses within Haringey. Following the intense rainfall in July 2021 and August 2022, the Council has significantly increased its investment into mitigating flood risk and regularly publishes Flood and Water Management Investment Plans setting out planned investment as well as future aspirations for delivery.

21.60 Haringey's Local Flood Risk Management Strategy provides further information on borough-wide strategic measures that the Council is implementing to manage flood risk and fulfil its LLFA duties. Haringey's Watercourse and Flood Risk Plan (2022) provides guidance on the role watercourses and flood prevention features in Haringey's parks and greenspaces can play in the delivery of the Local Flood Risk Management Strategy.

Climate change allowances

21.61 The UK climate change allowances are guidelines produced by the Environment Agency (EA) that are used to predict the potential future impacts of climate change on flood risk for new development. The predictions consider rising sea levels, increased rainfall and other environmental factors over a set period (for example, 50, 100, or 150 years).

21.62 Proposals should always apply the 'upper-end' of climate change

scenarios when applying climate change allowances to assess fluvial and surface water flood risk in Haringey, having regard to the most recent Environmental Agency guidance.

21.63 Proposals must be designed to be safe for a 1% annual exceedance probability (AEP) event including an 'upper-end' climate change allowance. This should be achieved without increasing flood risk elsewhere, with the condition that there is no net loss of flood storage and overland flow routes remain unobstructed. Consequently, self-contained residential basements and bedrooms at basement level will not be permitted in areas subject to fluvial and surface water flood risk.

Locating development

21.64 Haringey's Strategic Flood Risk Assessment Level 1 (SFRA 2022) is a key statutory evidence base document that informs the Local Plan, to ensure that minimising and mitigating flood risk is a key consideration when planning new development. The SFRA identifies locations in the borough that are at a higher risk of flooding and proposals must have regard to it when assessing flood risk. The Council will commission a SFRA Level 2 in support of the next iteration of this plan (Regulation 19) to provide a detailed assessment of all sources of flood risk for specified sites requiring targeted assessment.

21.65 Applying the sequential and exception tests is crucial in directing development to areas with lower flood risk, unless there is a robust justification for an alternative higher risk location. The NPPF and National Planning Policy Guidance set out when and how the Sequential and Exemption Tests should be applied.

21.66 The Council will apply the sequential test in accordance with the NPPF when determining appropriate locations for proposals and the exception test will apply where is it is not possible to locate development in lower risk areas.

21.67 Proposals must provide sufficient evidence to enable the Council to assess whether the Sequential and Exception Tests have been applied correctly. Evidence should be up-to-date and based on the best data available

21.68 Pre-application engagement with the Council is encouraged to ensure that the Sequential Test has been applied correctly.

Flood risk vulnerability classifications

21.69 Appendix 3 of the NPPF sets out the full list of flood risk vulnerability classifications for development uses within four key categories:

(1) essential infrastructure (e.g. essential utilities infrastructure);

(2) highly vulnerable (e.g. basement dwellings, emergency services stations);

(3) more vulnerable (e.g. hospitals, residential); and

(4) less vulnerable (e.g. car parks, offices) and water-compatible development (e.g. docks, marinas and wharves).

21.70 Proposals should refer to the Haringey SFRA for further information regarding how vulnerability classifications should be applied to proposed uses.

21.71 Proposals should also be in accordance with the London Regional Flood Risk Appraisal (RFRA) (2018). The RFRA recommends that planning policies make the most of opportunities presented by regeneration and redevelopment located on river corridors to reduce fluvial flood risk through the location, layout and design of development. The report also recommends maximising opportunities for open space for flood water management. Proposals should have regard to the Environment Agency's flood risk map for planning.

Development located in areas of flood risk

21.72 When applying measures to avoid, mitigate and manage flood risks, nature-based solutions should be fully explored and prioritised where possible. Proposals should clearly indicate on drawings where measures have been introduced, including showing where safe access and escape routes are located in the event of a flood.

21.73 Property level protection measures include:

- Sandbags
- Doors and windows: automatic flood-proof doors and windows or purpose-built flood boards that can be installed when flooding is expected
- Landscaping in gardens designed to divert floodwaters
- Waterproof sealant to exterior walls
- Flood-proof air bricks or covers for air bricks which can be installed when flooding is inspected
- Drains and pipes fitted with non-return valves
- Temporary flood barriers

Flood resilient and flood resistant design measures

21.74 Finished floor levels should be set at least 300mm above the 1% AEP (1 in 100 year) flood level, plus climate change allowance, in accordance with Haringey's SFRA. Flood resistant materials must also be applied up to at least 300mm above the estimated flood level. The EA's standing advice will apply to 'more vulnerable', 'less vulnerable' and 'water compatible' development located in Flood Zone 2.

21.75 Where there is a particularly high level of uncertainty regarding the estimated flood level, the requirement for finished floor levels and flood resistant materials may need to be increased. Applicants are encouraged to liaise with the Council at the preapplication stage where there is the case.

21.76 All permissible basement development should be fully fitted with flood resilience measures, including waterproofing floors and walls.

Ground water flood risk and basements

21.77 Development proposed in areas at risk of ground water flooding should apply appropriate construction techniques to limit potential disturbance to natural groundwater flows, having regard to Haringey's SFRA. For example, where basements or deep strip foundations are proposed, the use of additional drainage measures or piled foundations should be explored.

Site-specific flood risk assessments

21.78 Site-specific flood risk assessments (FRAs) should be prepared in accordance with national planning policy and guidance, the Council's SFRA, and EA advice. Applicants are encouraged to engage early with the Local Lead Flood Authority and the Environment Agency.

21.79 FRAs should:

- have regard to the Local Flood Risk Management Strategy;
- assess the flood risk from all sources and include the potential impact of climate change over the development's lifetime (using the 'upper end' climate change scenarios when implementing climate change allowances for surface water and fluvial flood risk);
- analyse and appropriately mitigate predicted depth and level for the design flood (presented in metres above Ordnance Datum);
- establish whether and how the development would increase flood risk to others;
- establish how the development would be made safe for its

lifetime, including proposed measures and taking residual risk into account;

- provide evidence to support the application of the Sequential Test (if necessary);
- establish whether the development will be safe and pass the Exception Test, if applicable;
- be based on the best available evidence; and
- be appropriate for the scale, nature and location of the development.

21.80 The Council will publish a checklist for minor developments to assist applicants with preparing site-specific flood risk assessments where they are required.

Policy CR5: Sustainable Drainage

A. To reduce the risk of flooding and control surface water run-off from development, proposals should:

(1) restrict surface water runoff rates to greenfield 1 in 100 year rates, including the appropriate allowance for climate change.

(2) manage surface water as close to its source as possible in accordance with the Sustainable Drainage hierarchy in Policy SI13 of the London Plan;

(3) prevent the loss of permeable surfaces/areas of soft landscaping;

(4) maximise the provision of integrated sustainable urban drainage systems (SuDS) in accordance with the Council's local standards and guidance.

B. Where sustainable drainage systems (SuDS) are implemented they should:

(1) meet the requirements set out in the Council's local standards and guidance, or national standards where agreed; and

(2) be designed to maximise biodiversity, provide local amenity and recreational value and improve water quality;

(3) be sensitively incorporated within the site layout and design of new development; and

(4) Be easy to maintain and function effectively over the lifespan of the development.

C. Where SuDS cannot be implemented due to site constraints (such as land contamination or space limitations) robust justification must be provided along with proposed alternative sustainable approaches to surface water management.

D. To demonstrate compliance with the Council's sustainable drainage requirements, Drainage Strategies incorporating a completed Haringey SuDS Proforma are required for all major

developments and minor developments making significant changes to existing surface water drainage.

E. Additional site-specific surface water flood risk assessments may be required for proposals located in Local Flood Risk Zones (LFRZ) identified within Critical Drainage Areas.

Supporting text

Surface water run-off

21.81 Haringey is at particular risk from surface water flooding. Surface water run-off is the excess water that flows off the land as a result of rainfall that is unable to filter through the soil. Surface water flooding occurs when high-intensity or prolonged rainfall generates run-off which flows over the surface of the ground and ponds in low lying areas. This can lead to flooding when the ground is saturated or when the drainage network has insufficient capacity to cope with the additional flow, and it also contaminates water habitats and blue infrastructure as pollution is washed from road surfaces into nearby watercourses.

21.82 Proposals should be designed to reduce flows to a 'greenfield' run-off rate. A greenfield run-off rate is one that reflects the natural rate of water run-off from an undeveloped, naturally permeable site. The volume of run-off that must be stored on site should be calculated based on the nationally agreed return period value of a 1 in 100 year critical storm event, including an 'upper-end' allowance for climate change.

21.83 If robustly demonstrated that these requirements cannot be achieved, then run-off rates should be minimised as far as possible. The fact that a site is previously developed and has an existing high run-off rate will not constitute justification for non-compliance.

Local SuDS standards and guidance

21.84 Sustainable Urban Drainage Systems prioritise using natural processes and the landscape to reduce flood risk. They are designed to manage surface water run-off in urban areas in a way that mimics natural drainage processes.

21.85 In addition to their primary function of managing flood risk, SuDS should maximise the delivery of additional benefits through well-considered design, including:

- improving water quality;
- increasing biodiversity and supporting nature recovery
- providing rich amenity in the public realm;
- providing dynamic and attractive play space;
- enhancing local identity and sense of place; and
- contributing to urban cooling.

21.86 The Council has prepared local SuDS standards which will assist in the implementation of this policy. All SuDS should be designed having regard to Haringey's SuDS standards and the GLA's sector-specific SuDS guidance.

21.87 Applicants will be expected to demonstrate that SuDS will function effectively over the lifespan of the development, for example, by ensuring adequate arrangements for their management and maintenance.

21.88 SuDS may include and are not limited to:

- Green roofs
- Soft landscaping
- Permeable surfaces (e.g. permeable pavements, porous blocks)
- Rainwater harvesting systems
- Infiltration trenches and soakaways

- Tree pits
- Riparian buffer zones: Creating strips of vegetation along rivers and streams to absorb water, reduce surface runoff and improve water quality
- Incorporating ponds, basins and wetland features in the landscape to capture and hold excess rainwater, reducing the pressure on downstream areas during heavy rainfall (for example at Queen Elizabeth Olympic Park)
- Vegetative swales: Designing grassy channels along roads and pathways to slow and filter water, promoting infiltration rather than runoff
- Attenuation basins: Providing small basins in the landscape to hold water temporarily during peak flows before releasing it slowly

21.89 The appropriate SuDS measures to be employed will depend on site characteristics and the type of development proposed. Where SuDS cannot be implemented due to site constraints (such as land contamination or space limitations), robust justification must be provided along with proposed alternative sustainable approaches to surface water management. Financial viability is not an acceptable justification for failure to comply with this policy.

Critical Drainage Areas and areas at 'high risk' of surface water flooding

21.90 Areas at high risk of surface water flooding in Haringey are identified in the Council's Surface Water Management Plan (SWMP), Local Flood Risk Management Strategy (LFRMS) and SFRA.

21.91 Proposals located in areas of high flood risk must demonstrate that they have incorporated measures that will reduce the overall estimate level of flood risk in the area and may be subject to a greater degree of scrutiny.

21.92 Haringey's Surface Water Management Plan (SWMP) (2011) was undertaken as part of the Drain London Project and identifies areas in the borough that are at highest risk of surface water flooding. These are known as Critical Drainage Areas (CDA). Within these CDAs, Local Flood Risk Zones (LFRZ) are identified that represent the extent of predicted flooding in specific locations. The SWMP identifies 9 CDAs within Haringey. It is important that new development responds appropriately to managing flood risk in these locations.

21.93 Proposals for sites located within the LFRZ must include a planning statement addressing surface water flood risk. The Council may require a further site-specific Flood Risk Assessment to assess the risk of flooding, subject to site location and the extent of flood risk. Applicants are encouraged to liaise with the Council at the pre-application stage in order to help identify planning application requirements.

21.94 Haringey's Local Flood Risk Management Strategy (LFRMS) (2019) identifies the ongoing work that the Council is undertaking to further define areas at risk of flooding, including mapping new areas of potential 'high risk' based on new data or experiences from recent storm events.

21.95 Proposals must also have regard to areas identified as being at 'high risk' of surface flooding in Haringey's SFRA.

21.96 Applicants are encouraged to engage with the Council at an early stage to ensure that the latest information regarding site-specific flood risk is taken into consideration.

Policy CR6: Water Efficiency and Reducing the Risk of Drought

A. The Council will require all development in Haringey to be water efficient during construction and operation. To achieve this, development proposals should:

(1) Achieve the minimum London Plan requirements for mains water consumption.
(2) Set out what measures will be integrated that reduce the risk of drought and increase resilience of the site during drought periods.

Supporting text

21.97 London is an area of series water stress. During the July 2022 heat wave, high temperatures saw a 50% increase in water consumption and the Thames Water's reservoirs reduced to their lowest level in 30 years.

21.98 Proposals will be required to demonstrate how water use needs have reduced to a least achieve the minimum London Plan requirements for mains water consumption. A fittings-based approach should be used to determine the water consumption of a development. This approach is transparent and compatible with developers' procurement.

21.99 Proposals should clearly set out what measures have been implemented to minimise water use, this could include:

- Installing efficient fixtures and fittings (bath/shower, toilets, washing machine etc) with maximum capacity/flow rates;
- Greywater harvesting; and
- Rainwater harvesting for individual properties and any developments proposing external amenity and soft landscaping (see 'off-setting' below for further details on rainwater harvesting).

Policy CR7: Subsidence

A. Development proposals should identify if they are located in areas that are at greater risk of subsidence.

B. Where proposals are potentially at risk of subsidence, they must carry out a Land Stability Assessment, demonstrating that the risk will be mitigated.

Supporting text

21.100 Subsidence refers to the downward movement of the ground caused by the collapse or settling of the soil, rock or structural foundations. It can be triggered by a variety of factors, including soil shrinkage, water table fluctuations, tree roots, and construction activities.

21.101 Haringey is vulnerable to subsidence due to its clay rich soils, density of build form, tree roots and exposure to drought and heat. These issues will be exacerbated by the drier weather and higher temperatures brought by climate change. Development proposals should identify whether the land is potentially affected by land or slope stability, including subsidence.

21.102 Development should take measures to mitigate the risk of subsidence, including:

- Identifying whether the site may be affected by subsidence or slope stability. Soil investigation reports should be undertaken for new development.
- Ensuring good water management, including minimising and considering the effect of laying impermeable surfaces on the moisture content of the soil.
- Ensuring the foundation of new constructions and extensions, and underground infrastructure are designed to account for shrinkable clay soil conditions under present and future

climate conditions.

- Implementing good tree management. Haringey has the second-highest rate of tree root claims in London, therefore it is essential that trees and their root systems are well-managed where they form part of new development. This includes considering the effect of planting large trees next to a building and considering the detrimental impact on soil moisture when removing existing mature trees. A sufficient root zone should always be provided for existing and new trees.
- Certain types of trees are particularly problematic with regards to subsidence risk and should be restricted in areas with clay-rich soils or unstable ground. Where possible, trees with less aggressive root systems should be prioritised in these areas, having regard to policy G6. Where this is not possible, root barriers should be installed to prevent water extraction near foundations.

Land Stability Assessment

21.103 Locations in Haringey with clay soils or unstable ground are at risk of subsidence. Preliminary desktop studies should be undertaken by a suitably qualified chartered professional using British Geological Survey (BGS) data to identify whether development sites are located in areas at risk of subsidence.

21.104 Preliminary desktop studies should:

- Assess geology, soil conditions, and historical land use
- Identify shrink-swell clay soils, previous landfill sites, and groundwater fluctuations

21.105 Where development is proposed in an area identified as at risk of subsidence, proposals must submit a full Land Stability Assessment supported by site investigations, including:

- Geotechnical and Structural Surveys
- Boreholes and soil testing to confirm ground stability
- Groundwater monitoring to assess seasonal variations
- Risk assessment for tree-related subsidence.

21.106 Land Stability Assessments and all associated site investigations must be carried out by a suitably qualified and chartered geotechnical engineer.

21.107 Proposed basement development must be taken into consideration as part of Land Stability Assessments as they can alter groundwater flow and increase the risk of subsidence if not property managed. Basement proposals will not be permitted where they increase the risk of subsidence.

Policy CR8: Air Quality

A. All new development must:

(1) prioritise the improvement of air quality, reduce public exposure to poor air quality and minimise inequalities in levels of exposure to air pollution;
(2) be air quality neutral ensuring that it does not create any new areas that exceed air quality limits or delay compliance in areas currently exceeding legal limits; and
(3) comply with applicable air quality standards and guidelines to safeguard public health and the environment.

C. Air Quality Assessments must be submitted for the following types of proposal:

(1) Major developments.
(2) Minor developments that are likely to have an adverse impact on air quality or introduce new sensitive receptors to areas with existing poor air quality.
(3) Community infrastructure or other uses, including public open spaces, that are expected to be frequented by large numbers of particularly vulnerable groups such as older people and children.

C. Proposals that fail to meet the requirements of Part A will be refused unless it can be suitably demonstrated that adverse impacts can be mitigated to an acceptable level.

D. To reduce the impact on air quality during the construction and demolition phase development proposals must demonstrate how they plan to comply with the Non-Road Mobile Machinery Low Emission Zone and reduce emissions from the demolition and construction of buildings following best practice guidance.

Supporting text

21.108 Air pollution is the biggest environmental threat to health in the UK impacting everyone in our community. The Council has published a detailed Joint Strategic Needs Assessment on air pollution presenting local data, analysis and evidence on the issue. As of 2025, 8.2% of all deaths in Haringey are estimated to be attributable to air pollution, equivalent to ~100 deaths per year.

21.109 In Summer 2025 the Council published an Air Quality Action Plan 2025-2030 outlining its vision and commitment to improving air quality in Haringey. The plan sets out 22 measures which the Council and partners will do to improve air quality over the next five years including measures targeted at reducing emissions from developments and buildings. To track progress and meet its London Air Quality Management Duties the Council publishes an Air Quality Annual Status Report.

21.110 This plan seeks to prioritise the improvement of air quality and ensure new development is air quality neutral in line with the London Plan.

21.111 By prioritising air quality improvement, new developments can help mitigate the adverse effects of existing poor air quality, ultimately benefiting public health and the environment. By avoiding exceeding air quality limits the policy will ensure that new developments do not create additional areas that exceed air quality limits and will prevent the creation of new areas with poor air quality, and is a proactive approach to protecting public health and complying with legal air quality standards.

21.112 Requiring Air Quality Assessments (AQAs) for certain developments ensures that potential air quality impacts are thoroughly evaluated and addressed during the planning stage. AQAs help identify potential sources of air pollution, assess

the magnitude of the impact, and propose suitable mitigation measures. The whole borough has been declared an Air Quality Management Area and so assessments are also necessary to determine whether the proposed developments will exacerbate existing poor air quality or introduce sensitive receptors to areas already experiencing air quality issues. This requirement aims to prevent further deterioration of air quality in these already vulnerable areas.

21.113 It is also important to assess the air quality impact of community infrastructure and spaces frequented by vulnerable groups as this is essential to safeguard their health and well-being. By evaluating the potential exposure of such groups to air pollution, appropriate mitigation measures can be implemented to protect their health.

21.114 Requiring proposals to meet the air quality improvement and assessment requirements ensures that developers take air quality considerations seriously. It sets a clear expectation that proposals not meeting these requirements will be refused, prioritising the protection of public health and compliance with air quality standards.

21.115 Where mitigation measures are required, these should be delivered on-site ensuring that the burden of addressing air quality impacts is placed on the development itself. This approach promotes sustainable development practices by integrating air quality measures into the design and operation of the development, rather than relying solely on off-site measures. Off-site provision will only be acceptable in exceptional circumstances with equivalent air quality benefits required to be delivered in the affected area ensuring that the air quality impact of the development is properly addressed. This provision offers flexibility while maintaining the overall objective of protecting and improving air quality.

21.116 The Mayor of London has produced comprehensive guidance on air quality. To assist those involved in designing and planning new development, London Plan Guidance (LPG) on Air Quality Neutral has been prepared. The Air Quality Neutral LPG sets air quality benchmarks for all development to ensure that their transport and building emissions do not worsen air quality in London. Air Quality Positive LPG aims to maximise benefits to local air quality in and around a large-scale development sites and masterplan areas while also minimising exposure to existing sources of poor air quality.