

9. Climate Change, Transport and the Environment



The Local Plan aims to ensure the impacts of climate change are fully considered from the earliest stages of development, considering the requirements of adapting to a changing climate and mitigation measures.

Introduction

- 9.1 This chapter provides policies in relation to Climate, Environment and Transport to conserve and enhance the environment in the plan area, and to meet the challenges of the climate emergency. Uttlesford contains a rich network of biodiversity, landscapes and habitats. These include formally designated areas of high value such as Hatfield Forest and chalk streams, as well as areas that are of importance to wildlife and local people. The Local Plan sets out how development can contribute to protecting and enhancing the environment, including through the requirement for Biodiversity Net Gain, and by avoiding harm.
- 9.2 The impacts of climate change are predicted to increase over time. The Local Plan policies aim to ensure the impacts of climate change are fully considered from the earliest stages of development, considering the requirements of adapting to a changing climate, as well as mitigation measures.
- 9.3 Sustainable transport measures will ensure the long-term viability of settlements within Uttlesford, improving connectivity and promoting active travel. Policies within Chapter 9 provide for the impacts of transportation, including freight, and the need for accessible travel for pedestrians, cyclists and other vehicle users. The policies included in this Chapter are:

Core Policy 22: Net Zero Operational Carbon Development

Core Policy 23: Overheating

Core Policy 24: Embodied Carbon

Core Policy 25: Renewable Energy Infrastructure

Core Policy 26: Providing for Sustainable Transport and Connectivity

Core Policy 27: Assessing the impact of Development on Transport Infrastructure

Core Policy 28: Active Travel– Walking and Cycling

Core Policy 29: Electric and Low Emission Vehicles

Core Policy 30: Public Rights of Way

Core Policy 31: Parking Standards

Core Policy 32: The Movement and Management of Freight

Core Policy 33: Managing Waste

Core Policy 34: Water Supply And Protection Of Water Resources Core

Policy 35: Chalk Streams Protection and Enhancement

Core Policy 36: Flood Risk

Core Policy 37: Sustainable Drainage Systems

Core Policy 38: The Natural Environment

Core Policy 39: Green and Blue Infrastructure

Core Policy 40: Biodiversity

Core Policy 41: Landscape Character

Core Policy 42: Pollution and Contamination

Core Policy 43: Air Quality

Core Policy 44: Noise

Climate Change

Introduction

- 9.4 Climate Change' is arguably the most pressing issue in society. There is an urgency to limiting global temperature rise to well below 2°C, and pursuing efforts to limit temperature increase to 1.5°C, above pre-industrial levels. These temperature targets were agreed to by 195 countries including the UK via the international Paris Agreement. The UK Government sets legally binding five-yearly carbon budgets (which are based on recommendations from the Committee on Climate Change).
- 9.5 Analysis⁴⁸ from the Committee on Climate Change shows that, for the UK to meet its steeply falling carbon budgets, it is therefore imperative that new development completed from 2025 onwards is built to be net zero carbon 'in itself' from the outset (with high levels of energy efficiency and heat pumps or heat networks, not gas), and also designed and located to help deliver the wider changes needed for a net zero carbon Uttlesford. The analysis also shows that beyond new buildings, there will need to be:
- a rapid and far-reaching rollout of energy efficiency measures in existing buildings
 - a dramatic upscaling in the number of existing buildings and transport that runs on electricity rather than fossil fuel, and
 - a corresponding rapid and dramatic upscaling of renewable energy to meet this (with electricity demand rising 50% by 2035 and doubling or even tripling by 2050, even if energy efficiency measures in buildings are deployed at scale).
- 9.6 The NPPF is clear that moving to low carbon with mitigation and adaptation to climate change are key elements of sustainable development. Under the NPPF⁴⁹ (paragraph 153 & footnote⁵³, plans should take a proactive approach to mitigating and adapting to climate change in line with the Climate Change Act. Local plans' climate duty (to ensure that the development and use of land helps mitigate and adapt to climate change) is also legally codified in the Planning and Compulsory Purchase Act 2004 Section 19.1A, as amended by the Planning Act 2008 section 182.
- 9.7 Climate change mitigation means actively reducing carbon emissions – in this case by designing new developments and buildings to be energy and resource efficient, welcoming proposals to achieve the same in existing buildings, using renewable and low carbon energy generation, and promoting patterns of development that encourage travel by more environmentally friendly modes of transport. As per the expectation set by the National Planning Policy Framework⁵⁰, policies will contribute to the radical reduction in greenhouse gas emissions that occur at all stages of design, production, construction and occupation of the building and the processes involved in the whole development scheme.
- 9.8 The purpose of the policies in this chapter and building on Core Policy 1: Addressing Climate Change set out in Chapter 4 is to bring forward development

48 Committee on Climate Change, Adaptation and Decarbonisation, 2023. Available at:

<https://www.theccc.org.uk/publication/adaptation-and-decarbonisation/>

49 HM Govt Department for Levelling Up, Housing & Communities (2023), National Planning Policy Framework.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1182995/NPPF_Sept_23.pdf#page=45

50 NPPF 2023 edition, paragraph 152.

that fully (or more than fully) mitigates its climate impacts and demonstrates readiness for future climate impacts, to the extent analysed to be necessary to fulfil the Climate Change Act. This must include reducing greenhouse gas emissions and dependency on fossil fuels, minimising energy usage, using low carbon energy and heat sources, and exploiting opportunities in renewable energy production. These actions will address the Council's 2019 Climate Change and Ecological Emergency declaration reflected in the review of the Climate Crisis Strategy which aims to enable the entire District to achieve net zero status by 2030⁵¹.

- 9.9 To work towards achieving this, we need policies that control the use of water and energy in all new buildings and set standards for use of power and space heating, requiring any remaining balance in energy needs to be met from renewable sources. Though the aim is to become energy neutral within sites, and for individual buildings to be energy self-sufficient⁵², it is recognised that this is not always possible within every site, in which case developers will then need to contribute to a 'carbon offset' scheme.
- 9.10 In addition to controls on new builds, we also need to encourage proposals that actively reduce the district's existing carbon emissions (through standalone renewable energy, and through improvements to the energy performance of existing buildings). Combined with a real effort to encourage provision and use of public transport, and reduction of car-based trips, development will then go a substantial way towards meeting carbon targets by reducing emissions.
- 9.11 Local authorities are empowered through planning policies under the Planning and Energy Act 2008⁵³ to set reasonable standards for energy performance that are higher than the national Building Regulations baseline and this has successfully proved to be acceptable in recent local plans⁵⁴.
- 9.12 The Plan takes a measurable target-led approach to policy on mitigation and climate resilience that can be monitored and is in accordance with the TCPA/RTPI Best Practice Guide⁵⁵ and the Government's legislated Sixth Carbon Budget⁵⁶. The Plan's approach also reflects the evidence base⁵⁷ produced by UDC's consultants on the need, feasibility and precedents for net zero carbon policy, and aligns with the Essex-wide emerging recommended net zero carbon policies currently being developed through ongoing work within the Essex Design Guide (which themselves are supported by detailed feasibility and cost uplift evidence⁵⁸).
- 9.13 The carbon emissions directly associated with development are:
- embodied carbon emitted during the building's product, material transport and construction stages (and sometimes also the in-use refurbishment, maintenance and end-of-life disposal stages, depending on the scope of the embodied carbon assessment)

51 Uttlesford Climate Crisis Strategy 2021-2030.

52 <https://uttlesford.moderngov.co.uk/documents/s22640/CLIMATE%20CHANGE%20STRATEGY.pdf>
As a balance of grid energy use and zero carbon energy exports to the grid, across the course of the year.

53 UK, Planning and Energy Act, 2008. Available at:
<https://www.legislation.gov.uk/ukpga/2008/21/contents>

54 Such as Cornwall, Bath and North-East Somerset, and Central Lincolnshire.

55 TCPA/RTPI Climate Crisis Guide See page 34

56 As per measures shown to be necessary for that 6th Carbon Budget by the Committee on Climate Change: <https://www.theccc.org.uk/publication/sixth-carbon-budget/>

57 Available at: <https://www.uttlesford.gov.uk/article/4924/Local-Plan-evidence-and-background-studies>

58 Essex County Council & Essex Planning Officers Association (2023) Essex Design Guide: Net Zero Carbon Evidence. <https://www.essexdesignguide.co.uk/climate-change/net-zero-evidence/>

- when all stages of the building's lifetime are considered in the above, it is termed 'whole life embodied carbon'
- carbon emissions of operational energy use – that is, the amount of energy (of different types⁵⁹) used to operate the building and the activities within it, multiplied by the carbon emissions associated with each energy type⁶⁰. This includes:
 - energy to heat, ventilate and light the building (regulated energy⁶¹)
 - plus the energy required to run the appliances and other energy-using equipment (unregulated energy⁶²), and
 - minus the amount of onsite renewable energy generation (where this is used on site or exported to the grid where it prevents the need for production of an equal amount of conventional grid energy generation and its associated carbon).

9.14 The energy policies in this plan align with the available evidence on what is required to meet the UK's legally binding targets of five-yearly carbon budgets and net zero carbon by 2050. They follow recognised good practice by leading organisations such as LETI (Low Energy Transformation Initiative) and the Committee on Climate Change, using energy metrics for space heating and energy use intensity to limit these to an amount compatible with the UK's net zero carbon transition. A proposed net zero carbon scheme will therefore be judged on the following:

- space heating demand per square metre of treated indoor floor area
- energy use intensity (EUI), which covers overall energy use (regulated + unregulated) per square metre of treated indoor floor area
- renewable energy generation capacity (annual total) that matches the predicted total annual energy use, and
- proportionate contribution to the Council's offset scheme⁶³ where, in exceptional circumstances, the aforementioned on-site requirements cannot be achieved due to feasibility or viability considerations.

9.15 The key features necessary for net zero carbon buildings in operation therefore are:

- ultra-low space heating (and space cooling) demand
- low total energy use achieved via efficient low-carbon system for space heating and hot water (e.g. heat pump), low energy lighting, and selection of other efficient energy-related equipment
- no fossil fuel use in the building
- new renewable energy generation capacity sufficient to generate an amount of energy across the course of each year at least equal to the building's predicted annual total energy use, with:
 - technology to include ability to export zero-carbon energy to the grid at times when the building is not using all of its own generated energy (thus making grid energy 'cleaner' and offsetting the amount of grid energy that the building will use at times when the reverse is true), and/or to store the

59 E.g., electricity, gas and other fuels

60 E.g., the emissions from burning gas in the building itself, or the emissions from burning fossil fuels within the electricity generation mix, or the emissions from burning fuel to supply heat to a heat network.

61 E.g., Regulated loads: → Heating → Cooling → Hot water → Lighting → Pumps and fan

62 Unregulated loads are plug loads such as: → Cooking → Appliances → TVs → Computers → Any other

63 electrical equipment

Or a Council-approved offset scheme based in the district (or County as a last resort), subject to Council approval on a case by case basis.

predicted amount of 'excess' self-generated zero-carbon energy for later direct use on site

- where it is demonstrably unfeasible to include enough new renewable energy generation capacity to match the building's annual energy consumption, then a financial contribution per unit of renewable energy deficit, priced and ring-fenced for delivery of this renewable energy capacity elsewhere in the District
- minimised 'energy performance gap' from design to after construction and in operation.

Net Zero Operational Carbon Development

- 9.16 UDC's proposed policy approach to net zero carbon operational development is closely aligned with an Essex-wide policy approach being developed by the County Council along with the Essex Policy Officers Association, via the Essex Design Guide. This policy approach follows a series of steps and targets that results in a building which has net zero carbon emissions in operation by virtue of having a net zero energy balance across the course of each year, achieved through a combination of on-site energy efficiency with renewable energy supply (usually on-site, but with the option of off-site renewable energy supply through an offsetting mechanism). This enhances the robustness of the Uttlesford policy in that it will:
- benefit from the in-depth detailed modelling of feasibility, up-to-date cost uplift and viability studies produced in support of those Essex policies (and the ability to use the identified costs to perform viability testing specifically for Uttlesford)
 - improve efficiency by using implementation resources offered within the Essex work, e.g. validation checklists/templates and potentially a countywide energy offsetting scheme, and
 - contribute towards a unified and consistent approach across the Essex area that will reduce uncertainty and complication for the region's development industry and enable peer-to-peer learning across the network of council officers.
- 9.17 The first 'building block' in the policy is a space heating demand target. Space heating demand is the amount of heat energy needed to heat a building to a comfortable temperature over a year, and is expressed in kWh/m² gross internal area/yr. It is a measure of the thermal efficiency of the building elements. Various design and specification decisions affect space heating demand, including building form and orientation, insulation, airtightness, windows and doors and the type of ventilation system.
- 9.18 Beyond space heating demand, the building's total energy use (regulated and unregulated) is also expressed in kWh/m²/year. This includes the space heating demand (increased or decreased by the efficiency of the heating system), plus the energy demand of all other energy uses in the building.
- 9.19 Without these target levels of efficiency (specified in the policy), it will be difficult for a development to accommodate enough on-site renewables to become net zero carbon (noting in most cases the on-site renewable generation is likely to be solar PV panels on the development's roof). Reducing space heating demand and total energy use intensity to the target levels identified is necessary to enable the building to become net zero carbon (in operation) on site, and also aligns with recommendations from the Climate Change Committee, RIBA, LETI and the UK Green Building Council to align with the UK's legislated carbon reduction transition. It is also beneficial to residents and building users as it directly reduces energy costs.

- 9.20 This policy approach aligns with national policy objectives in that it:
- delivers many of the general objectives of the Future Home Standards/Future Buildings Standard (FHS/FBS) – such as high energy efficiency and low carbon heat, avoiding any risk of needing future retrofit to be ready for the UK’s net zero carbon future - but with enhanced certainty of actual performance (such as actual low energy demand through more effective design tools, certainty of low carbon heat, and certainty of renewable energy supply), and
 - further enhances the energy efficiency targets to match the necessary performance for the UK’s legislated carbon goals (such as by the use of targets to better ensure good building design and low carbon heat, and by bringing forward the renewable energy supply necessary to support the new development).
- 9.21 Finally, the policy as expressed below – by beginning with space heat demand targets, then low carbon heat and total Energy Use Intensity targets, then renewable energy, then offsetting, then monitoring – effectively implements the Energy Hierarchy which is generally accepted as the best practice process in design to improving the energy performance of buildings.
- 9.22 The requirements of **Core Policy 22: Net Zero Operational Carbon Development** have been tested for feasibility and cost uplift specifically in the Essex region through analysis commissioned at County level, in 2023. The feasibility work performed at Essex level showed that with these requirements, development of all types tested⁶⁴ is feasible and remains viable in the majority of land values. The cost uplifts identified in both Essex studies are very recent and are reasonably applicable to the Uttlesford district and are therefore suitable to be used for more locally-specific viability interrogation through the Uttlesford whole plan viability assessment.
- 9.23 More detailed notes to assist the understanding and interpretation of this policy are included in **Appendix 8**. Should a need arise, the Council may produce Supplementary Guidance to support policy implementation.

64 The Essex work modelled the feasibility of achieving the stated energy targets in a generous range of residential development typologies, and three types of nonresidential development. See: <https://www.essexdesignguide.co.uk/climate-change/net-zero-evidence/>

Core Policy 22: Net Zero Operational Carbon Development

A) New build development (residential and non-residential)

All new buildings (of 1 or more new dwellings or 100sqm or more non-residential floor space) must be designed and built to be Net Zero Carbon in operation. They must be ultra-low energy buildings, fossil fuel free, and generate renewable energy on-site to at least equal annual energy use.

To achieve this, these new buildings are required to comply with requirements 1 to 5 as set out below (to be demonstrated through an Energy Assessment, which for major applications must be a full energy strategy utilising accurate methods for operational energy use prediction, and for minor applications must use either those same methods or the 'net zero spreadsheet' from Essex Design Guide⁶⁵):

Requirement 1: Space heating demand

- i. all new residential buildings (apart from bungalows) and all non-residential buildings must achieve a space heating demand of less than 15 kWh/m² GIA/yr, and
- ii. all new bungalows must achieve a space heating demand of less than 20 kWh/m² GIA/yr.

Requirement 2: Fossil fuel free

- i. no new developments shall be connected to the gas grid, and
- ii. fossil fuels must not be used on-site to provide space heating, domestic hot water or cooking, and
- iii. space heating and domestic hot water must be provided through low carbon fuels.

Requirement 3: Energy Use Intensity (EUI) limits

- i. residential (Use classes C3 and C4) – All new build dwellings (1 dwelling or more) must achieve an Energy Use Intensity (EUI) of no more than 35 kWh/m² GIA/yr
- ii. on larger sites in exceptional circumstances this may be met as a site-wide residential average (weighted by floor area), provided that no single dwelling has an EUI of >60kWh/m²/yr⁶⁶.
- iii. non-residential – The following new build non-residential buildings must achieve an Energy Use Intensity (EUI) of no more than the following where technically feasible by building type or nearest equivalent.
 - a. Offices – 70 kWh/m² GIA/yr
 - b. Schools – 65 kWh/m² GIA/yr
 - c. Light Industrial – 35 kWh/m² GIA/yr
- iv. for other new build residential and non-residential buildings, that are not covered by a) and b) above, applicants should report their total energy use intensity but are not required to comply with a certain limit. These are however encouraged to

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65 Essex County Council, Zero Carbon Toolkit, Essex Design Guide, updated 2023. Available at: <https://www.essexdesignguide.co.uk/climate-change/net-zero-carbon-toolkit/>

66 The 60kWh cap is the intermediate target from the [RIBA 2030 Climate Challenge](https://www.architecture.com/about/policy/climate-action/2030-climate-challenge). Available at: <https://www.architecture.com/about/policy/climate-action/2030-climate-challenge>.

Core Policy 22: Net Zero Operational Carbon Development

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demonstrate having made efforts towards complying with EUI limits being developed by the UK Net Zero Carbon Building Standard initiative.

- v. for the avoidance of doubt, Energy Use Intensity always refers to total energy use for all energy uses associated with the building, not differentiated between 'regulated' and 'unregulated' energy. It does not include energy use for electric vehicle charging as this is not related to the design or operation of the building.

Requirement 4: On-site renewable energy generation

Renewable energy must be generated on-site for all new developments (1 or more new dwellings or 100sqm or more non-residential floorspace) by whichever of the following results in the greater amount* of solar PV energy generation:

- i. the amount of energy generated in a year should match or exceed the predicted annual energy use of the building, i.e. Renewable energy generation (kWh/m²/yr) = or > predicted annual energy use (kWh/sqm/yr)** ,
or
- ii. the amount of energy generated in a year is:
 - a. at least 80 kWh/sqm building footprint per annum* for all building types; and
 - b. at least 120 kWh/sqm building footprint per annum* for industrial buildings.

The initial offset price is set at £1.35 per kWh or the most recent updated version (this cost is to be updated to reflect inflation and other cost changes during the lifetime of the Plan) and the contribution shall be calculated at the time of planning application determination.

Requirement 5: As-built performance confirmation and in-use monitoring

- i. in addition to the energy performance predictions made at design/application stage, all developments must resubmit as-built information at completion and prior to occupation
 - a. Major applications should submit a recalculation of energy performance predictive modelling using as-built specifications (see Table 9.1)
 - b. Minor applications should reconfirm the specifications to which the development has been built, taking into account any changes to fabric and systems compared to the specifications noted at design/application stage.

And

- ii. in-use energy monitoring for the first 5 years of operation is required on a minimum of 10% of dwellings for development proposals of 100 dwellings or more, or a 10% representative sample⁶⁷ of premises for development of 10,000sqm (gross internal area) or more.

67 This should aim to cover a sample of floor space that is representative of the development's ratio of different uses and building typologies, as far as practicable considering the split of units of different Sizes and uses. Residential monitoring should be designed to aggregate the data to groups of 5 dwellings, for data anonymity purposes (as per the well-established approach in London). Where the anticipated occupancy of a development may result in an inability to anonymise this data to an extent that would contradict.

Core Policy 22: Net Zero Operational Carbon Development

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Alternative routes to meeting policy requirements.

Proposals that are built and certified to the Passivhaus Classic or higher Passivhaus standard are deemed to have met Requirements 1 and 3.

Requirements 2, 4 and 5 must also be met to achieve policy compliance.

B) Extensions and Conversions

Applications for residential extensions and conversions affecting existing buildings (but excluding Listed Buildings and Conservation Areas) are expected to meet the minimum standard approach fabric specifications set out in **Table 2** (see **Appendix 8**) and incorporate renewable energy generation technology where practical and feasible.

*In cases where it is proposed to use the rooftop for a combination of solar PV and other rooftop uses with more general sustainability benefits – such as green/biosolar roofs that reduce the amount of PV that can be installed– it may be considered acceptable to achieve the lower of the two possible amounts of solar PV generation, so long as the requirement to at least match on-site annual energy demand is still met. This will be determined on a case- by-case basis considering the wider sustainability benefits of, and needs for, the proposed other rooftop use.

**For development proposals where it is demonstrated to the satisfaction of the Local Planning Authority that meeting Requirement 4 is not technically feasible, then renewable energy generation on-site should be maximised as much as possible and the residual amount of renewable energy generation (equivalent to the shortfall in meeting the annual energy consumption of the building in kWh/yr) must be offset by a financial contribution (to cover the administration, purchasing and installation of a PV renewable energy system elsewhere in the plan area, which is able to generate a similar amount of energy) and be paid into the Council's offset fund⁶⁸.

Reporting and Modelling

- 9.24 Policy compliance will need to be demonstrated through the submission of an appropriate Energy Assessment, which for major development proposals should be in the form of an Energy Strategy and for minor development proposals the 'net zero spreadsheet' (which will be available to download from Essex Design Guide). These (continued over page)

68 data privacy legislation / regulation, the developer should liaise with the Council pre-application to mutually agree an acceptable approach. This energy offsetting mechanism meets the legislated criteria for levying of planning obligations, in that it is:

- directly related to the development (i.e. the development's energy use and associated carbon),
- fairly and reasonably related in scale to the development (the payment is calculated to reflect the amount of energy use that the development doesn't match with onsite renewable energy, and is priced to allow exactly that amount of energy to be provided off site within the District or County), and
- necessary in order to make the development acceptable in planning terms (as the offset payment will only be levied where the development cannot otherwise achieve operational zero carbon status as per the policy goal, policy definition, Essex and UDC commitments, NPPF requirement to proactively mitigate climate change in line with the Climate Change Act, and necessary actions for the UK's carbon reduction trajectory as per Committee on Climate Change analysis previously cited).

may be standalone documents or they may form a section within the Climate Change & Sustainability Statement required by **Core Policy 1: Addressing Climate Change**. Minimum information requirements for Major and Minor development proposals at each stage of the planning process are set out in Report 2: Essex Net Zero Policy – Policy Summary, Evidence and Validation Requirements (July 2023), along with the template spreadsheet. Major and minor development is defined as:

- Major Development proposals are:
 - for housing development – where 10 or more homes will be provided, or the site has an area of 0.5 hectares or more, or
 - for non-residential development – an additional floorspace of 1,000m² or more, or a site of 1 hectare or more.
- Minor development is less than 10 dwellings or less than 1,000 m² of additional floorspace.

9.25 For major development proposals, accurate predictive energy modelling, such as Passivhaus Planning Package (PHPP)⁶⁹ or CIBSE TM54⁷⁰, should be used. This will provide the necessary assurance of the accuracy of the energy assessment information and will be a useful tool for the developer to inform the design process towards achieving the targets, and will help reduce any potential energy performance gap issues (which is where in-use energy does not match the design standard).

9.26 For minor development proposals, applicants may use predictive energy modelling, or alternatively may follow a ‘minimum standards approach’ which sets out the specifications that the development must be designed and built to⁷¹. By following this approach (i.e. without an energy model), minor applications will still need to re- confirm on completion the specifications that the development has been built to.

9.27 There are alternative routes to policy compliance available such as Passivhaus, or BREAAAM and these are discussed within **Appendix 8** that provides additional guidance for the interpretation and implementation of **Core Policy 22**.

Extensions and Conversions affecting Existing Buildings (except Listed Buildings)

9.28 Part A of **Core Policy 22** does not apply to proposals that relate to existing buildings, such as applications for the extensions, conversions, or changes of use. Proposals for residential extensions and/or conversions should instead meet the requirements set out in Part B.

9.29 Development proposals involving existing buildings offer an opportunity for measures to be taken to reduce existing rates of energy use and carbon emissions, and also to generate renewable energy.

69 Passive House Institute definition. Available at: https://passivehouse.com/04_phpp/04_phpp.htm

70 Chartered Institution of Building Services Engineers (CIBSE), 2022. Available at: <https://www.cibse.org/knowledge-research/knowledge-portal/tm54-evaluating-operational-energy-use-at-the-design-stage-2022>

71 Essex County Council, Report 2: Essex Net Zero Policy (Summary of Policy, evidence and validation requirements), July 2023. Available at: <https://www.essexdesignguide.co.uk/media/2941/report-2-essex-net-zero-policy-summary-policy-evidence-and-validation-requirements-july-2023.pdf>

- 9.30 Seeking for proposals for extensions and conversions to be built to the minimum fabric standards (residential) set out in **Appendix 8** will improve the energy efficiency of the existing building and contribute to meeting climate targets. Incorporating renewable energy generation technology will enhance this further, but it is recognised that there may be some circumstances where incorporating renewables is not practical and/or feasible, such as a small extension or if the building is overshadowed. Additionally, it is noted that some elements of the fabric specification may not be practicable to achieve in every conversion and extension (in particular the air permeability and thermal bridging) therefore **Appendix 8** differentiates (in conversions and extensions) between what is required or encouraged.

Heritage Assets

- 9.31 Retaining, reusing, refurbishing and retrofitting historic buildings can contribute to meeting climate targets. There are sensitive issues that need to be addressed when it comes to improving the energy efficiency and climate resilience of heritage assets. Any schemes should have regard to the specific advice and guidance provided in the Essex Design Guide - Climate Change and the Historic Environment | Essex Design Guide and/ or applicable Historic England Guidance and Best Practice.

Monitoring and Implementation of Core Policy 22: Net Zero Operational Carbon Development

- 9.32 To support the implementation of this Policy indicators have been developed and are included in our Monitoring Framework (Chapter 12 and **Appendix 16**).
Mitigating Overheating Risk
- 9.33 Climate change means that today's building design solutions may need to be ready for environmental and climatic changes arising in the future such as heavier rainfall (potentially causing localised flooding) and/ or temperature fluctuations. As with carbon reduction, local plans also have a legal duty to ensure that climate adaptation is an outcome of the local plan policies as a whole⁷². (Therefore, new buildings must be designed to last and to be adaptable. Designing new development to be net zero carbon in operation, while simultaneously being ready for the future climate, needs to be addressed at both building level and site level and at the earliest possible stage so that factors such as the orientation, built form, building fabric, site layout and landscaping measures can be taken into account to minimise energy demand and keep the building fit for use.
- 9.34 It is important that design is pursued holistically from an early stage, considering wider sustainability objectives and issues. While we must design net zero carbon buildings (in operation), national planning policy also requires⁷³ adaptation to overheating risk from a changing climate, considering the impact on occupants' comfort, health and wellbeing.
- 9.35 While climate adaptation is a somewhat separate issue from carbon reduction, it must be noted that a failure to design a building to passively⁷⁴ avoid overheating throughout increasingly frequent heatwaves would also risk a failure to achieve the (continued over page)

72 UK, Planning & Compulsory Purchase Act 2004, Section 19, Amended. Available at: <https://www.legislation.gov.uk/ukpga/2004/5/section/19>

73 National Planning Policy Framework (2023) paragraph 153 specifically requires overheating adaptation; paragraphs 20(d) and 154(a) also establish a general requirement for climate

74 adaptation. Without the application of energy-using devices.

necessary low energy use intensity – as it could create a need for active cooling systems or otherwise enhanced mechanical ventilation to be added today or in future, increasing energy use and embodied carbon.

- 9.36 Therefore, there will be a need for designs (especially building form, orientation, glazing, insulation and shading) to strike a careful balance between the desirability of ‘solar gain’ to reduce winter space heating demand, the desirability of roof orientation to maximise solar PV output, and the need to avoid excess solar gain in summer.
- 9.37 Overheating risk in new residential buildings has partly been addressed by amendment to the Building Regulations in June 2022⁷⁵ (Part O: Overheating Mitigation). Since the compliance tools for Building Regulations are not intended to accurately evaluate overheating (in particular if buildings take the ‘simplified method’ route permitted within Part O as opposed to the ‘dynamic thermal modelling method’), major development proposals are therefore encouraged to use the CIBSE (Chartered Institute of Building Service Engineers) standards TM52⁶ for non-residential development and TM59 for residential development in line with **Core Policy 23: Overheating**.
- 9.38 Measures to mitigate overheating risk from both current and future climate should be incorporated into the design to help ensure the future comfort, well-being and health of occupiers. Further guidance on good solar design is provided on the Essex Design Guide⁷⁸.

Core Policy 23: Overheating

All development proposals must demonstrate how the cooling hierarchy has been integrated into design decisions, via the Climate Change & Sustainability Statement.

Major development proposals are encouraged to use the CIBSE (Chartered Institute of Building Service Engineers) standards*:

- **TM52** for non-residential development
- **TM59** for residential development

*applicants are encouraged to use future weather files (CIBSE ‘Design Summer Year’ [DSY] for 2050 or 2080 as opposed to a DSY based on previous decades’ weather).

75 UK, Building Regulations, updated 2022. Available at:

<https://www.gov.uk/government/publications/overheating-approved-document-o>

76 CIBSE, 2013. Available at: <https://www.cibse.org/knowledge-research/knowledge-portal/tm52-the-limits-of-thermal-comfort-avoiding-overheating-in-european-buildings>

77 CIBSE, 2017. Available at: <https://www.cibse.org/knowledge-research/knowledge-portal/technical-memorandum-59-design-methodology-for-the-assessment-of-overheating-risk-in-homes>

78 Essex County Council, Essex Design Guide, Updated 2022. Available at: <https://www.essexdesignguide.co.uk/climate-change/solar-orientation/>

Embodied Carbon

- 9.39 Embodied carbon describes the amount of greenhouse gas emissions associated with the materials in constructing the building, the supply chain, repairs and fixtures and fittings, and ultimately its demolition or re-use. Emissions sources include:
- Products: extraction, manufacturing and processing of materials, energy and water consumption used by the factory and transport of materials to the manufacturing site
 - Construction: transporting the products to site and building the development
 - In-use: maintenance, repair, refurbishment, replacement and emissions associated with refrigerant leakage, and
 - End of life: demolition/disassembly, waste processing and disposal of any parts of product or building and any transportation relating to the above.
- 9.40 Embodied carbon is estimated to represent between 22-34% of total emissions caused by the built environment, or more than half of the emissions on an individual building scale⁷⁹. Yet, the Building Regulations (including the proposed Future Homes Standard) currently do not address embodied carbon emissions at all. It therefore falls to the planning system, and through local plans, to stimulate action aiming to ensure new development's embodied carbon aligns with local and national climate targets. This is in line with the objectives and provisions, and hence legally binding targets, of the Climate Change Act⁸⁰.
- 9.41 Developers should demonstrate in the Climate Change & Sustainability Statement what actions are being taken to reduce embodied carbon and maximise reuse (the 'circular economy'). The summarised London Energy Transformation Initiative (LETI) advice is:
- Build less: Refurbish and re-use
 - Build light: Consider the building structure
 - Build wise: Longevity and local context
 - Build low carbon: Review material specifications
 - Build for the future: Assess end of life and adaptability, and
 - Build collaboratively: Involve the whole team.
- 9.42 **Core Policy 24** introduces a requirement to assess and report whole life cycle carbon emissions for all new build developments (residential and non-residential) whose scale is over the threshold identified. The assessment for compliance with **Core Policy 24** should follow a nationally recognised methodology. In the absence of an approved UK national methodology, the RICS Professional Statement on Whole Life Carbon Assessment (WLC) is the accepted industry methodology for WLC assessments (see The Environmental Audit Committee [EAC] Report⁸¹, paragraph 70). Further guidance and software tools have been developed, such as On Click LCA⁸². The Government is working with industry to update the RICS methodology to develop it into a national methodology, and once approved then this will become the methodology that should be used for demonstrating policy

79 UK Green Building Council(2017), Embodied Carbon: Developing a client brief. <https://ukgbc.org/wp-content/uploads/2017/09/UK-GBC-EC-Developing-Client-Brief.pdf>

80 As expected of local planning policies by the NPPF, paragraph 153, footnote 53.

81 [Building to net zero: costing carbon in construction: Government Response to the Committee's First Report - Environmental Audit Committee \(parliament.uk\)](https://committees.parliament.uk/publications/22427/documents/165446/default/) (and for full EAC report with the paragraphs 70 cited above:

<https://committees.parliament.uk/publications/22427/documents/165446/default/>)

82 <https://www.oneclicklca.com/>

compliance. The EAC considers that once the national methodology and requirement to undertake whole-life carbon assessments is in place, the cost of undertaking assessments is likely to be minimal (EAC Report, paragraph 71).

- 9.43 In terms of targets for reducing embodied carbon, there is not a nationally set standard but industry organisations have worked together to align the best practice standards to ensure the scope and definition of targets are consistent. Specifically, LETI⁸³ and RIBA⁸⁴ have developed a simple rating system to easily enable comparison between different buildings / developments. The result is set out in the Embodied Carbon Target Alignment document³⁸ – whose key tables are below.

Table 9.1: Upfront and Life Cycle Embodied Carbon LETI & RIBA Targets

Upfront embodied carbon, stages A1-A5. (kgCO2e/m2) (excl. sequestration)					
Relevant Targets	Band	Office	Residential (6+ storeys)	Education	Retail
	A++	<100	<100	<100	<100
	A+	<225	<200	<200	<200
LETI 2030 Design Target	A	<350	<300	<300	<300
	B	<475	<400	<400	<425
LETI 2020 Design Target	C	<600	<500	<500	<550
	D	<775	<675	<625	<700
	E	<950	<850	<750	<850
	F	<1100	<1000	<875	<1000
	G	<1300	<1200	<1100	<1200
Life Cycle Embodied Carbon (sum of stages A1-A5, B1-B5, C1-C4) (kgCO2e/m2)					
Relevant Target	Band	Office	Residential (6+ storeys)	Education	Retail
	A++	<150	<150	<125	<125
	A+	<345	<300	<260	<250
	A	<530	<450	<400	<380
RIBA 2030 Build Target	B	<750	<625	<540	<535
	C	<970	<800	<675	<690
	D	<1190	<1000	<835	<870
	E	<1400	<1200	<1000	<1050
	F	<1675	<1400	<1175	<1250
	G	<1900	<1600	<1350	<1450

Reproduced from: [LETI Embodied Carbon Target Alignment document](#)

83 Low Energy Transformation Initiative. <https://www.leti.uk/publications>

84 Royal Institute of British Architects. For targets, see RIBA 2030 Climate Challenge. [Embodied Carbon Target Alignment - LETI](#)

- 9.44 The targets in the policy are set to reflect the 'C' band, which LETI explains is the 'good practice' feasible and appearing in good designs today (while today's standard practice would be closer to band E). LETI explains that while there is not yet enough industry data to be entirely certain about what embodied carbon targets in new buildings are required for national or local carbon budgets, its targets are set "to limit the embodied carbon to a value that is achievable in practice and also in line with sectorial carbon budgets".

Core Policy 24: Embodied Carbon

All development proposals must demonstrate, through the Climate Change & Sustainability Statement, what measures have been taken to reduce embodied carbon content as far as possible. Where it is proposed to demolish a building, this should be justified e.g., in relation to feasibility, or adverse impact on energy efficiency.

Major new-build proposals should identify the steps taken to reduce the building or overall development's impact on embodied carbon e.g., regarding its design and building materials to minimise embodied carbon⁸⁵.

Proposals for large scale new-build developments (a minimum of 100 dwellings or a minimum of 5000^m² of non-residential floor space) must submit a Whole Life Carbon Assessment that demonstrates the following targets have been met:

- a) **'Upfront' embodied carbon emissions**
 - i. Residential: $\leq 500\text{kgCO}_2\text{e/m}^2$
 - ii. Non-Residential: $\leq 600\text{kgCO}_2\text{e/m}^2$
- b) **Total embodied carbon** (excluding RICS modules B6 and B7)
 - i. Residential: $\leq 800\text{kgCO}_2\text{e/m}^2$
 - ii. Non-Residential: $\leq 970\text{kgCO}_2\text{e/m}^2$

Renewable Energy and Energy Infrastructure

- 9.45 As made clear in the preceding section, it will be necessary for new development to integrate renewable energy technologies in order to comply with the policies set out in this Chapter and government policies and legislative requirements. Furthermore, significant amounts of new standalone renewable energy generation will also be needed in order to enable the transition of existing settlements, industry and transport away from fossil fuels and onto clean energy sources, as a necessary part of the local and national carbon budgets leading towards net zero carbon.
- 9.46 In general, solar energy development proposals, including both building mounted and standalone ground mounted installations and extensions or repowering of solar installations will be supported where they are focused on previously developed land and do not occupy the highest-grade agricultural land. The integration of solar photovoltaics onto roofs of all suitable development is required to ensure that 'net zero', including total operational energy balance on site, can be achieved.
- 9.47 For wind energy development, the NPPF requires that proposals for new turbines must be in an area identified as suitable for such development (in the Local Plan

⁸⁵ Please Note that should the Government during the lifetime of this Plan impose requirements regarding embodied carbon then this will take precedence over the requirements in this policy.

or an SPD), and that following consultation the planning impacts identified by the community have been appropriately addressed and that the proposal has community backing. Wind energy proposals will be generally supported in areas of lower landscape value though will be considered in relation to:

- buildings - the safe separation distance is described as the Fall over Distance being the height of the turbine to the tip of the blade plus 10%
- power lines - National Grid and/or the Distribution Network Operators advise on the required distance between wind turbines and overhead power lines
- air traffic and safety –There is a 15 km consultation zone and 30km/32km advisory zone around civilian air traffic radar, with a c.15km statutory safeguarding consultation zone around Ministry of Defence aerodromes ⁸⁶. The Ministry of Defence has to be consulted if a proposed turbine is 11m to blade tip or taller, and/or has a rotor diameter of 2m or more, and
- Shadow flicker - under certain circumstances and times of day, the sun may pass behind the rotors of a wind turbine and cast a shadow over neighbouring properties. When the blades rotate, the shadow flicks on and off. Properties within 130 degrees either side of north relative to the turbines may be affected at UK latitudes (although this depends on simultaneously sunny and windy weather, requires a narrow window opening to create the ‘flicker’ indoors, is minimal at 500-1000m distance from the turbine or negligible beyond 10 rotor diameters ⁸⁷).

Core Policy 25: Renewable Energy Infrastructure

The Council supports proposals for renewable and low carbon energy generation and distribution networks. Particular encouragement will be given to community-led schemes with evidence of community support along with local energy sharing schemes, and battery storage. Proposals must include a scheme outlining how and when the site will be restored when energy production or equipment lifetime ends.

Planning applications involving renewable energy development will be encouraged provided that any adverse impacts can be addressed satisfactorily, including cumulative impact, on:

- i. landscape, ecology and biodiversity including designations, protected habitats and species, and Conservation Target Areas, nature recovery areas
- ii. visual impacts on local landscapes
- iii. best and most versatile agricultural land
- iv. historic environment - designated and non-designated assets and settings
- v. the Green Belt, particularly visual impacts on openness
- vi. aviation activities
- vii. public rights of way and pedestrians, cyclists and equestrians
- viii. highways and access issues, and
- ix. residential amenity.

In addition, for wind energy proposals to be acceptable, applicants must demonstrate that the proposed development has been assessed to meet the requirements of the Uttlesford

(continued over page)

86 Town and Country Planning(safeguarded aerodromes, technical sites and military explosives storage areas) direction 2002. Further advice on wind energy and aviation on websites for Civil Aviation Authority and National Air Control Transport Services

87 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/48052/1416-update-uk-shadow-flicker-evidence-base.pdf

Core Policy 25: Renewable Energy Infrastructure

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District Council's Noise Assessment Technical Guidance⁸⁸ such that sources of noise and vibration generated by the development, and during its construction, are mitigated to prevent loss of amenity for existing and future occupants and land uses.

Ground mounted solar energy developments and proposals on buildings will be supported. In developments where employment, community, and agricultural buildings have roofs which are structurally adequate, and within car parks, mobility hubs and along streets as far as practicable, solar energy/PV installations should be included unless it can be demonstrated that is not practicable to do so or otherwise impacts unacceptably on amenity or heritage considerations.

Proposals should be accompanied by an Energy Statement that includes details for their maintenance, use of electricity so generated, and how they would contribute to renewable energy in new development e.g., as a percentage of total consumption.

Transport

Introduction

- 9.48 Delivering growth in the most sustainable locations and improving sustainable transport infrastructure are a key principle of this Local Plan. Delivering and maintaining sustainable, reliable, and adaptable transport infrastructure across Uttlesford will help reduce traffic congestion, provide sustainable transport options to residents and encourage increased use, particularly for local journeys. To facilitate the growth identified by the spatial strategy, there will need to be improvements to the existing transport network where proposed development may cause a direct impact.
- 9.49 By facilitating the sustainable movement of people between their home, work, shops and services across Uttlesford, it will help to facilitate economic growth opportunities, inward investment, regeneration and contribute towards the delivery of sustainable development.
- 9.50 Many aspects of transport and travel need to be considered, including reducing the need to travel, encouraging walking and cycling to reduce dependency on car travel and to improve public health, making public transport cleaner and more accessible to all users.
- 9.51 Reducing the need to travel by proposing and supporting development proposals which reduce the need to travel or promote the use of sustainable transport will support the district wide carbon reduction targets.

88 Noise Assessment Technical Guidance (UDC, 2017). Available: <http://www.uttlesford.gov.uk/CHttpHandler.ashx?id=6973&p=0> Regulation 19 Local Plan 191

- 9.52 Uttlesford is located on two strategic transport corridors; running north to south is the M11 and West Anglia mainline rail (operated by Greater Anglia); and east to west is the A120 corridor. Uttlesford is well situated being close to Cambridge in the north, Braintree to the east, the county town of Chelmsford to the southeast and Bishops Stortford to the west.
- 9.53 Connectivity to London is an important factor for the district including inward and outward commuting and for passenger access for London travellers. London Stansted Airport is located within Uttlesford to the east of Junction 8 of the M11/A120. London Stansted Airport is one of the UK's busiest airports, currently serving around 26.5 million passengers a year⁸⁹.
- 9.54 Greater Anglia provides regular direct rail services to London Liverpool Street, Stansted Airport and Cambridge. There are six stations in Uttlesford: Great Chesterford, Audley End, Newport, Elsenham, Stansted Mountfitchet and Stansted Airport. Partnership work will be key to ensure that rail services and infrastructure in the district reflect the working, visitor and economic needs of the district.
- 9.55 There are no bus stations in any of Uttlesford's towns which provide a centralised focus for services or multi-modal interchange, however, there is a bus and coach interchange at London Stansted Airport which provides convenient access to the airport and rail station for local, regional and national services. There is a recognition that the bus and rail interchange facilities at Stansted Airport should be strengthened to provide the role of a public transport hub to the wider area.
- 9.56 Frequent bus services also run in the two main corridors with regular local and regional services serving Stansted Airport, Saffron Walden, Takeley, and Great Dunmow. Opportunities to provide local multi-modal transport hubs should be considered at strategic locations.
- 9.57 Two routes on the National Cycle Network run through Uttlesford: NCN11 & NCN16. NCN16 provides an almost continuous traffic free route between Bishops Stortford, Takeley, Great Dunmow and Braintree. There is an overall lack of local dedicated cycle provision, either in towns or routes connecting communities to key services and town centres.
- 9.58 The M11 provides the strategic north/south road connections to Cambridge and London and connects with the strategic east/west corridors such as the A14 & A505 to the north, the A120 within Uttlesford and the A414 and M25 to the south.
- 9.59 The A120 is a key east west corridor, both locally and for the surrounding region. It provides connectivity between Bishop's Stortford in the west, the M11, London Stansted Airport, Takeley, Great Dunmow and further east: Braintree and Colchester. The A120 could provide an important route for delivering high quality public transport including rapid transit schemes.
- 9.60 The challenges associated with transport provision and sustainable transport choices are long standing, however, they are not unique to Uttlesford. There is a great deal of daily commuting flows in and out of the district with residents accessing the diverse employment opportunities that are located within the district such as at Saffron Walden, Chesterford Research Park and Stansted Airport and the wider regional opportunities.

89 Stansted Airport press release, July 2023. Available at: <https://mediacentre.stanstedairport.com/numbers-near-pre-pandemic-levels-as-summer-getaway-approaches/>

- 9.61 It is important that we consider car ownership and be realistic about the fact that most households in the district do own a car and often more than one vehicle. While public transport links are good for some towns along the key transport corridors, villages are more remote with less good access. Therefore, it is acknowledged that some level of car travel and parking considerations will remain important for Uttlesford. In the more rural locations, the policy approach to low emission vehicles and improving sustainable transport will help mitigate the impact of car travel.

Delivering Sustainable Transport

- 9.62 The policies in this chapter are based on an evidence led approach that adopts the 'decide and provide' approach to shape for the future of development and transport infrastructure in Uttlesford. This approach identifies that sustainable transport is the preferred mode for transport and the supply of sustainable transport modes, including walking and cycling, will be prioritised. This approach reflects the changing dynamics of transport in the modern world and will be proactive in its approach in respect of ensuring the sustainable location of new developments, reducing the need to travel, planning for sustainable travel modes, and providing for zero carbon or low emission vehicle use.
- 9.63 To support net zero or low carbon growth within the district, the strategic site allocations identified in this Plan are located to maximise opportunities for accessing sustainable travel choices. These include rail and bus services, ensuring the sites are close to key local services that are also reasonably accessible by walking and cycling.
- 9.64 Securing public transport improvements and better provision for walking and cycling would reduce pollution, make it safer and easier for people to travel to jobs and services and lead to better health, less congestion, and more pleasant streets.
- 9.65 All new residential roads including secondary and tertiary streets will be designed to minimise vehicle speeds and prioritise walking and pedestrian safety and provide safe and convenient cycle route choices.
- 9.66 Barriers to walking should be addressed in development proposals, to ensure that walking is promoted and that street conditions, especially safety/security and accessibility for disabled people, are enhanced. Walking networks and facilities in and around all new developments should be direct, safe, attractive, accessible and enjoyable.
- 9.67 Cycling is a space efficient mode compared to cars so making streets attractive for cycling can bring benefits to all road users while also improving the experience of living, working and getting around. Cycling should be promoted through the provision of improved and secure cycle parking and other facilities and new cycle routes as part of highway infrastructure improvements/traffic management measures.
- 9.68 The Council will work with partners and stakeholders to facilitate and promote sustainable transport links from new development to key destinations and the wider network. This includes new or improved infrastructure, services and promotion to support walking, cycling and public transport, and provision of charging points for electric vehicles. The Sustainable Modes of Travel Strategy (SMOTS) produced by Essex County Council provides a framework for the Council and its partners to co-ordinate the provision of services and infrastructure to achieve its objectives.

- 9.69 The design of streets, parking areas, and other transport elements should reflect the Uttlesford Design Guide, current national guidance, including the National Design Guide and the National Model Design Code. The Essex County Council's Transportation Development Management Policies provide further detail on requirements relating to accessibility and access, including Transport Assessment and Statement thresholds for each land use category.
- 9.70 The allocations and policies in the Plan will support development proposals that are planned and designed to maximise the opportunities to reduce demand for carbon intensive trips. This will be achieved through the delivery of neighbourhoods and streets where access and movement by sustainable transport and active travel is prioritized.
- 9.71 The Local Plan seeks to ensure that new development provides residents and businesses with a genuine choice of transport modes. This will be achieved by designing new development with convenient and safe active travel connections and high-quality public transport services.
- 9.72 Where development proposals are sited in a location with inadequate active travel and public transport connections, developers will be required to provide evidence that they have worked with the transport authority and service providers to provide new or improved infrastructure and public transport services to support net zero carbon growth.
- 9.73 The Local Plan supports development proposals that are designed and delivered in accordance with the ECC highway development management documents and policies, and the Essex Design Guide unless otherwise agreed with the Highways/Transport Authority at the time.
- 9.74 The policies support the delivery of safe and suitable access for pedestrians, cyclists, horse riders, public transport, general traffic and the delivery of goods vehicle movements.
- 9.75 The Council will support new development designed around existing or proposed active travel routes and public transport links, so the development integrates with the surrounding context and is well connected to existing settlements and key destinations and transport interchanges.
- 9.76 Access routes into development sites for active travel and public transport modes should be maximized and aligned with existing or proposed external routes. The development's active travel proposals should facilitate the ability for these active travel and public transport routes to link to any future adjacent development proposals or phased development.

Core Policy 26: Providing for Sustainable Transport and Connectivity

The Council will support measures identified in the Essex Local Transport Plan and the area travel plans and work with Essex County Council to ensure that transport improvements contribute positively to the attractiveness and safety of our places, quality of life, and respond sensitively to our natural and historic environment.

The Area Strategies (Chapters 5, 6 and 7 in this Plan) and the Infrastructure Delivery Plan identify specific schemes addressing sustainable transport and connectivity.

All strategic developments as set out in Chapter 4 and the Area Strategies will be expected to provide direct bus access, rapid electric charging points, car and electric vehicle community sharing clubs and mobility hubs in accessible locations, close to public services/ amenities on site.

Sustainable modes of transport should be prioritised in new developments to promote accessibility and integration with the wider community and existing networks. Priority should be given to cycle and pedestrian movements and access to public transport.

Development proposals should provide the following sustainable measures as appropriate:

- i. promote walking and cycling by ensuring proposals give greater priority to pedestrians and cyclists in the use of road space and provide for filtered permeability
- ii. deliver an improved environment for pedestrians and cyclists appropriate to the scale and nature of the proposals. Provision should be inclusive and address disabilities and particular mobility needs
- iii. ensure that existing pedestrian and cycling routes and public rights of way are retained as continuous linear features and improved where appropriate
- iv. identify key pedestrian and cycling routes and their destinations and assess existing and predicted active travel movements to, through and from the site. They should provide safe, direct, and attractive routes that accommodate these movements and will be encouraged to support additional active travel movements
- v. reduce road danger from other transport modes
- vi. ensure the provision of cycle parking and active travel in line with Essex County Council latest guidance, and
- vii. cycling and walking routes should be planned, where possible, as part of the network of multi-functional green infrastructure.

Addressing Transport Impacts

- 9.77 Our strategy for managing growth across the district is to locate development in sustainable locations that helps to minimise the distance and duration of a journey, in addition to identifying appropriate and deliverable measures to meet the transport needs of the district. New development is therefore proposed within areas that are accessible by public transport and that have the capacity to accommodate the number of trips generated as a result of new development and/or will provide financial contributions to mitigate the transport impacts of new development. This will support the delivery of infrastructure needed to facilitate travel of sustainable modes, whilst also enabling improvements to be made to the local and strategic road network. Sustainable accessibility also improves the ability of local communities, in particular disadvantaged or vulnerable groups, to access employment and important services including education, healthcare, open spaces, leisure and shopping.
- 9.78 The Local Plan seeks to increase the attraction of and opportunities for public transport. A strong focus is required on designing walkable neighbourhoods and reducing the need to travel and encouraging use of other modes of transport, travel choices, especially for shorter trips to improve accessibility and tackle traffic congestion. It is important that new development can be accessed safely and that, to help manage car use, development is accessible by means of transport other than the private car. The layout of large-scale sites should provide access for public transport and service vehicles.
- 9.79 Proposals will need to quantify the likely transport impacts that the proposed development will have and describe any mitigation measures to reduce them. Proposals for development that will generate significant amounts of transport movements will need to be accompanied by a transport assessment, and where necessary, by a travel plan.
- 9.80 The promotion of travel plans is essential to encourage residents and employees to make use of sustainable transport networks, and to inform them of the travel choices available. A key element of this is the marketing and promotion of public transport, cycling and walking.

Core Policy 27: Assessing the impact of Development on Transport Infrastructure

Development should be located in an area with an appropriate level of public transport accessibility and where public transport capacity can accommodate the proposed increase in the number of trips, or where capacity can be increased to an appropriate level through contributions, or other infrastructure funding.

Developers will be required to submit a Transport Assessment and/ or a Transport Statement to assess the potential transport impacts of the developments and guidance should be sought from the Highway Authority on which approach is appropriate.

Travel Assessments and Travel Statements will be required to propose mitigation measures to demonstrate they have maximised opportunities for active sustainable travel and will make adequate provision to mitigate the likely impacts. Where that mitigation relates to matters that can be addressed by management measures, the mitigation should be accompanied by the preparation of a Travel Plan.

Where a Transport Assessment or Travel Plan is required, a Transport Related Carbon Emissions Quantification Statement will be necessary and should be integrated into the document.

All Travel Plans must have measurable outputs, be related to the aims and objectives in the Essex Local Transport Plan and provide monitoring and enforcement arrangements. Planning obligations will be sought to secure the provisions in the Travel Plan, including the requirement for an annual monitoring and progress report. Submission of area-wide Travel Plans will be considered in appropriate situations. Outline planning applications are required to submit a framework for the preparation of a Travel Plan.

Development proposals should:

- i. contribute towards the improvement of public transport and the improvement and delivery of walking and cycling routes that serve the site. This could be achieved through the design of development and/ or through financial contributions appropriate to the scale and impact of the development
- ii. be expected to provide, or contribute to the provision of, new and/ or improved public transport infrastructure and services proportionate to the projected number of additional trips arising from the development and considering cumulative impacts of other approved developments in the area
- iii. limit motor vehicle trips and identify and deliver highway safety measures at and around the development site, including temporary measures during the construction phase. This measure should reduce road danger and facilitate safer movements for all users and transport modes, and
- iv. comply with the latest guidance on design, parking provision, servicing facilities and electric charging infrastructure.

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Core Policy 27: Assessing the impact of Development on Transport Infrastructure

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Proposals to improve or provide new public transport infrastructure and facilities will be supported subject to:

- vi. being acceptable in terms of impact on the environment including landscape, townscape, public realm and amenity of adjoining areas
- vii. being designed to be safe, convenient, attractive and accessible for use especially for vulnerable users including lone females, young adults, people with disabilities and specific mobility needs, and
- viii. providing adequate secure cycle parking and ease of access on foot, including consideration of pedestrian desire lines.

Active Travel: Walking and Cycling

- 9.81 Active travel refers to modes of travel that involve a level of activity. The term is often used interchangeably with walking and cycling, but active travel can also include trips made by wheelchair, mobility scooters, adapted cycles, e-cycles, scooters, as well as cycle sharing schemes.
- 9.82 Active travel is a key component of sustainable transport planning, as it has a number of benefits for individuals, communities, and the environment. Encouraging mode shift to walking, wheeling and cycling is one of the most cost-effective ways of reducing transport emissions, as outlined in the transport decarbonisation plan.
- 9.83 Active travel should be an important consideration in all planning decisions. When planning new developments, it is important to make sure that there are safe and convenient routes for people to walk, cycle, and wheel. This can be done by providing dedicated infrastructure for active travel, such as footpaths, cycle lanes, and shared spaces. It is also important to make sure that the built environment is designed to encourage active travel, such as by creating compact, walkable communities.
- 9.84 The Council is producing a Local Walking and Cycling Implementation Plan (LCWIP)⁹⁰ for the district to identify cycling and walking improvements that are required in Uttlesford taking account of planned growth. The outputs identify walking and cycling routes for inclusion into site specific policies in the new Plan to improve connectivity between existing and new routes. These will be required to be identified in the future Infrastructure Delivery Plan.
- 9.85 LCWIPs provide a prioritised plan of preferred routes and core zones which can be used to inform and prioritise future funding opportunities in the short, medium and long term; secure developer funding towards walking and cycling infrastructure including in responding to specific planning applications; and link to wider sustainable transport networks such as bus, rail, rapid transit.
- 9.86 The Council will expect all development to consider the key principles of 15/20-minute neighbourhoods and active travel into new developments.

90 UDC, Active Travel Uttlesford, 2023. Available at: <https://letstalk.uttlesford.gov.uk/active-travel-in-Uttlesford>

Core Policy 28: Active Travel – Walking and Cycling

Development should be planned around a network of safe and accessible walking and cycling routes where dedicated traffic free links make walking and cycling the preferred choice for day-to-day trips, encourage sustainable travel, and support healthy and active lifestyles.

The Council will support the delivery of public realm improvements and infrastructure designed to create attractive places that make walking and cycling safer, healthier, and more attractive as a travel choice.

New developments and infrastructure proposals should:

- i. promote walking and cycling by ensuring proposals give greater priority to pedestrians and cyclists in the use of road space and provide for filtered permeability
- ii. deliver an improved environment for pedestrians and cyclists appropriate to the scale and nature of the proposal. Provision should be inclusive and address disabilities and particular mobility needs
- iii. ensure that existing pedestrian and cycling routes and public rights of way are retained as continuous linear features and also improved
- iv. identify key pedestrian and cycling routes and their destinations and assess existing and predicted active travel movements to, through and from the site. They should provide safe, direct, and attractive routes that accommodate these movements and will be encouraged to support additional active travel movements
- v. reduce road danger from other transport modes
- vi. be expected to enable and contribute towards improvements and delivery of local and strategic active travel routes and links as identified in the Area Strategies and associated IDP and LPWIP, and
- vii. ensure provision of secure cycle parking and active travel in line with the latest guidance.

Electric and Low Emission Vehicles

- 9.87 The Plan will ensure that developments provide the infrastructure for electric and low emission vehicles where it is appropriate and viable, and with reference to the principles in the Essex EV Infrastructure Strategy. This could be in the form of residential and public electric vehicle charging points or make ready infrastructure for charging stations.

Core Policy 29: Electric and Low Emission Vehicles

All development proposals should maximise the opportunity of occupiers and visitors to use electric and low emission vehicles, including electric bicycles and electric cargo cycles.

Proposals should maximise the provision of residential and public electric vehicle charging/ plug-in points and/or the space and infrastructure required to provide them in the future. The design and operation of such infrastructure should follow best practice so that their operation does not undermine the quality of the public realm.

Public Rights of Way

- 9.88 The public rights of way network provides access to Uttlesford's unique countryside and heritage and in the process, improves health and quality of life. Public rights of way are an intrinsic part of our overall transport network, providing valuable and safe access on foot and increasingly by cycle to the wider countryside, places of employment, schools, shops and other local services and amenities. The rights of way network provides a key alternative to car use on journeys of less than five miles. The Council will ensure that Rights of Way are protected, enhanced, and promoted.
- 9.89 There will be a need for improvements to the rights of way network affected by development proposals to encourage more walking, cycling and horse riding through improved accessibility, surfacing and connectivity. Where the scale and location of development will require connections and/or lead to increased use by new and existing residents, the Council will secure appropriate contributions from the applicants. Consideration will be given to achieving off-site local pedestrian, bridleway and cycleway routes which connect development sites with open spaces, leisure/community uses and strategic access routes, make links within the wider Rights of Way network, or create circular or extended routes.
- 9.90 At the earliest opportunity and as part of their planned development, applicants are required to record the route of any public Rights of Way affected by proposed development and submit a Rights of Way Scheme for their improvement, accommodation or diversion. Rights of Way schemes should detail what is proposed for existing routes, including whether the paths are to be incorporated into the design or diverted. They must also include landscape proposals for the paths, and details regarding new routes and connections to the rights of way and access network. Details regarding how any rights of way are to be dealt with during construction must also be included.

Core Policy 30: Public Rights of Way

Development proposals for sites that include a Right of Way within the site, or are for major development proposals adjacent to an existing Right of Way, will be required to submit a Rights of Way Scheme that demonstrates how the development will protect, enhance and promote the public Rights of Way network.

This must include, where necessary, improvements to help restore and re-connect Rights of Way.

Where development would increase the pressure on the Rights of Way network, contributions will be sought through planning obligations for measures to protect and enhance the Rights of Way network, including the delivery of additional routes and improvements to existing public paths both on-site and off-site.

Managing Parking

- 9.91 The Council will focus on measures to promote and improve opportunities for walking, cycling and public transport and for electric vehicle charging. The Council will also continue to promote lower levels of private car parking to help achieve modal shift. This will be particularly relevant for non-residential developments where more sustainable transport alternatives such as walking, cycling and public transport exist and are being developed. It will also be important in our town centres, where our aim is to increase access without increasing the overall level of parking.
- 9.92 Car parking standards are an important means of managing traffic levels in and around a development, especially when combined with measures to increase access to transport alternatives to the private car.
- 9.93 The dominance of vehicles on streets is a significant barrier to walking and cycling and reduces the appeal of streets as public places. When properly implemented in appropriate locations, car-limited development could have significant benefits including:
- accommodating more dwellings on a given site through appropriate densities
 - leaving more space for landscaping and green space
 - safer streets for children's play, and more social interaction
 - reduced car dependency, while supporting walking, cycling, public transport and local car clubs, and
 - less traffic congestion and pollution associated with the new development.
- 9.94 Larger car-limited developments will be encouraged to incorporate a car club, which can be an attractive alternative to private car ownership and boost the attractiveness of car limited housing.
- 9.95 Development proposals should have regard to the most up to date Essex County Council Parking Standards⁹¹ and the guidance in the Uttlesford Design Code⁹².

Core Policy 31: Parking Standards

Development proposals should have regard to the latest Essex Parking Standards and the parking standards set out the Uttlesford Design Code.

Proposals for provision below these standards should be supported by evidence detailing the local circumstances that justify a deviation from the standards, such as significantly higher levels of sustainable transport provision.

91 ECC, Parking Standards, 2009. Available at: <https://www.essexdesignguide.co.uk/media/1960/essex-parking-standards.pdf>
92 UDC, Design Code, 2023. Available at: <https://uttlesforddesigncode.co.uk/>

The Movement and Management of Freight

- 9.96 The routing of traffic and particularly the movement of freight is a key issue in the creation of safe and attractive communities. The volume of freight transported through an area is often a useful measure of prosperity of a local economy and it is important that local authorities, working in partnership with the Local Highway Authority, manage this demand as far as possible. However, such movements can have adverse impacts, especially where vehicles move from or to the strategic network and local roads.
- 9.97 Heavy goods vehicles (HGV) that pass through our communities can have detrimental impacts on our towns and villages. These vehicles may produce higher emissions and their size and weight results in the dominance of the road space whilst moving and causing delays when unloading in constrained locations.
- 9.98 In some instances, HGV's have caused physical damage to the fabric of our historical towns and villages. To reduce the number of vehicles carrying goods and freight into our towns, the use of local delivery hubs (including micro-consolidation centres) may divert some of the HGV's away from sensitive or constrained areas in our towns and villages. The Council will work with the Highway Authority, and other partners, to minimise freight trips on the road network and promote safe, clean and efficient freight movements.
- 9.99 Development proposals for freight and servicing will be expected to consider the four main actions regarding 'last mile deliveries' as set out in the UK Transport Decarbonisation Plan (page 140)⁹³. Where relevant a planning application will be expected to be accompanied by a Freight Management Strategy setting out how freight and servicing will be managed and mitigated within the development.

93 Department for Transport, UK Transport Decarbonisation Plan, 2021. Available at: <https://www.gov.uk/government/publications/transport-decarbonisation-plan>

Core Policy 32: The Movement and Management of Freight

Development proposals should consider the freight strategies and policies set out in the Essex Local Transport Plan that relate to the efficient and reliable transportation of freight.

Proposals must submit a Freight Management Strategy setting out how freight, home deliveries and servicing will be managed and mitigated within the development for approval.

Freight management strategies should ensure the prioritisation of the use of the Strategic Road Network and minimise the use of the rural network and that encourage the movement of freight by sustainable modes whilst minimising negative impact of freight trips on local communities.

Development proposals that generate a significant number or intensity of transport movements, will be required to demonstrate that:

- i. they are conveniently located to enable direct routing to the strategic road network
- ii. there is no unacceptable impact on residential areas, local air quality, local amenity, or the highway network
- iii. there would be no unacceptable impact on landscape, heritage, local character and biodiversity
- iv. they adopt best practice approaches to managing and minimising freight, servicing and delivery trips
- v. they facilitate low or zero emission technologies, and
- vi. provide adequate off-street provision to accommodate delivery and servicing activities, with on-street loading only considered in exceptional circumstances.

The Council will support the development and enhancement of local delivery hubs that help consolidate deliveries, reduce vehicle traffic and enable sustainable last-mile movements in the district, subject to their acceptability on the local and strategic road networks and local communities.

Environment

Introduction

- 9.100 It is important that development within Uttlesford protects, maintains and enhances the special characteristics of the built and natural environment, to ensure development is sustainable in the long term, and that Uttlesford remains an attractive place for people to live, work and to visit. The Local Plan can help shape a positive future for Uttlesford by:
- ensuring the sustainable use of water
 - supporting the sustainable treatment of waste
 - supporting increased biodiversity and providing protection for valuable habitats, and
 - preventing disturbance or harm from pollution and contamination
- 9.101 The Local Plan policies take account of the Council's Green and Blue Infrastructure (GBI) strategy and the Landscape Character Assessment, to ensure that the protection and enhancement of the environment is at the centre of the strategy.

Managing Waste

- 9.102 The Government's Resources and Waste Strategy (2018) sets out the national commitment that by 2050 no waste shall be sent to landfill, eliminating avoidable waste, including from construction and demolition. Around half of all waste relates to construction although much is recovered from concrete, brick and asphalt. Reusing construction waste will lower the embodied carbon footprint and contribute to the 'circular economy' by minimizing the residual waste. Applied to the development industry this means that buildings must be adaptable so that they can be reused, extended, re-modelled and converted. This approach reduces the need for raw materials and the manufacture of new building components.
- 9.103 The waste hierarchy minimises the volume of waste generated, regarding waste as a resource to re-use or recycle, with disposal as the last option. Developments therefore should be designed to reduce construction waste and maximise the reuse and recycling of materials. Schemes should be designed for future occupants to maximise recycling and reduce waste with waste storage capacity as an integral design element. Proposals that explore the potential to produce energy from waste are encouraged. This is reflected in the Essex Minerals Local Plan (2014) and Essex and Southend-on-Sea Waste Plan (2017) that are under review⁴⁸.
- 9.104 It is therefore important that developers should practise:
- responsible sourcing of materials from lawful, certified sources through environmental management systems and custody schemes such as the sourcing of timber accredited by the Forestry Stewardship Council (FSC), or the Programme for the Endorsement of Forest Certification (PEFC)
 - maximising use of local supply chains in the sourcing/reuse/recycling of materials and waste, and ensuring that all good quality topsoil and subsoil is reused in green infrastructure and landscaping, or on sites allocated for carbon sequestration or carbon off-setting

94 Essex County Council, Minerals and Waste Development Scheme, 2019, Available at: <https://www.essex.gov.uk/planning-land-and-recycling/planning-and-development/minerals-and-waste-planning-policy>

- using secondary materials, reclaiming and reusing material arising from the demolition and site preparation
- reducing embodied carbon impact of materials e.g., to achieve an area-weighted rating of A or B as defined in the Building Research Establishment (BRE) Green Guide to Specification
- designing the integration of facilities for domestic and business waste recycling into the layout of the scheme and buildings
- exploring the use of new energy recovery facilities, and
- using materials that represent a lower risk to the health of construction workers and occupants e.g., materials with zero or low volatile organic compound (VOC) levels, to be addressed in the Health Impact Assessment.

9.105 During construction, development must minimise levels of noise, vibration, artificial light, odour, air quality, fumes, and dust pollution. Developers are expected to sign up to the Considerate Contractors Scheme, or satisfy the UDC/the District Council that they are signatories to an equivalent or superior scheme', to minimise impact on amenity in the area, regarding the routing, timing, and frequency of heavy goods vehicle movements and working with nearby contractors to co-ordinate the timings of works, deliveries, routes, and location of equipment to reduce cumulative impact.

Core Policy 33: Managing Waste

To help meet waste reduction and recycling targets, the Local Planning Authority will support proposals for sustainable waste management facilities as identified in the Essex Minerals Local Plan (2014) and Essex and Southend-on-Sea Waste Local Plan (2017), or their replacements, and which minimize impacts on the communities living close to the sites through noise, pollution, traffic and on the local environment and landscape.

Proposals for new development must include adequate recycling facilities to allow occupiers to separate and store waste for recycling and recovery, preferably within the premises of the dwelling, or provide adequate, secure, external or communal storage facilities. Convenient and safe access to manage waste must be provided and the needs for older persons or persons with disabilities to effect convenient and safe access to waste management should be addressed in the design.

Proposals should demonstrate high quality design solutions to minimise the adverse visual impact of waste facilities and comply with the Uttlesford Design Code⁹⁵ criteria as appropriate.

Development proposals should:

- i. provide adequate internal and external storage space to enable the occupiers/users to separate, store and recycle their waste, which will be separate from cycle storage, car parking and circulation areas
- ii. include on-site waste management, which minimises the need for waste transfer, where feasible
- iii. allow for convenient and safe access to waste to facilitate its collection
- iv. implement high quality design solutions to minimise the adverse visual impact of waste facilities for both the proposed site and neighbouring uses, and
- v. enable waste from mixed-use schemes to be segregated in separate secured areas.

(continued over page)

95 UDC, Uttlesford Design Code, 2023. Available at: <https://uttlesforddesigncode.co.uk/>

Core Policy 33: Managing Waste

(continued from previous page)

A Waste Management Plan should be submitted for Major development proposals setting out how the above requirements have been met. Innovative solutions to minimise waste at source will be supported.

Water Resources

- 9.106 Climate change is placing pressure on water resources, increasing the potential for a supply-demand deficit, and for environmental damage from over abstraction of water resources. Furthermore, managing water supply and disposal are activities which have a carbon impact and reducing water at all stages in the artificial water cycle will be of value. Water UK estimate that the carbon footprint of one litre of mains treated domestic water is 0.79g/CO₂/l⁹⁶. Water use in the Uttlesford area is relatively high at around 161.27 litres per person per day (l/p/d) for existing customers, compared to a national average of 147 l/p/d and 121.92 and 126.19 in the East and Southeast Affinity Regions with higher levels of metering⁹⁷. Consultants, JBA, carried out the Uttlesford Water Cycle Study Phase 1 (WCS) in co-operation with the water companies, the Environment Agency (EA) and information from the neighbouring Local Planning Authorities, which has informed the preparation of this Plan⁹⁸.
- 9.107 Building Regulations offer a standard beyond the mandatory 125l/p/day of 110l/p/d where there is local stress⁹⁹. The Affinity Water supply region that is classified as being an area of serious water stress¹⁰⁰. Therefore, policies to reduce water demand from new developments should go further and help to achieve 'water neutrality', although the behaviour of occupiers can also affect water efficiency, e.g., residents replacing low flow devices with those with higher flows. The application of additional conservation measures such as rainwater harvesting, and potentially grey water recycling, can help to mitigate the reduction in water efficiency in new dwellings post construction, and developers are encouraged to explore these options.
- 9.108 The Council's Water Cycle Study (WCS) was commissioned to identify any issues with the provision of waste and potable water services to maintain an adequate water supply, foul drainage and wastewater treatment to accommodate growth in the district. The baseline study established that wastewater treatment capacity can be provided wherever it is required in the district, however if there are any developments proposed where there are currently none, new sewer infrastructure would be required.

⁹⁶ JBA 2023 Water Cycle Study available here: uttlesfordreg18evidencebase.co.uk

⁹⁷ JBA 2023 Water Cycle Study available here: uttlesfordreg18evidencebase.co.uk

⁹⁸ JBA, Uttlesford Water Cycle Study Phase 1, Available at: JBA 2023 Water Cycle Study available here: uttlesfordreg18evidencebase.co.uk

⁹⁹ The Building Regulations (2010) Part G Sanitation, hot water safety and water efficiency, 2015 edition with 2016 amendments. HM Government (2016).

¹⁰⁰ The Environment Agency defines areas for water stress as where (i) the current household demand for water is a high proportion of the current effective rainfall which is available to meet that demand; or (ii) the future household demand for water is likely to be a high proportion of the effective rainfall available to meet that demand

9.109 The water companies are required to undertake measures to reduce and to minimise the use of potable water and are working with the Environment Agency to reduce the abstraction of water from groundwater. Water supply services are provided by Affinity Water. Several Environment Agency designated main rivers flow through Uttlesford : the Rivers Cam, Stort, Roding, Can, Chelmer, Ter, Pant and Pincey Brook (Figure 9.1). It is important that new development does not result in an unsustainable increase in water abstraction and that water demand in new homes is minimised. This helps achieve Water Neutrality: offsetting the demand from new homes by improving efficiency in existing buildings. In order to achieve this, new development must be subject to planning policy which aims for houses and businesses to be built to high standards of water efficiency through the use of water efficient fixtures and fittings, or rainwater harvesting and greywater recycling.

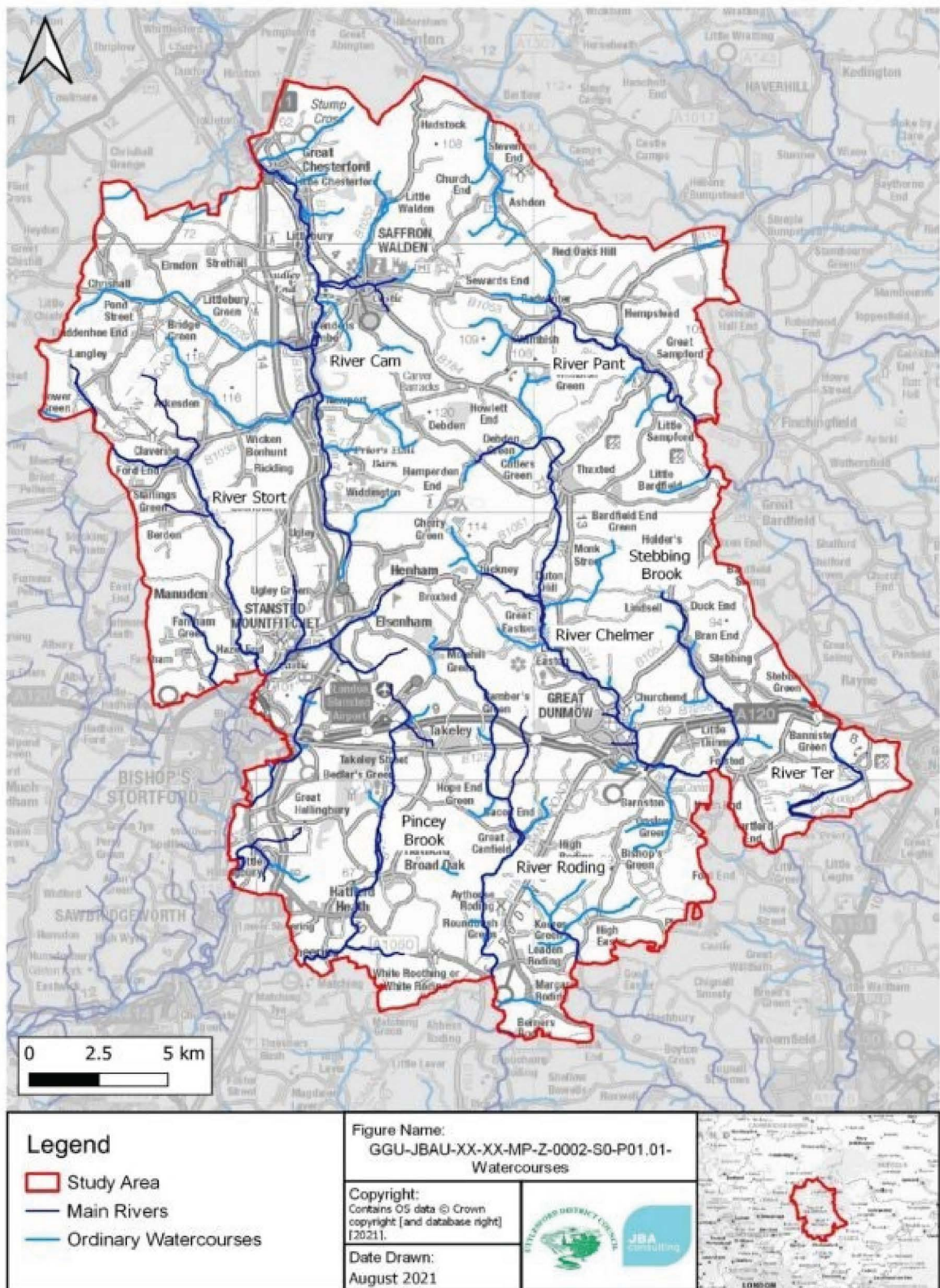


Figure 9.1: The river and watercourse basins in Uttlesford.

Core Policy 34: Water Supply and Protection of Water Resources

Water Supply

Development proposals should demonstrate how they contribute positively towards achieving 'good' status under the Water Framework Directive for surface and ground waterbodies. Development must not lead to a reduction in groundwater levels or reduced flows in any water courses including the chalk streams.

Water efficiency

All development proposals should demonstrate how they incorporate water efficiency measures to minimise consumption of water; protect and enhance water quality; and protect water resources. All new residential development that achieves at least the water efficiency of 90 litres per person per day described in the Building Regulations G2 will be supported.

Water Recycling

Development proposals must make appropriate provision for water recycling and should be designed to incorporate appropriate future proofing and best practice techniques.

Proposed use of hard surfacing must be permeable and development proposals should include rainwater re-use and collection mechanisms such as green roofs/walls, rainwater gardens and in residential proposals water collection and recycling facilities such as a rainwater butt.

Contamination

Development should demonstrate that it will not cause contamination of groundwater, particularly in the Chalk Protection Zones, or contamination of surface water. If there is the potential for contamination the developer should submit details of effective safeguards which must be implemented prior to development commencing to prevent deterioration in current water standards.

Infrastructure

The Council will expect new development to connect to mains foul drainage, and will restrict the use of non-mains drainage for foul water disposal, in line with Environment Agency guidance. The location of, and likely impact on, the private water supplies within the District must also be taken into account.

Planning proposals which increase the demand for off-site water and sewage service infrastructure will only be granted permission where sufficient infrastructure capacity exists, or where they can demonstrate that extra capacity will be provided in time to serve the new development prior to first occupation.

Where non-mains drainage is proposed for the disposal of foul water, a foul drainage assessment will be required to ensure the most sustainable drainage option will be implemented.

Chalk Streams

- 9.110 Chalk streams are a rare and valuable habitat and 85% of the world's chalk streams are in England with 29% of these being in East Anglia¹⁰¹. In their natural state, chalk streams are clear, with little sediment, low nutrient levels and stable temperatures of around 10-11°C at the spring sources. They derive most flow from chalk-fed groundwater, namely chalk aquifers of underground water that are replenished when it rains. Chalk streams are a vital water resource for humans and nature. The constant temperature at source and alkaline (ph) level of the water supports unique ecosystems. However, over-abstraction of the chalk aquifer has resulted in sections of these chalk streams becoming dry in periods of Low rainfall.
- 9.111 Seventeen water courses run through Uttlesford with many river tributaries originating within the district. Of these, none were assessed in the 2019 assessment¹⁰² as being in 'good' ecological health, by the Environment Agency. Thirteen were assessed as moderate, three as 'poor' and one as 'bad'. In all cases, chemical pollution was the main reason for suboptimal condition. Three of the watercourses with the worst pollution assessment feed directly into Chalk Stream habitat.
- 9.112 Some stretches of these watercourses do not meet the 'Good' Water Framework Directive standards due largely to groundwater and surface water abstractions. Large parts of Affinity Water's supply area contain chalk streams but there is insufficient water to permit more to be abstracted. Furthermore, low river flow can exacerbate water quality issues by increasing the concentration of pollutants. The River Cam has a 'Poor' status under the Water Framework Directive due to surface water abstraction for agriculture, and groundwater abstraction from agriculture and the water industry. The River Stort has a 'Moderate' status due to pollution from Wastewater Treatment Works (WwTW) and agricultural runoff. Elsewhere, the ecology and water availability have been affected by sections of chalk streams being straightened, deepened and widened.
- 9.113 Chalk-stream ecological health depends on water quantity and the naturalness of the flow, water quality, the physical shape of the river and biological factors. Restoration measures include restoring natural flows, floodplain reconnection, channel realignment, reconnecting rivers to groundwater, removal of barriers to fish passage, and the rewilding of degraded rivers. The protection of chalk streams involves changes to how water is abstracted, stored and managed, reducing abstractions and potentially bringing in supplies from elsewhere. WwTWs' phosphorus discharge and roads are the primary pathway of sediment to chalk streams. It is proposed in the wider Cambridgeshire area to work with multiple partners and cross-boundary working to develop a chalk streams strategy and for it to become a material consideration for planning.
- 9.114 Population growth and new housing are increasing pressure on chalk streams by changes in land use, demand for water, water quality and habitat loss. To reduce the impact of development, adequate infrastructure should be in place to ensure there is no increase in unsustainable abstraction or overloading of the sewer network or (continued on next page)

101 Defra, Delivering Clean and Plentiful Water, 2023. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1164375/plan_for_water.pdf.

102 Environment Agency publish data every six years. Available at: <https://www.data.gov.uk/dataset/41cb73a1-91b7-4a36-80f4-b4c6e102651a/wfd-classification-status-cycle-2>

sewage treatment infrastructure. Mitigation responses include Buffer strips precluding development alongside chalk streams; SuDS maintenance standards; water- efficiency standards.

- 9.115 There is considerable potential for chalk stream areas to be sites for Biodiversity Net Gain and for inclusion in Nature Recovery Networks and the Local Nature Recovery Strategy, or in response to an off-site requirement for biodiversity net gain or carbon offsetting from elsewhere. The chalk streams and riparian areas are suitable locations subject to a design and planting plan and suitable environmental works that demonstrate sensitivity towards the ecology of the stream and environs. Such a scheme will be welcomed in accordance with the requirements of **Core Policy 23: Net Zero Operational Carbon Development** and **Core Policy 39: Biodiversity**.

Core Policy 35: Chalk Streams Protection and Enhancement

To help protect the ecology and water quality of chalk streams a designated area is proposed for stretches of the chalk streams (Rivers Stort, Chelmer, Pant and Cam) comprising 15m buffers from the top of the banks on either side (as shown by the **Policies Map and Appendix 9**). Within this riparian buffer zone, no development will be permitted apart from domestic extensions, soft landscaping and small amenity areas. Developers should submit details for approval of and provide a vegetative buffer zone to protect the banks.

All development proposals within the river basin or floodplain of a chalk stream must provide a Chalk Stream Impact study that sets out:

- i. implications for water resources and sewerage systems and impact on the chalk stream
- ii. an assessment of impact on groundwater hydrology and flow into chalk streams
- iii. impact on ecology of chalk stream itself and within the buffer zone
- iv. assessment and mitigation or restoration measures for any potential pollution arising from the construction process, building materials and proposed land use, and
- v. assessment of potential pollutants and their capacity to enter chalk stream groundwater/flow.

Planning approval will be contingent on adequate water supply and treatment infrastructure being in place with no additional burden on chalk aquifer abstraction or ecology. To achieve this, developers are expected to contribute proportionate costs and mitigation of addressing any potential impacts.

Flood Risk

- 9.116 Many of the settlements across Uttlesford have experienced flooding in the past, including the larger settlements of Great Dunmow, Saffron Walden, Stansted Mountfitchet, Stebbing, Takeley and Thaxted.
- 9.117 Uttlesford is located in the headwaters of three major catchments (Great Ouse, North Essex and Thames) and past flooding has been predominantly from main rivers, ordinary water courses and surface water.
- 9.118 The majority of the main rivers have hydraulic models from the Environment Agency and the SFRA has been updated to support the Regulation 18 Local Plan¹⁰³. Flood risk is now well understood in the main settlements, however the exacerbation of flood risk by poorly maintained or blocked culverts in the district, particularly in Saffron Walden, continues to be an issue for the Environment Agency and Lead Local Flood Authority (LLFA), Essex County Council.
- 9.119 Local sources of flooding, particularly from ordinary watercourses and surface water, are also a problem in the district. Saffron Walden has been identified as a Tier 2 area of local flood risk by the Lead Local Flood Authority due to its surface water risk and flood history, and Clavering, Great Dunmow, Manuden, Radwinter, Takeley, Thaxted and Stansted Mountfitchet have been identified as Tier 3 areas. Other areas within Uttlesford that have been identified as having a surface water flooding problem through the flood history review include Little Hallingbury and Little Dunmow.
- 9.120 Groundwater and sewer flooding are limited and very localised. Development proposals should address the relationship between flood risk and **Policy 34: Water Supply and Protection of Water Resources**.
- 9.121 The effect of climate change has been assessed. In most catchments, the extent of Flood Zone 3 is not likely to increase significantly with climate change due to the confined topography. However, climate change is predicted to result in more frequent and extreme rainfall events, increasing the frequency and severity of flooding from fluvial and surface water sources. It is important that development proposals consider flood risk in the context of other policies within Chapter 9, particularly **Policy 37: Sustainable Drainage Systems**.
- 9.122 Development proposals within the plan area are expected to follow the sequential approach set out in national policy¹⁰⁴.

¹⁰³ JBA SFRA 2023 available at: uttlesfordreg18evidencebase.co.uk

¹⁰⁴ Paragraph 161, NPPF, 2023. Available at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1182995/NPPF_Sept_23.pdf

Core Policy 36: Flood Risk

All development proposals should demonstrate that they avoid and reduce the risk of all forms of flooding to future occupiers, and do not increase the risk of flooding elsewhere.

Where development proposals include land within Flood Zones 2 or 3, or are subject to the Sequential Test through national policy for other reasons, alternative sites should include a district wide search within defined settlement boundaries.

All proposals for new development will be required to:

- i. manage and reduce surface water run-off and not increase the risk of flooding to third parties
- ii. manage water and waste water discharges
- iii. ensure safe access and egress for future users of the development and an appropriate emergency evacuation plan where appropriate
- iv. include evacuation and flood warning procedures to assist existing communities at risk of flooding, and
- v. raise finished floor levels 600mm above the 1 in 100 year plus climate change flood level.

A site-specific flood risk assessment will be required for all developments of 1 hectare and greater in Flood Zone 1 and, for all proposals for new development, including minor development and changes of use, in Flood Zones 2 or 3 and where proposed development or a change of use to a more vulnerable class that may be subject to other forms of flooding. Appropriate mitigation and management measures must be implemented.

All development proposals must be assessed against the Strategic Flood Risk Assessment and the Essex Local Flood Risk Management Strategy to address locally significant flooding.

Sustainable Drainage Systems

- 9.123 **Core Policy 37: Sustainable Drainage Systems** complements **Core Policy 36 (Flood Risk)** to reduce the district's vulnerability to surface water flooding and ensure that new development does not increase surface water run-off. The Council will consider proposals against the relevant technical standards, and take account of advice from the Lead Local Flood Authority and the Environment Agency, where appropriate¹⁰⁵.

¹⁰⁵ See also: Sustainable Drainage Systems: Non-statutory technical standards (DEFRA, 2015). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/415773/sustainable-drainage-technical-standards.pdf

Development proposals should be accompanied by an adequate risk assessment demonstrating how the risk to groundwater would be mitigated in the proposed design, meeting the requirements of **Core Policy 34**.

The Local Plan sets out its intentions for Green and Blue infrastructure within the Area Strategies and **Core Policy 39: Green and Blue Infrastructure**. As well as their role in water attenuation, SuDS can play a part in improvements to biodiversity through habitat creation, new open spaces and good design. Developers should consider the whole life management of any SuDS scheme and the Council will secure long term maintenance through planning obligations and/or conditions.

Core Policy 37: Sustainable Urban Drainage

All major development will be required to use sustainable urban drainage systems (SuDS) for the management of surface water run-off, unless there would be significant harm to water quality, flood risk or biodiversity.

The use of natural flood management techniques is supported.

Where a site-specific flood risk assessment is required for development proposals (**Core Policy 36: Flood Risk**) this should be used to inform the design of appropriate drainage systems.

All proposals for SuDS should include arrangements for their whole life management and maintenance.

The Natural Environment

- 9.126 The Council's strategy seeks to protect and enhance biodiversity within the district, facilitated in part, through partnership working with the Essex Biodiversity Project and the Essex Wildlife Trust, and through controls on development to reduce potential impacts on sites, which may have importance for biodiversity.
- 9.127 Uttlesford has a range of important sites and habitats for biodiversity, recognised through designations, from national to local importance. Sites of Biodiversity or Geological Importance are identified on the Policies Map and shown by **Appendix 9-11** and these represent a tiered network for the conservation of biodiversity and geodiversity within the district. There are no European or internationally designated wildlife sites in Uttlesford, but there are examples of these sites in neighbouring districts. The Council has therefore taken account of the impact of development in Uttlesford on these sites through its Habitats Regulations Assessment⁶⁰.
- 9.128 Important sites within Uttlesford include the statutorily protected national designations (Sites of Special Scientific Interest (SSSIs) and the non-statutorily

60 UDC, Habitats Regulations Assessment, 2023. Available at: <https://www.uttlesford.gov.uk/localplanevidence>

protected Local Nature Reserves and County Wildlife Sites. Sites with protected species, important habitats and sites which are important for their historic landscape interest will be protected and where possible enhanced.

- 9.129 There are 14 nationally designated sites located in Uttlesford made up of 12 Sites of Special Scientific Interest (SSSI) and 2 National Nature Reserves (NNR).
- 9.130 There are 280 locally important nature conservation areas which are designated as Local Wildlife Sites (LoWS). Many of these are ancient woodlands but there are also good examples of grassland habitats. There are 42 special roadside verges which are protected for their flora in addition to 9 existing and 31 proposed Local Geological Sites (LoGS) which range in size from single erratic boulders to quarries. All of these sites are identified on the Policies Map and shown by Appendix 11.
- 9.131 SSSI and NNRS have a high degree of protection from development because the type and/ or quality of habitat means it is unlikely that it can be replaced elsewhere, or its loss compensated for. Locally designated sites also make a significant contribution to the biodiversity, geodiversity and green infrastructure of the district. Because there are many of them and they are distributed across the district they act as a network of sites allowing the movement of wildlife between sites as well as creating the distinctive landscape character of Uttlesford of woodland, verges and greens and water bodies.
- 9.132 Developments that can make a positive contribution to the network of protected sites by habitat creation, expansion or connection will be positively considered, especially where this contributes to the Essex Wildlife Trust Living Landscape Initiative, the Local Nature Recovery Strategy, the Green and Blue Infrastructure Strategy. Advice on incorporating biodiversity in developments can be found on the Essex Biodiversity Project website⁶¹.
- 9.133 Development proposals with water edge frontages including rivers, streams, lakes, and ponds should make provision for ecological buffer strips of dimensions according to recognised best practice, with a view to protecting and where appropriate enhancing water dependent habitats and species.
- 9.134 Where development proposals will be carried out on land with a watercourse currently culverted, opportunities for de-culverting and restoration to an open watercourse should be sought as a means of creating blue infrastructure and enhancing the development site.
- 9.135 An ecological survey and impact assessment will be required for any development affecting or with the potential to affect:
- a national or locally designated site
 - protected species
 - species on the species of conservation concern of threatened species, and
 - habitats with potential to support protected species or species of conservation concern, and
 - Natural England Priority Habitats/ Expansion Zones.
- 9.136 Ecological surveys and impact assessments must be carried out by a suitably qualified person with appropriate professional accreditation and competencies.
Field

61 Available at: <https://www.essexdesignguide.co.uk/design-details/landscape-and-greenspaces/ecology-and-biodiversity/>

surveys must be conducted at a suitable time for the species, according to current best practice. Further information can be obtained from the Natural England Standing Advice for Protected Species.

Hatfield Forest

- 9.137 Hatfield Forest is the district's largest SSSI, at 403 ha, and is also a National Nature Reserve. Hatfield Forest is a medieval hunting forest of mixed deciduous woodland and parkland and extends beyond the SSSI designation. The forest encompasses Priority Ancient Woodland, Wood pasture & Parkland, and Lowland Meadow Habitats and supports protected species including bats and badgers. It provides an important recreation resource to the residents of Uttlesford and is a strategic area of green infrastructure which is important to protect. Hatfield Forest faces existing pressure from visitors, particularly in the winter months when paths in the forest can be damaged and habitat loss has occurred. Any increase in visitor numbers therefore needs to be carefully managed to minimise harmful impact on the forest.
- 9.138 Natural England and the National Trust have developed a Mitigation Strategy outlining a package of on-site Strategic Access Management Measures (SAMM) to protect and restore the condition of Hatfield Forest. New housing development within the Hatfield Forest Zone of Influence (Zoi) will be required to contribute to the Hatfield Forest SAMM to mitigate the recreational impact, as shown on the Policies Map and in **Appendix 12**.

Protection of wildlife habitat sites on the Essex Coast

- 9.139 Residents of Uttlesford have access to protected wildlife habitats in the vicinity of the Essex Coast, for recreation. The Essex Coast Recreational disturbance Avoidance and Mitigation Strategy (RAMS) Supplementary Planning Document (May 2020) was adopted by the Council in September 2020. Net additional dwellings within the zone of influence, as shown on the Policies Map and within **Appendix 13**, are required to pay the Essex Coast RAMS Tariff in accordance with the Supplementary Planning Document (SPD). The tariff is due for all permissions outlined in the SPD, including net additional dwellings granted through both permitted development and planning consent. Usage of the wildlife sites, including by Uttlesford residents, will be monitored through visitor surveys. For Uttlesford, the zone of Influence relates to the Blackwater Estuary SPA and Ramsar. However, the zone of influence related to the different wildlife habitats may be updated in the future, according to usage.

Core Policy 38: The Natural Environment

Development proposals will be supported where they protect and enhance sites internationally, nationally and/ or locally designated for their importance to nature conservation, ecological or geological value as well as non-designated sites of ecological or geological value. An ecological survey will be required to be submitted with the application if the development site affects or has the potential to affect any of the following:

- an internationally designated site, for example Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar site

The highest level of protection will be given to European Sites. Development will not be permitted unless it will not adversely affect the integrity of a European site, either alone or in combination with other development. Proposals having a harmful impact on the integrity of European Sites that cannot be avoided or adequately mitigated will not be permitted other than in exceptional circumstances where there are no suitable alternatives and there are imperative reasons of overriding public interest. Compensation would then be required.

Essex Coast Recreational Disturbance Mitigation

Contributions will be secured from development towards mitigation in accordance with the Essex Coast RAMS Habitats Regulations Assessment Strategy Document 2018-2038 and Essex Coast RAMS Supplementary Planning Document 2020. The Essex Coast RAMS tariff will be applied to net additional dwellings, within the zone of influence, as shown on the Policies Map and **Appendix 13**, including Permitted Development which is required to comply with the Habitats Regulations.

- i. a nationally designated site; for example: SSSI's & National Nature Reserves
- ii. locally Designated Sites; for example: Local Wildlife Sites
- iii. priority habitats, and
- iv. protected species:
 - a. species on the Red Data List of threatened species
 - b. habitats suitable for protected species or species on the Red Data List.

A biosecurity protocol method statement will be required for all development proposals where there is potential to impact sites protected for biodiversity importance to ensure the introduction of invasive non-native species of both flora and fauna is prevented.

Development proposals which would result in significant harm to a biodiversity or geodiversity interest will only be considered for approval after alternative sites that would result in less or no harm have been assessed and discounted. In the absence of alternative available sites development proposals must include adequate mitigation measures. Where harm cannot be prevented or adequately mitigated against, appropriate compensation measures will be sought.

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Core Policy 38: The Natural Environment

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To ensure that mitigation or compensation measures take place, which may include Biodiversity Offsetting, these will be secured by conditions or planning obligations upon any approval that may be granted and will need to include financial support for continued maintenance.

If significant harm to biodiversity or geodiversity cannot be adequately mitigated against, or compensated for, permission will be refused. The design of development should incorporate measures to improve the biodiversity or geodiversity value of the development site.

Such measures should include making a contribution to the network of biodiversity sites, including open spaces and green infrastructure and water bodies which make links between habitats and support wildlife. Measures should also attempt to link wildlife habitats together, improving access to, between and across them.

These measures will be secured by condition or planning obligations upon any approval that may be granted and may need to include a biodiversity management plan and financial support for continued maintenance.

Measures to enhance biodiversity should be designed so as not to increase the risk from bird strike* to the operation of aircraft at London Stansted Airport; where appropriate the implementation of a bird hazard management plan will be secured by condition or planning obligation.

Protection of Hatfield Forest: Where appropriate, within the identified areas as shown on the Policies Map and **Appendix 12**, contributions from proposed residential developments will be secured towards recreational mitigation measures and Priority Habitat enhancement/ connectivity at Hatfield Forest Site of Special Scientific Interest (SSSI) and National Nature Reserve (NNR).

Protection of Priority Habitats: Development resulting in the loss or deterioration of irreplaceable habitats, according to the latest Defra Biodiversity Metric, will be refused, save for where exceptional circumstances are demonstrated and appropriate mitigation and compensation is provided, including but not limited to:

- v. Ancient Woodland
- vi. Coastal and Floodplain Grazing Marsh
- vii. Lowland Meadows
- viii. Chalk Rivers/ Streams
- ix. Ancient or Veteran Trees

Green and Blue Infrastructure (GBI) Strategy

- 9.140 In order to integrate the overriding objective to protect and enhance the natural environment and to provide for amenity needs for new and existing residents, the Council commissioned a Green and Blue Infrastructure (GBI) strategy⁶². This refers to the network of green and water-related spaces in the district, their protection, enhancement and extension, and has informed relevant policies in the Local Plan. The GBI elements themselves are important as well as the linkages between them, both for nature and for human use and enjoyment. This GBI or ‘natural capital’ is recognised as fundamentally important in providing considerable value to our communities and new developments through regulating the quality of the environment, providing material and non-material amenity benefits, described also as “ecosystem services” in the UK’s Planning Practice Guidance 2023⁶³.
- 9.141 The essential purpose of the GBI is to deliver multiple functions – for wildlife, bee pollination, human use and climate cooling, water ecology and so on.
- 9.142 The GBI Strategy identifies a series of priority projects. More detail for these is identified in the Area Strategies where development will be expected to contribute towards helping to bring these forward. Furthermore, our proposed allocations will be expected to make significant contributions to delivering GBI as part of the emerging masterplans for these sites and as also specified in the Site Development Templates (**Appendices 2 to 4**).

62 Add reference when available, 2023

63 Department for Levelling Up, Housing and Communities, 2023. Planning Practice Guidance: <https://www.gov.uk/government/collections/planning-practice-guidance>

Core Policy 39: Green and Blue Infrastructure

Green and Blue Infrastructure plays an integral role in making the district sustainable, healthy and attractive and in helping to meet Local Plan objectives. All development should adopt an approach that is environment and landscape-led so as to maximise the beneficial provision of green and blue infrastructure for people and nature.

In planning for major developments, priority will be given to the role of GBI in responding to climate change, managing flood risk, protecting and enhancing heritage assets, supporting sustainable transport options, supporting biodiversity and the natural environment, and ensuring open space for sports and recreation is secured for the community.

All major developments must:

- i. demonstrably take a green and blue infrastructure design-led approach to development schemes, and utilise Uttlesford's green and blue Infrastructure design checklist, to ensure green infrastructure is considered and well-integrated into developments at the earliest stages
- ii. ensure green and blue infrastructure is multi-functional, accessible to all and designed to meet local needs, taking into account the views of key stakeholders
- iii. avoid the loss and fragmentation of existing green and blue infrastructure networks, including within the built environment. Existing landscape features, watercourses and habitats should be integrated into development, and green and blue infrastructure proposals must identify opportunities to maximise their quality and achieve biodiversity net gain. Development proposals must protect and enhance sites that form part of the existing green and blue infrastructure (GBI) network as well as associated landscape heritage features
- iv. where relevant, demonstrate how the appropriate use and permanence of the Green Belt will be maintained and enhanced by existing and new GBI on-site
- v. development resulting in the loss or deterioration of irreplaceable habitats such as ancient woodland or chalk streams and riparian ecology will be refused
- vi. integrate Sustainable (urban) Drainage Systems(SuD)s into the development, as appropriate, ensuring they are designed to have multi-functional benefits for biodiversity, recreation and aesthetic value
- vii. consider connectivity as a core principle of green and blue infrastructure, integrating active travel and recreational routes that connect with open space and meet accessibility, quantity and quality standards for all users, including connections to existing communities, facilities and services. Appropriate greening should be integrated into these routes, providing and improving connections to adjacent habitat networks especially where this would contribute to wider nature recovery, and
- viii. protect existing trees and hedgerows during and after development and where proposed development might affect trees an accurate assessment by a competent arboriculturist should be undertaken and protective measures put in place. Opportunities should be maximised for increasing tree cover # through new planting. New canopy should provide a mix of species to include orchard and fruiting trees that are resilient to pests, diseases and climate change and support biodiversity.

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Core Policy 39: Green and Blue Infrastructure

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All proposals for green and blue infrastructure should be checked against the design checklist in the Uttlesford Green and Blue Infrastructure Strategy and relevant sections of the Uttlesford's Design Code, together with Biodiversity Net Gain Guidance, the Council's Open Space Strategy⁶⁴ and the LNRS.

Development proposals for major developments must be accompanied by an acceptable GBI Plan for the site in accordance with the GBIS, and the Master Plan for the site in accordance with the relevant Area Strategy. This should include stewardship arrangements for not less than 30 years to cover maintenance, management and funding arrangements.

An endowment sum should be provided to contribute to the maintenance of the GBI and/or a revenue contribution depending in the nature of the proposed GBI element, to be secured through section 106.

Contributions towards local green infrastructure projects as set out in the Strategy will be sought where they are related to the development or where they mitigate the impacts of new development.

Biodiversity

- 9.143 Biodiversity is integral to sustainable development and to health and wellbeing. The protection of the natural environment is a core objective of the Local Plan and an essential component of the measures to mitigate climate change. The protection of soil from a biodiversity perspective is also increasingly important in agricultural areas. Development which would disturb or damage any soils of high environmental value will not be acceptable.
- 9.144 The Council will support measures for the creation, restoration, retention, protection and extension of biodiversity areas as this applies to woodland, watercourses, grassland or other priority habitats in the district. The creation of new wetland area, restoration of a natural water course with appropriate 10m minimum buffers, riparian planting, and encouragement of aquatic species are all supported. Smaller scale provision is useful too. New homes should include bat, swift and bird boxes integrated into the fabric of the building, green roofs and walls as appropriate, insect pollinator and hedgehog permeable fencing as well as making provision for protected species such as badgers' pathways and both terrestrial and aquatic habitats for great crested newts.
- 9.145 The management of natural areas and newly created sites to be an integral part of the development will require an endowment or some other means to support maintenance and longer-term future. The stewardship arrangement should be discussed with the local planning authority at the earliest date since it may affect the design and nature of proposals for the natural environment and biodiversity net gain requirements on the site.

64 LUC GBI study 2023 available at: uttlesfordreg18evidencebase.co.uk

- 9.146 The Environment Act (2021) has introduced a mandatory approach to supporting biodiversity through development from November 2023: Biodiversity Net Gain⁶⁵. Where development impacts on biodiversity the development proposal must demonstrate an increase in natural habitat and ecology over and above that affected, using the most recent Defra Biodiversity Metric⁶⁶ to achieve a minimum increase of 10%. Uttlesford's evolving Biodiversity Net Gain strategy⁶⁷ should be referred to for further detail. Biodiversity Net Gain can be viewed as a mechanism within the planning system to help work towards better environmental protection and sustainable development as well as an opportunity to invest in the Environment, beyond the previous 'no net loss' approach. However there remains strong pressure for development in the district with its range of vulnerable natural and semi natural habitats, and chalk steams. Unplanned development consents fragment ecological pathways and without a specific measure to encourage connectivity and ecological corridors, development can impact on the quality and viability of habitats and species. Environmental degradation through modern farming methods, runoff from fields into rivers and from roads into (protected) grass verges, loss of hedgerows and new greenfield development have lowered the value of biodiversity in the district and give considerable scope for improvement beyond 20% in many areas.
- 9.147 The most expensive part of providing BNG is in setting up the process and/or site itself. The Natural England Study (Vivid Economics June 2018) concluded that financial viability overall was not impacted by BNG up to 20%, and nor on the level of affordable housing. Indeed, now the requirement is in place alongside local policy, any additional cost will be borne by the land-owner and land value.

65 UK, The Environment Act, 2021. Available at:
<https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

66 Natural England, Biodiversity Metric 4.0, 2023. Available at:
<https://publications.naturalengland.org.uk/publication/6049804846366720>

67 UDC, Biodiversity Net Gain Advice. Available at:
<https://www.uttlesford.gov.uk/article/7344/Biodiversity-net-gain>

Core Policy 40: Biodiversity

All development proposals must conserve and enhance networks of habitats, species and sites, including the promotion of connections outside the immediate site boundary, and as otherwise in accordance with the Green and Blue Infrastructure strategy or the local GBI Plan for the Area Strategy sites.

Planning consent will be refused where there is a potential loss or deterioration of protected or rare habitats or areas without adequate mitigation measure such as proposed access and management arrangement or provision of new or enhanced habitats as agreed with Local Planning authority.

Development will be required to demonstrate a minimum of 20% net gain in biodiversity (measured using the DEFRA biodiversity metric 3.1 or successor) by protecting, enhancing or creating sites of greater biodiversity or geological value and improved soils. In situations where this is not considered appropriate then the justification must be clearly set out and alternative arrangements, for example off-site mitigation or financial contribution, to be made.

All major applications should be accompanied by a Biodiversity Net Gain Assessment and Ecological Enhancement Scheme, setting out how the site will be improved and maintained over a thirty-year period. Delivery of biodiversity net gain should follow the mitigation hierarchy with gains delivered on site as primary preference.

Where the required delivery of biodiversity net gain is not possible on site, gain should be delivered as close as possible on projects identified in the Green and Blue Infrastructure Strategy or as identified in the County's emerging Nature Recovery Network.

Landscape Character

- 9.148 As set out in **Chapter 4: Spatial Strategy**, the strategy for the rural areas in Uttlesford is to promote a sustainable rural economy and to address any issues of rural deprivation while at the same time protecting the important countryside assets including agricultural land, historic and landscape features and biodiversity.
- 9.149 The district is made up of three landscape types. Much of the district is characterised by gently rolling farmland plateau landscapes crossed by river and stream valleys. This is an open landscape of medium to large arable fields but well wooded in places. The open nature of the landscape provides long distance views across the farmland landscape and the higher areas are particularly sensitive to change.
- 9.150 There are four river valley landscapes in Uttlesford centred on the Rivers Cam, Stort, Pant and Upper Chelmer. The valleys have flat or gently undulating valley floors and are served by several tributaries. The open skyline at the top of the valley slopes is particularly sensitive to change, as are the more intimate views between the lower slopes and the valley floor. The North-West corner of the district is characterised by chalk uplands which are rolling landscapes of broad round back ridges. They are characterised by expansive arable farmland providing panoramic views. The open nature of the skyline of the chalk ridge tops is particularly sensitive to change. Each of these Landscape Character Types can be subdivided into Landscape Character Areas and 26 of these areas have been identified in Uttlesford. Detailed profiles of the Landscape Character Areas setting out the natural, cultural and visual characteristics, sensitivities to change and Landscape guidelines are set out in the Landscape Character Assessment for Uttlesford (2023)⁶⁸.

Core Policy 41: Landscape Character

Development proposals will be expected to preserve the character and appearance of the landscape, the nature and physical appearance of ancient landscapes, or geological sites of importance through the restoration, management and enhancement of existing areas, features or habitats and where appropriate the creation of new ones, including the planting of woodlands, trees and hedgerows.

Development will be expected to respect and enhance local landscape character, particularly in settlement edge locations, securing appropriate mitigation where damage to local landscape character cannot be avoided. Proposals will not be permitted if they would:

- i. cause an unacceptable visual intrusion into the open countryside
- ii. be inconsistent with local character
- iii. introduce disturbances to areas with a high level of tranquility
- iv. cause coalescence between settlements
- v. harm views to distant landmarks and landscapes of interest
- vi. harm the setting of natural and built landmark features, and
- vii. reduce the historic significance of the landscapes.

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68 UDC, Landscape Character Assessment for Uttlesford, 2023. Available at: <https://www.uttlesford.gov.uk/localplanningevidence>

Core Policy 41: Landscape Character

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All major development proposals must be supported by a Landscape and Visual Impact Assessment. Smaller development proposals may also require an assessment to be submitted if deemed appropriate, having regard to the type, scale, location and design of the proposed development.

Environmental Protection

- 9.151 New development can have a negative impact on the environment and property through its potential to pollute. Furthermore, opportunities for new development, particularly on previously developed land, can be constrained by existing pollution issues. The overall aim of environmental protection policies is to ensure the sustainable and beneficial use of land. Within this aim, polluting activities that are necessary for society and the economy should be minimised and subject to appropriate controls to reduce their adverse effects and contain them within acceptable limits. There is already legislation and policy in place to help control pollution, including the Environment Act 1995⁶⁹, which gives the Environment Agency and local authorities' powers to control pollution, and address contaminated land including ways to deal with cumulative impacts of development.

Pollution

- 9.152 The planning system plays a vital role in making sure all new development takes into account pollution levels and ways to minimise these. Pollution can come from many sources, including light, noise, air, odour and vibrations, all of which can have a damaging effect on the local environment, amenities and health and well-being of residents and visitors.
- 9.153 All development will be assessed on the level of pollution it would generate and the effect it would have on the surrounding area including the natural and historic environment. The Council will expect the development to mitigate any negative effects caused and also take into account any controls and mitigation measures that could reasonably be imposed by condition e.g. hours of operation.
- 9.154 Adverse effects must be carefully considered in the assessment of any planning application and can be the basis for the refusal of an application if not adequately addressed. Developers are encouraged to have pre-application discussions with the Council to be advised on the specific requirements. Assessments should:
- identify the sensitive receptor(s) which may be affected by the proposed development, including residents, businesses, land users and sensitive environmental assets,
 - consider the potential for cumulative impacts with other existing or approved development, and
 - demonstrate the measures which would be implemented to ensure adverse impacts would be avoided at source, or where this is not possible, outline the proposed management and mitigation measures to reduce effects to an acceptable level; and identify the significance of any residual effects.

69 UK, The Environment Act 1995, as amended, Available at: <https://www.legislation.gov.uk/ukpga/1995/25/contents>

- 9.155 When considering development proposals, the Council will consider the risk of pollution arising from contamination and the impact on human health, property and the wider environment. Contamination is not, however, restricted to previously developed land but it can also occur on greenfield sites and it can arise from natural sources as well as from human activities. Developers should undertake a preliminary risk assessment to identify any contamination on site. Where sites are known to be contaminated, or where contamination is subsequently discovered, any development proposals on the land will only be permitted where it can be demonstrated that the contamination can be mitigated.
- 9.156 Developers are expected to proactively monitor impacts and emissions to enable issues to be addressed swiftly. Close liaison with communities can support this approach, enabling feedback and dialogue on the need for and effectiveness of any mitigation measures.

Core Policy 42: Pollution and Contamination

The potential impacts of exposure to pollutants must be considered in locating development, during construction and in use.

Planning permission will not be granted where the development and uses would cause unacceptable risk to public health or safety, the environment, general amenity or existing uses due to the potential of vibration, odour, light pollution, pollution of surface/ ground water sources or land pollution and to occupiers of surrounding land uses or the historic and natural environment, unless the need for development is judged to outweigh the effects caused and the development includes mitigation measures to minimise the adverse effects.

Developments sensitive to pollutants will be permitted where the occupants and environment would not experience adverse impact, or the impact can be overcome by mitigation measures.

Development should be designed to ensure that established noise and other nuisance- generating uses remain viable and can continue or grow without unreasonable restrictions being placed in them. Development proposals that have not clearly demonstrated how noise and other nuisances will be mitigated and managed should not be permitted.

For developments on, or near to, hazardous substance sites or land which is contaminated or has a history of a potentially contaminating use, permission will only be granted where the Council is satisfied that:

- i. there will be no threat to the health or safety of future users or occupiers of the site or neighbouring land, and
- ii. there will be no adverse impact on the quality of local groundwater or surface water.

Air Quality

- 9.157 Saffron Walden has included an Air Quality Management Area (AQMA) where some road junctions were a risk. However, this area no longer meets the criteria to be categorised as an AQMA and it is expected that the designation will be removed. Nonetheless, the Council will promote measures to improve air quality and will only support development if it would not prejudice achievement of the national air quality objectives and where possible, development should contribute towards improvements in air quality.
- 9.158 Poor air quality may be experienced alongside the M11 and the A120 in some instances and a zone 100 metres on either side of the central reservation of the M11 and a zone 25 metres either side of the centre of the A120 have been identified where development should be controlled. However, as both zones run through the countryside where there is limited opportunity for development, it is unlikely there will be many instances where development is proposed within these areas.

Core Policy 43: Air Quality

Development will not be permitted where it might lead to significant adverse effects on health, the environment or amenity from emissions to air. Applicants must have regard to relevant UDC Air Quality Technical Guidance⁷⁰ and are required to undertake an appropriate air quality assessment and to demonstrate that:

- i. there is no adverse effect on air quality in any AQMA from the development
- ii. pollution levels within any AQMA will not have a significant adverse effect on the proposed use/users
- iii. development has regard to relevant UDC Air Quality Technical Guidance
- iv. development within or affecting any Air Quality Management Area (AQMA) will also be expected to contribute to a reduction in levels of air pollutants within the AQMA
- v. development will not lead to an increase in emissions, degradation of air quality or increase in exposure to pollutants at or above the health-based air quality objective
- vi. any impacts on the proposed use from existing poor air quality are appropriately mitigated, and
- vii. the development promotes sustainable transport measures and use of low emission vehicles in order to reduce air quality impacts of vehicles.

Applicants shall, where appropriate prepare and submit with their application, a relevant assessment, taking into account guidance current at the time of application.

Where development proposals would be subject to unacceptable air quality standards or would have an unacceptable impact on air quality standards they will be refused.

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⁷⁰ UDC, Air Quality Technical Guidance, 2018. Available at: https://www.uttlesford.gov.uk/media/8250/Air-Quality-Technical-Planning-Guidance-2018/pdf/Air_Quality_Technical_Guidance_.pdf?m=636652790533370000

Core Policy 43: Air Quality

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Where emissions from the proposed development approach EU Limit values or national objectives the applicant will need to assess the impact on local air quality by undertaking an appropriate air quality assessment. The assessment shall have regard to guidance current at the time of the application to show that the national objectives will still be achieved.

Noise

- 9.159 This policy aims to make sure that wherever practicable, noise sensitive developments are separated from major sources of noise such as road, rail and air transport and certain types of industrial development. People's quality of life will be protected from unacceptable noise impacts by managing the relationship between noise sensitive development and noise sources. To achieve this development will be required to adhere to the noise standards identified within it.
- 9.160 Aircraft movements are a particular major source of noise in Uttlesford. London Stansted Airport Noise Strategy and Action Plan 2013-2018 (Building on a Sound Foundation)⁷¹ sets out what controls there are on noise generated by departing and arriving aircraft (Sections 5.1 and 5.2). The Strategy also sets out what controls there are on aircraft noise generated by ground operations (Section 5.3) and what the night noise restrictions are (Section 5.4). The Action Plan will be reviewed and, if necessary, revised at least every five years and whenever a major development occurs affecting the noise situation.
- 9.161 The Civil Aviation Authority annually produces Noise Exposure Contours for London Stansted Airport which reflect each departure route and glide and are available on their website. Calculation of exposure to aircraft noise takes into account the level of use of each departure route and glide path, the number of aircraft movements on each path and aircraft type. Noise contours are calculated for each year, and can be provided for future scenarios using assumptions when required. Monitoring of aircraft noise will help to make sure that the policy continues to be applied to the most appropriate area. Noise sensitive developments include residential uses.
- 9.162 Wind energy developments can adversely impact on aerodromes, radar and other navigation systems used for air traffic control and aircraft instruments. In relation to ground based radar, the movement of wind turbine blades are a moving target for the radar beam. This can be mistaken for an aircraft or create clutter that can interfere with the radar systems ability to track aircraft near the wind energy development. A proliferation of wind energy developments can have cumulative adverse effects on the safety and efficiency of aircraft tracking, and ground-based radar when they are close to the line of sight of the radar. Hence new development must take into account flight paths and navigation considerations.

71 Stansted Airport, Noise Action Plan 2019-2023, 2019. Available at: <https://www.stanstedairport.com/community/noise/noise-action-plan/>

Core Policy 44: Noise

Proposals will be supported that will not result in an unacceptable risk to public health or safety, the environment, general amenity or existing users due to the potential of noise.

To reduce, manage and mitigate noise to improve health and quality of life, residential and other development proposals should manage noise in accordance with the following:

A. Noise Sensitive Development

Residential and other noise sensitive development will be permitted where it can be demonstrated that users of the development will not be exposed to unacceptable noise impact from existing, temporary or future uses.

Noise sensitive uses proposed in areas that are exposed to noise at the Lowest Observed Adverse Effect Level (LOAEL) or the Significant Observed Adverse Effect Level (SOAEL) from existing or future industrial, commercial or transport (air, road, rail and mixed) sources will be permitted where it can be demonstrated good acoustic design has been considered early in the planning process, and that all appropriate mitigation, through careful planning, layout and design, will be undertaken to ensure that the noise impact for future users will be made acceptable.

Noise sensitive uses proposed in areas that are exposed to noise at the Unacceptable Adverse Effect level will not be permitted. For surface transport noise sources, the Unacceptable Adverse Effect Level is considered to occur where noise exposure is above 66dB LAeq,16hr (57dB LAeq,8hr at night).

For aviation transport sources the Unacceptable Adverse Effect is considered to occur where noise exposure is above 60dB LAeq,16hr.

B. Noise Generating Development

Noise generating development will be permitted where it can be demonstrated that nearby noise sensitive uses (as existing or planned) will not be exposed to noise impact that will adversely affect the amenity of existing and future users. Proposals will be acceptable in noise impact terms, and where required will, through good acoustic design, appropriately mitigate noise impacts through careful planning, layout and design. Noise Generating Development that would expose users of noise sensitive uses to Unacceptable Adverse Effect noise will not be permitted.

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Core Policy 44: Noise

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C. Noise Impact Assessment

A Noise Impact Assessment will be required to support applications where noise sensitive uses are likely to be exposed to significant or unacceptable noise exposure. The Noise Impact Assessment will:

- i. assess the impact of the proposal as a noise receptor or generator as appropriate, and
- ii. demonstrate in full how the development will be designed, located, and controlled to mitigate the impact of noise on health and quality of life, neighbouring properties, and the surrounding area.

D. Mitigating Noise Impact

Where proposals are identified as being in the Lowest Observed Adverse Effect Level (LOAEL) or the Significant Observed Adverse Effect Level (SOAEL) categories, either through noise exposure or generation, all reasonable mitigation measures must be employed to mitigate noise impacts to an acceptable level.