UTTLESFORD LOCAL PLAN
Towards Net Zero Carbon

LOCAL PLAN REGULATION 18: *"A Climate Change-Led Plan"*

INFRASTRUCTURE - CONTEXT AND POLICIES

1.0 INTRODUCTION

1.1 All growth in the district must mitigate its climate change impacts whether this is through adaptive technology, flexible design, measures to reduce carbon emissions and to decarbonise, to conserve and manage resources or to generate renewable energy. Infrastructure underpins growth, with the built structures above and below ground providing utilities and transport networks, as well as the softer infrastructure in community facilities, recreation, and biodiversity-rich green open space. Without infrastructure there can be no growth and no improvements for existing settlements. Its delivery must be timely, coordinated with the development of new homes, employment and other building and landscape structures. It must be fundable and funded through the development industry or with Government and public sector assistance. The Council will work in partnership with the infrastructure providers to help ensure effective delivery of infrastructure that meets the needs of communities and works toward achieving the overall goal of achieving net zero carbon, over the Plan period.

1.2 Policies and development proposals must be flexible to meet the challenge of climate change, the key objective of the Local Plan, and it is acknowledged that technology and building systems are changing rapidly especially in the worlds of energy production and building construction methods. To this end developers must ensure that solutions are ultimately adaptable. Developers may be asked to structure their funding profile to bring forward enabling funding in advance of the planned development to ensure essential infrastructure can be delivered early, covering future phases and helping to address the cumulative effect on the capacity of utilities.

<u>Guiding Infrastructure Policy Principles</u>

1.3 There are guiding principles underlying the proposed infrastructure policies

i. The local plan is sustainable, works towards addressing the climate change objectives and meeting or exceeding standards as far as feasibility, viability, and technology permit.
ii. That infrastructure is defined in the widest sense and encompasses all the frameworks for healthy and well-balanced communities whilst minimising impact on the environment. This includes all utilities, green infrastructure transport and accessibility networks, health, education, community and cultural facilities. The latter five are covered in their respective chapters on Climate Change, Transport and Community.
iii. All infrastructure should be proportionate to the needs of the community and will be delivered to accord with the pace of development such that facilities are in place and operational as far as is feasible for the first phase of occupation by residents, business, and other users; in some circumstances it may be more expedient to improve existing facilities.
iv. That infrastructure will be phased to complement the pace of development on larger sites but will also be in place to support the shorter timescale for development of small and medium sized sites that will contribute immediately to the five-year housing supply. This may require an overall masterplan for contiguous development sites so that developers work together and co-ordinate delivery in collaboration with the District or County, or utility providers.
v. That green and blue infrastructure and the landscape structure for large developments will need to be delivered at the earliest phase to take account of the time it takes for green infrastructure to establish, to mature and, where appropriate, to become a location for biodiversity net gain or carbon sequestration.
vi. That promoters and developers work collaboratively with the council on larger developments, and with utility companies and transport providers conforming to their strategies and contributing proportionate infrastructure or funding to ensure its timely delivery. This includes modernising existing infrastructure to minimise carbon impact as far as possible.
vii. That the delivery of relevant infrastructure is supported by an appropriate management and maintenance regime, together with funding endowment, to be in operation in advance of first occupations. Such provision will normally be secured by condition, and with details/funding through section 106 agreements.
viii. That wherever possible a locally-based and a community-owned management organisation is used or set up for larger developments in order to practise stewardship in accordance with garden city principles of the Town and Country Planning Association (TCPA). It will manage the infrastructure assets locally, such as a renewable energy, SUDs, recreation areas, where this is not the domain of the statutory providers or the county council. The establishment of community energy networks will be encouraged.

Infrastructure and Sustainable Development

1.4 Infrastructure underlies growth: how the transport, utilities, community facilities, open space, recreational and communications facilities are provided, when and to what standard including mitigating carbon emissions, all play a critical role in achieving the council's Vision and the Objectives of this Local Plan, and the wider principles of sustainable development. The definition of infrastructure is outlined in Section 216(2) of the Planning Act 2008 (as amended). The National Planning Policy Framework (NPPF 2021)[1] states that plans should promote a sustainable pattern of development, emphasising that they must "align growth and infrastructure" along with improving the environment and helping to mitigate climate change. When considering development proposals, the Council's approach will reflect this presumption in favour of sustainable development and as reflected in the preferred spatial option. To achieve this speedily, the Council encourages applicants to work pro-actively and collaboratively both in the preparation of masterplans and planning proposals and post-approval through to delivery.

1.5 The council will explore a Community Infrastructure Levy (CIL) with a viable charging schedule to accommodate and mitigate the impacts of growth. Planning obligations and phasing conditions over and above Building Regulations or Future Homes and Buildings Standards may be applied in appropriate situations. An open book viability assessment will be considered where higher standards are applied to mitigate carbon impact and clear evidence is provided, including examples elsewhere, that viability or the delivery of affordable housing and other key policy requirements are threatened.

1.6 When considering development proposals, the Council's approach will reflect the presumption in favour of sustainable development contained in the National Planning Policy Framework and reflected in the preferred spatial option. The Council encourages applicants to work pro-actively and collaboratively both in the preparation of planning proposals and post-approval through to delivery. The aim is to achieve a sustainable development to improve the economic, social, and environmental conditions in the area and to find solutions that address the climate change challenge.

1.7 The infrastructure policies in this chapter are supported by evidence base studies. They also respond to issues raised during Issues and Options public consultation and through the Community Stakeholder Forum established in November 2020 as a mechanism to discuss local issues. The policies will help to deliver the Infrastructure Delivery Plan (IDP).

[1] https://www.gov.uk/government/publications/national-planning-policy-framework--2

Infrastructure Delivery Plan and Viability

1.8 The IDP is a key document that will set out a project plan for the delivery of all the infrastructure types required and as listed in Table 1. It will identify the district wide infrastructure such as a major health centres, junction improvements or enhancement to wastewater treatment required for the level of growth planned no matter where in the district. It will also identify in detail the locations or areas for specific pieces of infrastructure such as a community centre or primary school that are needed to support a development proposal or a cluster of smaller proposals around an existing settlement.

1.9 As the key mechanism for monitoring and reviewing the range of infrastructure needs of the Local Plan; the Infrastructure Delivery Plan is a working document that will be reviewed regularly. The infrastructure areas covered in the IDP Baseline Report and addressed in the Local Plan are:

Table 1: Types of Infrastructure

Infrastructure topic	**Details**
Transport	Major road schemes ; new networks for walking, equestrian, cycling, electric vehicle charging points, mobility hubs
Surface water management, drainage and local flood protection	Need for local flood protection and surface water drainage infrastructure
Water supply	Water supply and treatment - the water cycle
Waste management and Minerals	Collection and disposal
Energy infrastructure	Electricity, gas, renewables
Digital connectivity and Communications	Telecommunications including broadband
Green Infrastructure	Open space, areas for biodiversity net gain, reserves, indoor and outdoor sports provision/ allotments,
Health and wellbeing facilities	Healthcare such as GPs, adult social care, and health centres/clinics
Education	Early years and childcare, primary and secondary schools, special needs, further education
Sports, leisure, and recreation	Standards and meeting needs; retention
Community and cultural facilities	Cultural and community infrastructure e.g., village halls, libraries, and performance spaces; emergency services

1.10 Some ‘strategic’ infrastructure will have benefits for residents beyond the development site such as off-site highway junction improvements; new sewerage treatment works; open space and sports facilities. Recognising that some of the

development will be of a strategic nature, the IDP will demonstrate how, between the private and public sectors, these schemes can be planned, funded, and implemented.

1.11 The IDP will set out what needs to be delivered and when, together with outline cost and how the funding might be obtained and phased. The Local Plan will be subject to a Viability study to test the implications of the spatial strategy, policies and need for this provision along with the minimum 40% affordable housing requirement. Also included will be any additional costs beyond the required standards for climate mitigation measures, green infrastructure and biodiversity net gain, basic development and land acquisition costs and fees, all set against the value of the development proposed, with an allowance for developer's profit. This is to ensure that the viability assessment is "primarily at the plan making stage" and that the assessment "should not compromise the requirement for sustainable development." It will test that the policies are realistic, and that the total cumulative cost of all relevant, including infrastructure, policies will not undermine deliverability of the plan.

1.12 Developers will have to have regard to the total cumulative cost of all relevant policies when agreeing a price for the land so that developers will not challenge the viability of their own planning proposals based on the price of the land. In other words, the adopted local plan with its up-to-date policies and explicit infrastructure contributions sets the bar for viable applications. Policy requirements, for example, for climate change adaptation, mitigation or for standards of building required to meet net zero targets, will have been tested.

Working in Collaboration and Strategically

1.14 In order to assist in the delivery of growth over the local plan period, the council needs to help coordinate the infrastructure to support the growth, and this means working with the site developers, service and utility providers, and, importantly, strategically with neighbouring authorities. Not only will this comply with the duty to co-operate, but close working maximises the opportunity for levering advantage from infrastructure delivery in adjoining authorities, strengthening the business case and potential securing more funding. Furthermore, because of the different stages of local plan preparation and implementation of large-scale development proposals, this might bring advantage deriving from infrastructure installation in adjoining areas, and hence bring forward infrastructure readiness for the development site in question in the District.

1.15 Developers are encouraged to collaborate not only with the council but to work closely with landowners and other developers of contiguous or related sites, that

may well be cross-border, to help reduce risk whilst securing the infrastructure. This economy in collaborative working is important for largescale and long-term transport initiatives including long distance cycle routes, public transport networks or route extensions. Collaboration of this nature is particularly advantageous in the planning of larger developments.

1.16 Accordingly, the Council will work with infrastructure and service providers such as Essex County Council, National Highways, the West Essex Clinical Commissioning Group (Integrated Care Services), the water companies, UKPower Networks to identify infrastructure needs and how those needs will be met. Infrastructure for strategic schemes of scale, apart from the water supply and treatment, will normally require joint funding between the public sector and developers. It is vital to understand the costs and cash flow to allow delivery of sustainable infrastructure over the twenty-year span of the local plan, and any development beyond that time horizon: what needs to be delivered, where, how and by whom, how it is funded and made affordable, both the capital cost and funding for future maintenance. The application of standards of efficiency, capacity and minimum compliance with Building Regulations are factors in this equation and provide the baseline to design for climate change.

1.17 Developers and landowners must ensure that the cumulative impact of development on infrastructure is considered and then mitigated or provided for, and at the appropriate time, and in line with the published strategies and guidance of the providers. Mitigation includes one or more of:

- financial contributions towards new or expanded facilities and to their maintenance,
- construction of new provision
- off-site capacity improvement
- the provision of land
- high standards of design and nature of utility infrastructure (e.g. SUDs).

1.18 A shared approach will lead to joint consideration and mitigation and will better support funding applications to major Government financing programmes in a timely way and based on a sound business case for effective delivery. The alignment of the utility company or public infrastructure delivery plan with developers' planning proposals and delivery schedule, with agreed rates of housing delivery, will lead to balanced, healthy, and sustainable communities. To this end, for appropriate developments, the Council will consider the potential for a local delivery vehicle such as a locally led development corporation to be established or other joint working, building on the work of the Memoranda of Understanding and collaboration agreements already initiated with promoters.

1.19 Developers should use the ECC Developer's Guide to Infrastructure Contributions (2021) for county facilities.

1.20 Collaboration with Town or Parish Councils, especially where there is an emerging or adopted 'Made' Neighbourhood Plan, is expected. As of April 2022, there are four Neighbourhood Plans, four awaiting final completion and seven in the early stages of preparation.

Policy INF1 Delivery of Development Infrastructure

Development proposals will only be permitted where proposals demonstrate that they would:

(i) Be supported by appropriate infrastructure that can and will be provided in a timely manner and in accordance with phasing of the development proposals to ensure that appropriate infrastructure is available from the early stages of occupation to help meet the wellbeing needs of occupants and to introduce appropriate travel or other sustainable behaviours.

(ii) Provide on-site mitigation measures or make financial contributions for site specific infrastructure provision, including maintenance and management provision, or contribute to a wider strategic infrastructure scheme essential to the delivery the development proposal. This may also include climate-change related measures such as carbon offsetting and/sequestration, Biodiversity Net Gain proposals as well as utility or transport schemes.

(iii) demonstrate viability over the phases of the Infrastructure Delivery Plan as appropriate

Proposals for large or complex and/or contiguous sites with one or more owner/promoters will be expected to be developed in collaboration between the Council, infrastructure providers, health, and other relevant organisations. Developers should demonstrate timely delivery and that there is sufficient capacity to support and meet all the requirements arising from the new development proposed and over its delivery period.

Phasing and Capacity

1.21 Development may require phasing, both to ensure that new occupants have access to services they need and to minimise disruption caused by development to existing communities or the services they depend on. Phased timely delivery of

development over the Plan period will ensure that there is *adequate supply of housing to meet a five-year supply* throughout the plan period. In this regard, an important role of the Plan is to indicate where and when sites are expected to come forward. At this plan making stage, the Council, with its consultants, will be preparing concept masterplans for larger developments. They will be worked up in more detail for the Regulation 19 submission and as sites come forward, it is expected that developers of all sites will work to capture constraints, an indicative layout and infrastructure issues. This early-phase approach to infrastructure and facility provision is concordant with the council's Building for a Healthy Life approach explored in the Design and Protection chapter.

1.22 Hence each development proposal must consider comprehensively physical, community, social and green infrastructure. Developers will provide evidence as to whether existing infrastructure can be used more efficiently, requires enhancement, or whether the impact of development can be reduced through promoting behavioural change. Permission will not be granted if it cannot be demonstrated that there is appropriate infrastructure capacity to support the development, or that enhanced capacity will be delivered in a timely manner.

<u>Principal Issues Arising from Public Engagement and Evidence Base Studies</u>

1.23 The Local Plan will address the main Infrastructure issues highlighted during the Issues and Options stage. They are:

i. The rural nature of the district has a dispersed settlement pattern with the consequent need to travel to access services and employment; due to a lack of suitable alternatives for many, this results in a significant number of journeys being undertaken by private car and a higher impact on carbon emissions. The local plan aims to reduce this through alignment of growth, infrastructure, employment opportunities, and improved internet, as well as a review of bus services and a safer, more comprehensive cycling network.

ii. Growth will be influenced by strategic policies in adjoining counties and districts including the London Stansted Cambridge Innovation corridor; Ox-Cam Arc Spatial Plan; the A120 Haven Gateway growth corridor; East Herts Strategic Plan; Greater Cambridge growth plans; major developments planned around Harlow and north of Bishop's Stortford.

iii. Strategic infrastructure proposals will have an impact such as: Cambridge South station; A11 improvements; Anglian Water's South Lincolnshire Reservoir and new pipeline that will also serve Uttlesford; A120 improvements around Braintree; enhancements required to the Water Recycling Centre (WRC) at Great Leighs; new junction 7A on the M11 and consideration of upgrades to J8; potential East Herts Rapid Transport System from Hemel Hempstead and potentially to Stansted Airport; growth in passenger capacity

at the airport; West Anglia Mainline plan to increase service frequency and capacity;

iv. There is significant pressure on primary school places due to both new development and demographic pressures from previous consents. New schools are planned at Saffron Walden and Great Dunmow where a new two-form entry school will be required. Primary school expansion is required at Elsenham and growth at Bishop's Stortford may increase demand at Forest Hall School.

v. Pressure on Hatfield Forest as the main strategic open space and compounded impact on protected nature areas arising from visitor pressure; relatively low public access to other open spaces, parks, and gardens because of the predominance of private ownership. The national requirements for biodiversity net gain at a minimum of 10% following the enactment of the Environment Bill may lead to an increased provision of (multifunctional) green infrastructure within development sites. A joint visitor and environmental impact study of Hatfield Forest is in preparation.

vi. GP practices are at capacity. Health and social care services are due to be reformed from 2022 under the new Integrated Care Systems (ICSs); emerging technologies to enable people to access healthcare via the internet could help free up capacity over the plan period.

vii. The over-abstraction of ground and surface water has a negative effect on chalk streams in the district and surrounding area; the water company plans to transport water from elsewhere with no or limited abstractions; these issues are addressed in the Water Cycle Study.

viii. Pressure on the electricity grid and sub-stations arising from increased use of electricity which will grow as the grid capacity and storage needs to accommodate the reduction in use of gas in new building from 2025, growth in electric vehicles and anticipated more people working from home

1.24 Addressing these issues and the growth needs will be through two categories of infrastructure: strategic and site-specific. Strategic infrastructure will support several sites and may extend beyond the local authority boundary supporting the wider pattern of growth, and hence the need for wide collaboration. Site specific infrastructure will serve the development itself, the localised needs of users and occupiers. The strategic infrastructure will require longer term funding, implementation and phasing and co-ordination.

1.25 Analysis of the infrastructure issues and growth suggests that a wide range of infrastructure is likely to be needed. *The table below sets this out and should be regarded as draft and advisory only at this stage*.

[Table 3 contains reference to specific sites and so will be coming to the LPLG on 18 May]

1.26 Growth in Uttlesford will create additional demands for physical, green, and cultural infrastructure. During the series of discussion groups held through the Community Stakeholder Forum, the importance of having the right infrastructure in place at the right time was continually emphasised. Having jobs, people, community infrastructure located within easy reach of each other was considered a major factor in reducing the need for travel but a particular issue for dispersed rural settlement patterns.

1.27 Concepts such as the 15-minute walkable neighbourhood and the Velo-City-Village were discussed. This is an approach to providing a good level of infrastructure in rural areas when it is not possible to have a full range of services in each settlement. The dispersed settlement pattern in Uttlesford is one of its chief characteristics and the balance between retaining the settlement pattern whilst meeting local needs is a challenge for the Local Plan. Effective and sustainable connectivity between villages and the role of the designated larger "rural centres" is a prerequisite for this model for rural development and sustainability. The solutions must be viable, and for example, could consider the provision of co-located or multi-use facilities and mobility hubs.

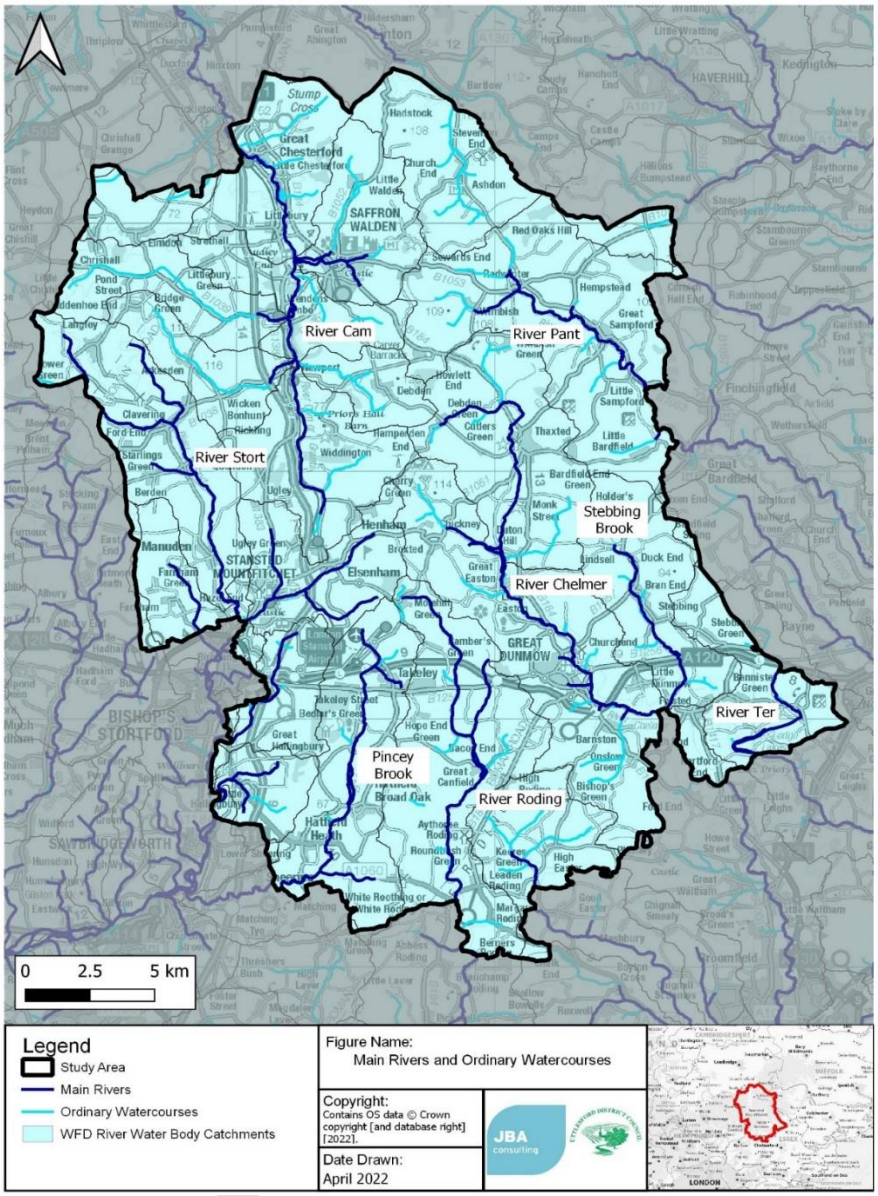
INFRASTRUCTURE POLICIES

Details of policies for transport, water, waste, energy, climate change and community facilities are in the relevant chapters. The policies that relate to utilities infrastructure requirements are in this chapter.

2.0 DRAINAGE AND FLOOD PROTECTION

2.1 ECC is responsible for coordinating the management of flood risk across Uttlesford from flood sources arising from surface water, ground water and ordinary watercourses. The district is located in the headwaters of the Thames and Anglian River Basin Districts (RBDs). In the Thames RBD, the Lee Upper Catchment and Roding Beam and Ingrebourne Catchment are located in Uttlesford. From the Anglian RBD, the Cam and Ely Ouse Catchment and Essex Combined Catchment are located in Uttlesford (See Figure 1). The Environment Agency has a responsibility for the main rivers that are situated within the district, as well as responsibility for maintaining and managing flooding from these rivers.

Figure 1: River and Watercourses in Uttlesford



2.2 Since April 2015, management of the rate and volume of surface water has been a requirement for all major development sites. The optimal level of run-off is that which would occur if the site had not been developed. Slowing the flow by intercepting runoff closer to its source naturally reduces the volume of water reaching an attenuation point, reducing the amount of land taken and increasing amenity. The preferred type of infrastructure to manage surface water is the Sustainable Urban Drainage System (SUD) and it should be integrated from an early stage in the design process.

2.3 Management of surface water at source and on the surface using nature-based designs is preferable to hard engineering solutions. Engineering and landscape design should incorporate natural engineering into practical, sustainable drainage design; for example, interception, ground infiltration and saturation can be designed within a linked system of tree pits. Surface water and run-off to river catchments

need to be addressed not only by SUDs but by appropriate infrastructure responses. Appropriate measures include:

- new wetlands
- permeable surfaces/swales
- rainwater gardens
- retention ponds
- green roofs and walls,
- bio retention areas
- woodland creation and leaky dams in appropriate contexts
- riverbank and channel restoration
- tree planting

2.4 Essex County Council (ECC) is the Lead Local Flood Authority (LLFA) and statutory planning consultee for surface water management for sites:

- that have 10 or more dwellings
- that are larger than 0.5 hectare, where the number of dwellings is unknown
- with a building greater than 1,000 square metres
- larger than 1 hectare

The Local Flood Risk Management Strategy[2] sets out aims and actions to reduce the impact of 'Local' flooding in Essex where 'local' means the risk of water from drainage systems, small watercourses, and rainfall off the land.

2.5 The Sustainable Drainage Systems Design Guide (2020) [3] contains advice relating to surface water drainage and sets out the minimum operating requirements as required in the National Planning Policy Framework (NPPF) for use by developers, designers and consultants who are seeking guidance on the LLFA's standards. The developer should ensure that an appropriate and agreed local management arrangement is in place by the date of the satisfactory completion of the scheme.

POLICY INF2: Water Management and SUDs

All new development must incorporate sustainable urban drainage systems. The SUDs must be integrated in the layout and infrastructure design from early in the process and must have a system and maintenance regime in place before occupation, as approved by the Lead Local Flood Authority (Essex County Council). They must be designed in collaboration with the LLFA and its SUDs guidance and the relevant drainage company

[2] https://flood.essex.gov.uk/media/1293/essex-local-flood-risk-management-strategy.pdf

3 Sustainable Drainage Systems design guide, Essex County Council (2020). Accessed online at: https://www.essexdesignguide.co.uk/media/2404/suds_design_guide_2020.pdf on: 24/01/2022

The SUDs should:

i. Be designed to agreed minimum operational standards including minimising discharge into the sewerage system
ii. Be accompanied by a maintenance regime to ensure the operational standards continue to be reached
iii. Be the subject of an agreement with the responsible management body before the design is implemented
iv. Maximise environmental gain through design for amenity and biodiversity
v. Incorporate measures, in their engineering and design, to protect the quality of the water from pollutants from hardstanding, car parks etc, and improve water quality such e.g. use of reedbeds where circumstances permit.

Local Flood Risk

2.6 The Local Plan's Strategic Flood Risk Assessment (SFRA 2021) suggests several settlements have experienced local flooding in the past. Flood risk is exacerbated by poor management of drains and culverts but the greatest risk from flooding results from ordinary watercourses and surface water. It categorises areas into three zones where there are different risks of flooding based on Environment Agency records. This has been supplemented by a review of recent local flood events in parishes which will become more relevant as individual applications for development come forward. There are no areas of significant or widespread strategic risk. Anglian Water and Thames Water are responsible for addressing flooding impacts from the sewerage system.

2.7 Development proposals will be subject to flood risk assessments to address current and future flood risks with appropriate climate change allowances. All new development will demonstrate that there is no increased risk of flooding to existing properties, and that the proposed development is, or can be made, safe. Development is directed to areas with the lowest probability of flood risk through the site allocations. .

POLICY INF3: Protection from Flooding

New development will be directed away from areas of greater flood risk and will not be permitted in Flood Zone 3. Proposals must have a system in place before occupation and approved by the flood authority, to be made safe from localised flooding and to mitigate the impacts of the development on potential local flooding both on the site in question and elsewhere. Land required to manage flood risk must be designated within the site proposals and masterplan and be safeguarded from built development.

Proposals in areas at risk of flooding must undertake a sequential assessment to demonstrate that no alternative sites are available and the development necessarily must be in this location.

3.0 WATER SUPPLY AND WASTE TREATMENT

3.1 The proposed growth in the District represents a challenge to ensuring that both the water environment and water services infrastructure have the capacity to sustain the level of growth and distribution of development proposed. Planned future growth across the District has been assessed with regards to water supply capacity, sewage capacity and environmental capacity. There are workable solutions to deliver future development along with compliance with the policy recommendations.

3.2 Overall, the district is in an area of water stress and increasingly water supply for growth will depend on efficiencies in usage. The underlying chalk aquifer is of regional, if not national, importance and the Environment Agency currently classifies the surface water and groundwater resources as over-licensed/over-abstracted. There is no additional water available for supply. Addressed in more detail in the Climate Change chapter, developers will be required to show how, through the installation of smart meters and gadgets to control water usage along with rainwater harvesting, water use will be limited to a lower rate than the statutory maximum of 110l/p/day.

3.3 The Water Framework Directive (WFD) 2000/60/EC controls the standards to be achieved for the combined water quantity and water quality. It establishes an integrated approach to the management of all freshwater bodies, groundwaters, estuaries and coastal waters at the river basin level. The Environment Agency is the body responsible for the implementation of the WFD in the UK. It is supported by UKTAG, an advisory body which has proposed water quality, ecology, water abstraction and river flow standards to be adopted in order to ensure that bodies of water including groundwater meet the required status. Standards, and water body classifications are published via River Basin Management Plans (RBMP) the latest of which were completed in 2015. The Environment Agency publishes the status and objectives of each surface waterbody on the Catchment Data Explorer[4].

3.4 The overall requirement of the Directive is that all river basins should have achieved 'good ecological status' by 2015 or by 2027 if there are grounds for derogation. The environmental objectives of the WFD, as published in the Environment Agency's River Basin Management Plans (RBMP)s are:

- to prevent deterioration of the status of surface waters and groundwater,
- to achieve objectives and standards for protected areas,
- to aim to achieve good status for all water bodies or, good ecological potential and good surface water chemical status.

[4] http://environment.data.gov.uk/catchment-planning/

These environmental objectives are legally binding, and all public bodies have to have regard to these objectives when making (planning) decisions that could affect the quality of the water environment. The categories are in Table 4 below:

Table 4. Description of status in the WFD Status Description

High	Near natural conditions. No restriction on the beneficial uses of the water body. No impacts on amenity, wildlife or fisheries.
Good	Slight change from natural conditions as a result of human activity. No restriction on the beneficial uses of the water body. No impact on amenity or fisheries. Protects all but the most sensitive wildlife.
Moderate	Moderate change from natural conditions as a result of human activity. Some restriction on the beneficial uses of the water body. No impact on amenity. Some impact on wildlife and fisheries.
Poor	Major change from natural conditions as a result of human activity. Some restrictions on the beneficial uses of the water body. Some impact on amenity. Moderate impact on wildlife and fisheries.
Bad	Severe change from natural conditions as a result of human activity. Significant restriction on the beneficial uses of the water body. Major impact on amenity. Major impact on wildlife and fisheries with many species not present.

3.5 The consultancy study artificial Water Cycle looked at the availability of water resources for human consumption, its treatment and supply to homes and business, water use and consequently the generation of wastewater. The Water Cycle encompasses how wastewater is taken away, treated, and finally returned to the environment. Each of these phases has potential implications for infrastructure.

3.6 The Water Cycle Study assesses:

- Water resources, demand, and supply
- Wastewater infrastructure and treatment

- Water quality and environmental impact
- Flood risk and drainage
- Impact of water supply and wastewater on chalk streams
- The impact of climate change on water infrastructure

3.7 Developers and the Council will need to work with Anglian Water, Affinity Water, Thames Water, the Environment Agency, and take account of the strategic plans of the regional water resources bodies to ensure there is or will be sufficient capacity and provision of an adequate water supply, foul drainage and wastewater treatment to support growth. In accordance with the Water Framework Directive, adequate water and wastewater infrastructure must be in place to accommodate the demands of growth and development.

3.8 Figure 1 shows the Environment Agency (EA) designated main rivers flow through Uttlesford: the Rivers Cam, Stort, Roding, Can, Chelmer, Ter, Pant and Pincey Brook. Water supply services are provided by Affinity Water (AfW). Wastewater services are provided by Anglian Water (AW) and Thames Water (TW). The Environment Agency (EA) is the environmental regulator with responsibilities for water quality, flood risk and administering licences for water abstraction.

3.9 Each water company publishes a Water Resources Management Plan (WRMP), a 25-year strategy that is updated every five years which assesses future demand, water availability, demand management measures and how the impact of climate change will be mitigated. The WRMP sets out the requirements for developing additional water resources to meet growing demand and reductions in abstraction to meet the company's environmental responsibilities.

3.10 Anglian Water has two water abstraction points to the east of the River Pant within Uttlesford and currently exports 85Ml/day to Affinity Water, supplied from Grafham Water. Anglian Water is part of Water Resources East (WRE). The WRE emerging regional plan covers most of the district, the remainder covered by Water Resources South-East (WRSE) grouping of water companies. One new water supply option under consideration is an Anglian to Affinity water transfer in part supplied by a new reservoir in South Lincolnshire in the 2030s. This may enable the transfer from Grafham Water to Affinity to be reduced, freeing up that water supply to serve growth in the wider region. In terms of the quantum and spatial distribution of growth in Uttlesford these strategic water resource options could come on stream in the mid-2030s and will be infrastructure-facilitating growth, towards the end of the plan period.

3.11 The water companies are working with the Environment Agency to reduce the abstraction of water from groundwater. Anglian Water's approach to reduce abstraction is set out in their 2019 WRMP but if further sustainability reductions are required then Anglian Water will need to consider bringing forward new *supply* options as well as measures to *reduce demand*. The timing of a developer's

proposals and the water companies' implementation plans will not necessarily accord, and developers may be asked to contribute financially towards the improvement of water, sewerage and drainage infrastructure and its maintenance justified by the cumulative impact of the development overall.

3.12 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 works towards the goal of achieving Water Neutrality: offsetting the demand from new homes by improving efficiency in existing buildings. The Government and EA definition is: *"For every development, total water use in the wider area after the development must be equal to or less than total water use in the wider area before development*". For every new significant development, the predicted increase in total water demand in the region due to that development should first be minimised by reducing water use through water efficient design, and then the remaining demand offset by reducing demand in the existing community.

3.13 If this can be achieved, the overall balance for water demand is 'neutral', with no net increase in demand as a result of development. 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. Theoretically neutrality can be achieved within a standalone new developments, through the complete management of the water cycle within that development area. It would require :

- water demand being limited to a minimum:
- all wastewater to be treated and re-used for potable consumption rather than discharged
- maximising use of rainwater harvesting and / or greywater recycling for use in the home;

Achieving 'total' water neutrality within a development requires capital expenditure along with specialist operational skills to maintain the systems. This is the aspiration for larger developments in the District and developers are expected to explore how this can be achieved and build this into proposals from the earliest stages.

3.14 The Water Cycle Study establishes that wastewater treatment capacity must be provided wherever it is required in the district, but there is a carbon cost where wastewater must be pumped over longer distances, and a significant financial and carbon cost should a new Wastewater Treatment Works (WwTW) be required even though this would be accommodated within the water company's business plan. Given the District's growth, the additional volume of treated effluent has the potential to cause a deterioration in water quality if no mitigation is taken. This is worsened where there might be discharge to a water course shown to be sensitive to changes

in treated effluent volumes or into an ecologically sensitive waterbody such as a chalk stream associated with the River Stort or Cam.

3.15 Thames Water (TW) and Anglian Water (AW) are the Sewerage Undertakers (SU) responsible for collection and treatment of wastewater from domestic and commercial premises, and in some areas, the drainage of surface water from building curtilages to combined or surface water sewers. Where development is concentrated this will require extensive "new" infrastructure.

3.16 The following policy reflects the importance of ensuring adequate and timely water supply and treatment infrastructure:

POLICY INF4: Water Supply and Wastewater Treatment

Developers are required to prepare an Outline Drainage Strategy for all developments of ten units or 0.5ha or more which will include water pollution control measures for any discharge into watercourses, water recycling measures, proposed sewage treatment and potential for the re-use of 'greywater' and rainwater capture and use within their development, in order to minimise the use of potable water (drinking water) where it does not need to be used, and to reduce overall water demand.

Developers are required to comply with the Water Framework Directive regarding water quality and aim to raise the status of water bodies as set out in Table 4 in relation to their developments.

Developers are encouraged to engage early with Water Companies' strategies and funding plans, and to allow sufficient lead-in times to ensure that appropriate infrastructure for water supply, sewage disposal to a public sewer and treatment can be made available at the right time to meet the needs of the development. Where necessary, financial contributions will be secured.

Developers are expected to work with the sewerage undertaker early in the planning process to develop an Outline Drainage Strategy. Developments within 30m of an existing public sewer will be required to make a connection to the public sewerage system rather than the septic tanks. Where development is clustered, a public wastewater treatment solution will be required, particularly near sensitive chalk stream.

The Outline Drainage Strategy should be submitted as part of the planning application and satisfactorily address the following:

- What is required to serve the site.
- Where are the assets/upgrades to be located?
- When will the assets be delivered through phasing?
- Which technical delivery route the developer will use e.g. s104 s98 s106 etc.

4.0 COMMUNICATIONS and DIGITAL CONNECTIVITY

4.1 Digital connectivity influences, and increasingly governs social, cultural and economic interactions: ways of doing business, travelling, delivery of health care, shopping, learning, the creative sector and cultural experience. Provision of high-capacity broadband is essential to the lives of residents, to support businesses, remote working and to attract and retain employment opportunity. Land and structures for communications and digital infrastructure should be designed and installed as an integral and essential part of new development.

4.4 Digital connectivity also has an important role to play in addressing climate change by supporting smart technologies. The collection, analysis and sharing of data on the performance of the built and natural environment, including water and energy consumption, air quality, noise and congestion, enables the monitoring of carbon impact. Increasingly it is used in securing the efficient provision of low carbon technology particularly in the home. Developers should therefore fit smart infrastructure, such as sensors, to enable collection and monitoring of such data.

4.5 According to September 2020 data from Ofcom for fixed infrastructure telecoms, connectivity is relatively poor across Uttlesford[5], with 87.5% of properties having access to superfast broadband (download speed of 25 megabits per second [Mbps] or more), against the national average of 94%. Just under 38% properties are able to access ultrafast broadband (100Mbps or more) lower than the national average of 54%. Furthermore, OFCOM estimates that 1.6% of premises in Uttlesford do not meet the Universal Service Obligation (USO), which requires speeds of at least 10Mbps download and 1Mbps upload whereas the national average is 0.7%. New developments are expected to include superfast broadband connections to all new premises[6].

4.6 Essex County Council is overseeing a strategic roll-out programme for superfast broadband across Essex, aiming for ultrafast (or the fastest available) broadband at all new employment and residential developments. Superfast and ultrafast

[5] OFCOM (2020) Data Downloads [online]. Available at: https://www.ofcom.org.uk/research-and-data/multi-sector-research/infrastructure-research/connected-nations-2020/data-downloads

[6] HM Government (2020) Press release: New-build homes to come gigabit-speed ready [online]. Available at: https://www.gov.uk/government/news/new-build-homes-to-come-gigabit-speed-ready

broadband consists wholly or partially of optical fibre elements and is referred to as 'fibre-based' broadband. Open-access infrastructure is preferred, enabling multiple service providers access to end users. Developers are encouraged to engage with communication network providers at the earliest opportunity and to install fibre right to the premises or home.

4.7 Consultation through the Issues stage with the Community Stakeholder Forum during 2020/21 underlined these statistics and the importance of broadband to the local economy. 5.10 Policy INF5 will ensure that new developments are provided with superfast broadband and fibre to the premises. For some of the rural areas, it may be that alternative technologies to provide broadband such as fixed wireless technology or radio broadband are more viable. The most up to date broadband infrastructure should be used in new developments.

Policy INF5: Digital Connectivity Provision

All new development must be served by a fast and reliable broadband connection to the premises. Connection should include the installation of appropriate cabling within the homes, business units and community buildings as well as an enabled connection to at least one main telecommunications network, installed on an open access basis.

Communications infrastructure should be designed and installed as an integral part of development proposals and to be available from first occupation. The most up to date broadband infrastructure should be used.

Applicants will be required to submit a scheme for approval to demonstrate how the development will provide digital connectivity. They are expected to work with broadband and mobile service providers to ensure that the provision of future-proofed high speed broadband infrastructure and service provision is available, including connections to buildings. This should be by full fibre connection to the premises (FTTP) and 4G or 5G mobile connectivity.

Developer contributions towards off-site works will be required as necessary to enable those properties to access superfast broadband, either via fibre optic cable or wireless technology in the future.

With regard to minimising environmental impact applicants should demonstrate that:

i. visual impact is minimised through design of equipment and location
ii. applications for a new mast or base station should demonstrate that the applicant has explored the possibility of erecting aerials on an existing building, telecommunications site or mast and that, when operational, ICNIRP guidelines will be met

iii. the proposal does not cause unacceptable interference with other equipment or air traffic control

iv. applications for an additional mast to a site are accompanied by a statement that the cumulative exposure, when operational, will not exceed guidelines set by the International Commission on Non-Ionizing Radiation Protection (ICNIRP)

5.0 Renewable Energy Infrastructure

5.1 One of the key issues for onshore wind power is the change in approach by the UK Government in 2015 when onshore wind projects were excluded from the Contracts for Difference (CfD) funding scheme which used an auction mechanism to guarantee a price for renewable energy generation[7]. The CfD omission caused a major drop in onshore wind capacity in England until the decision was reversed in 2021 and the April 2022 statement by the UK Government on onshore wind restored limited CfD support.

5.2 Government also affirmed their position to prioritise putting local communities in control pledging to consult during 2022 on developing local partnerships for a limited number of supportive communities who wish to host new onshore wind infrastructure in return for benefits, including lower energy bills. There is theoretical capacity for onshore wind generation Uttlesford. Mean wind speed data indicates that larger turbines would be viable and although there are restrictions around Stansted airport. there may be rural areas where energy generated per hectare would be relatively high. In line with the Government approach Community projects including direct use of wind power by residents are supported by local planning policy.

5.3 There are some issues to consider:

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 -Wind turbines may interfere with the proper operation of radar capacity to handle air traffic, and aircraft instrument landing systems. 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[8]. Turbines may affect weather radar operated by the Meteorological Office.

Defence - The Ministry of Defence needs to be consulted if a proposed turbine is 11m to blade tip or taller, and/or has a rotor diameter of 2m or more.

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[7] [1] Planning considerations for local planning authorities were set out at https://www.gov.uk/guidance/renewable-and-low-carbon-energy

[8] 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

Shadow Flicker Under certain circumstances and time 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; the impact is known as 'shadow flicker'. Only properties within 130 degrees either side of north, relative to the turbines are affected at UK latitudes. Planning conditions can be imposed to control wind turbines to avoid shadow flicker. Turbines can also cause flashes of reflected light, which can be visible for some distance, but this can only be ameliorated, not prevented.

5.4 The Zebra Carbon *draft* Renewable Energy Strategy (2022) identifies onshore wind as a component of the potential growth in renewable energy infrastructure. The recommendations are draft, and more work is needed for the next stage of plan preparation to:

- Designate broad areas suitable for wind turbines
- Set criteria for consideration of impacts, including requirements for particular layouts or clustering of turbines to reduce landscape impact.
- Clarify nature of community support and any specific requirements
- Set out policy for siting other major renewables including solar arrays/farms and of site selection, particularly in relation to agricultural land classification
- Set out policy to supporting the repowering of wind turbines and solar arrays where they improve efficiency or increase generating power acknowledging that repowering might reflect technological improvements.
- Set out environmental/biodiversity net gain as part renewables installations
- Set out policy relating to the siting and design of battery storage facilities
- Set general policy relating to safeguarding of renewable resources

5.5 There is a phenomenon that when a number of geographical, seasonal and time conditions combine, the blades of wind turbines can cast a shadow over neighbouring properties due to the sun passing behind them. When the blades rotate, they cast an intermittent shadow. If this is experienced through a narrow window opening, it can cause a 'shadow flicker' where the shadow cast into the property appears to flick on and off. This phenomenon only affects properties which are located within 130 degrees either side of north relative to the turbine, and up to 10 rotor diameters of the windfarm and very occasionally can affect people who suffer from epilepsy.

POLICY INF6: WIND ENERGY

Wind energy development proposals will be permitted where they are located in a 'suitable area'

i. and are for the repowering of an existing wind turbine or turbines comprising a wind 'farm';

ii. demonstrate how any impacts on health or amenity are to be mitigated, and including resolution of impacts affecting existing dwellings and

communities from scale, noise, light, glare, smell, dust, emissions, flicker, traffic operations, radar and air navigational installations and microwave communications

iii. do not impact on wildlife, especially bats and birds.

iv. that the land not occupied by the turbine(s) and ancillary equipment following construction is available for its original use, e.g., arable farming;

v. the development includes a mechanism for the local community to share in the benefit of renewable energy generation

vi. and are to be located on community, commercial or agricultural buildings

Developers must consult the relevant safeguarding bodies, the MoD, CAA and NATS as well as operators of other aerodromes and radar systems as early as possible in the process of developing wind energy proposals. Any highlighted impacts on radar and/or aircraft operation must be appropriately mitigated to the satisfaction of the relevant safeguarding bodies.

Applicants must demonstrate that the proposed development has regard to the Uttlesford District Council's Noise Assessment Technical Guidance and is assessed to the satisfaction of the Local Planning Authority[9] such that sources of noise and vibration generated by the development are adequately mitigated to prevent loss of amenity for existing and future occupants and land uses. Further assessments should be submitted to cover the noise impacts of the construction and decommissioning phases of the development. If it is proven that a development has significant noise impacts on surrounding communities then it will be refused.

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

[Add supporting text for solar energy]

POLICY INF7: SOLAR ENERGY

Solar energy development proposals will be supported for buildings and mounted installations encouraged where they are focussed on previously developed land and away from higher quality and most productive agricultural land unless justified.

It is expected that in non-residential development on employment, community and agricultural buildings that have roofs which are structurally adequate; within car parks, mobility hubs and along roadsides, that solar energy/pv installations should be included unless it can be demonstrated that is not feasible to do so.

6.0 MINERALS and WASTE MANAGEMENT

6.1 The management of minerals and waste are Essex County Council functions and their plans and policies constitute part of the Development Plan suite for the consideration of planning applications. In Essex the main minerals produced are sand and gravel aggregates. Developers must comply with the county's Minerals Plan and Waste Strategy.

6.2 The County Council is the Joint Waste Planning Authority responsible for waste and runs the only recycling centre for household waste, the Saffron Walden Recycling Centre which operates at near capacity though there are around 22 smaller and local sites.

6.3 The national commitment is to have no waste being sent to landfill, and the waste hierarchy is followed by minimising the volume of waste generated, addressing waste as a resource in itself to re-use or recycle, and disposal as the last option. The County Council is in the process of reviewing the Waste Strategy[10], currently to 2032, that will address need for waste treatment facilities. The district

[10] Essex and Southend-on-Sea Waste Local Plan (2017)- https://assets.ctfassets.net/knkzaf64jx5x/5MMZ5nNFmOClpF56igb0Jc/e6f7ab4cba4ed1198c67b87be7b375e7/waste-local-plan-2017-compressed.pdf

council needs to have sufficient permitted recycling/re-use to meet the additional requirements arising from growth, both domestic and from business.

6.4 Commitment to the waste hierarchy is important and allows for the potential to produce energy from waste in the future, including agricultural and biomass waste. It is not predicted that this will be a major source of energy production in the district but heat so generated could be used on farms or within a community heat network:

6.5 Developments should be designed to reduce construction waste and to re-use or recycle materials as much as possible. If there are usable mineral resources on or near site it may be possible to use these in consultation with the County Minerals officers. As far as is feasible, materials should be processed as much as possible by companies in the District or wider area, to keeping the supply chain short and local. The Climate Change chapter highlights policy on sustainable construction.

7.0 DELIVERING INFRASTRUCTURE

7.1 Critical to the delivery of the homes and employment needed over the local plan period is the supporting infrastructure and its viable delivery integrated with the phases of development. Some infrastructure, such as transport improvements and energy provision will have adverse environmental impacts that need to be mitigated and this may require additional land to be set aside, for example SUDs control, carbon sequestration or biodiversity net gain areas. Underlying the plan is the challenge of climate change and the need to be resource efficient, utilising natural measures of control and renewable energy, and to be adaptable for new technology in helping to reduce carbon emissions.

7.2 Infrastructure delivery, particularly at the strategic scale and for the wider utility network, must be undertaken by developers in collaboration with the providers, public sector agencies, and the District and County Councils. These organisations have worked on the IDP that sets out the viability and phasing of infrastructure in the broadest sense. As new development goes through the planning and implementation process on site the IDP will be reviewed and re-focused to help ensure delivery is coordinated. There will be circumstances where joint applications for public funding or joint delivery arrangements are sought.

7.3 The infrastructure falls into one of three categories:

- *Critical* - essential and enabling development reflecting the hard physical infrastructure such as investment in transport, utilities, waste, energy, drainage, communications.
- *Necessary* – broadly the social infrastructure from health, education, social care, emergency services, sports and recreation, and green infrastructure

required for nature recovery, carbon sequestration and biodiversity net gain mitigation. The timeliness of delivery of the necessary infrastructure works is important to sustainable communities and settlement extensions; without this provision, employment and housing development cannot proceed.

- *Desirable* - infrastructure required for the sense of cultural wellbeing and to capture the environmental and biodiversity needs associated with climate change; some of these infrastructure elements are more aspirational, such as the creation of quiet greenways or the provision of an arts performance space, but which are contributors to what a sustainable community *means*.

Funding

7.4 The Council will pay a key role in supporting funding profiles, helping ensuring sufficient funding at the right time, especially where significant forward (and Government) funding is required such as the M11 Junction 8 works, and collaborating on delivery arrangements. There are several sources:

- Capital mainstream funding
- Developer section106 obligations
- Government department funding and investment programmes
- Strategies and investment programmes by utility providers.
- Government grant schemes
- Other Government funding from Sport England or through the NHS etc
- A Community Infrastructure Levy. The council will explore CIL where the developer contribute a standard charge for each infrastructure element.

Section 106 Agreements

7.5 Section 106 Agreements are voluntary agreements between the developer, council, and any other relevant body with an interest in the development such as the County Council. They are attached to planning permissions and require contributions to a range of infrastructure over the phasing of the development including revenue contributions to run services such as the youth service, community development worker or monitoring. They must be related to the development and contribute to mitigation, necessary to allow the development to proceed and the level should be in proportion to the development proposed. The Council may require developers to provide an open book viability assessment

Delivery Considerations

7.6 In order to deliver the plan or any item arising from the development proposals, developers and landowners must work constructively with the Council, neighbouring authorities, and other infrastructure providers throughout the planning process, and

especially for complex and more infrastructure-heavy proposals because of cumulative effects and higher costs. Agreement on a programme of delivery with efficient, pacey build-out rates, especially for new community(ies) will be expected.

7.7 The Council is preparing an SPD on Developer Contributions that will outline the required approach.

POLICY INF8: DEVELOPER CONTRIBUTIONS

For the purposes of this policy the widest reasonable definition of physical, social, and environmental infrastructure and providers will be applied.

Developers will work towards addressing all aspects of climate change and to work towards achieving a development that is carbon net zero or carbon net zero-ready, including renewable energy and as resource efficient buildings as possible. Developers should establish sample monitoring systems to ensure maintenance of operational standards to reduce any performance gap and to continue to try to achieve net zero outcomes.

Developers will demonstrate that there is sufficient infrastructure capacity available or can be provided, enhanced, or made available off site to meet all the requirements arising from the development proposal.

Developers will make appropriate land or financial contributions to achieve the infrastructure through section106 agreements to meet any such deficiency if the infrastructure is not to be provided directly on site. Developers should refer to the County's Guide to Developer Contributions for calculations of contribution towards council facilities and services[11]. Contributions will be required for an agreed maintenance period for relevant .

Where a Viability Assessment is requested it must assume explicitly that standards and policy requirements relating to renewable energy/energy efficiency/water conservation/biodiversity net gain etc are in the baseline case and that they should not be treated as extra burdens on the viability. Developers should submit an open book Viability Assessment that may be subject to an independent scrutiny by appointed experts at the applicant's cost.

[11] The Essex County Council Developers' Guide to Infrastructure Contributions (2020) https://assets.ctfassets.net/knkzaf64jx5x/5aKhke88Ey5zkdMvSQj44w/0d71817cad70b9394d76e7a490ac7bd7/developers-guide-infrastructure-contributions.pdf

Appendix: Table 5 Developer Contributions Required by Essex County Council Service Area, March 2022

Service Area	Trigger for contribution	Expected Contribution
Early Years and Child Care	20 dwellings +	Pupil product (0.045 per flat, 0.09 per house) x £20,508 (cost per place) for a new facility (co-located with school or standalone) and where expansion of existing facility is required £17,268 (cost per place). Land for a new facility.
Education – Primary	20 dwellings +	Pupil product (0.15 per flat, 0.3 per house) x £20,508 (cost per pupil) Land for a new school.
Education – secondary	20 dwellings +	Pupil product (0.1 per flat, 0.2 per house) x £24,929 (cost per pupil). Land for a new school.
Education – special needs	2000 dwellings +	Bespoke
Education – Post 16	20 dwellings +	Pupil product (0.01 per one bed flat, 0.02 per 2+ bed flat, 0.04 per house) x £23,962 (cost per pupil) (the need will be assessed on a case-by-case basis, contributions are only required where necessary. Land for a new school (as part of a secondary school).
School Transport	20 dwellings +	Primary - £11.40 x 190 days x 7 years = £15,162 per pupil Secondary - £5.30 x 190 days x 5 years = £5,035 per pupil
Employment and Skills	50 dwellings	Employment and Skills Plan
	200 dwellings and/or 2500 sqm employment floorspace	Residential - £2,000 per 1000 sqm floorspace Commercial – dependent on net additional employment Employment and Skills Plan
Highways and Transportation	All Development	Highway works via S278 notices, contributions and/or commuted sums for maintenance.
Sustainable Travel Planning	All development	Travel packs in all cases, travel plans for 80 + dwellings. Work travel plans on employment sites with 50+ employees.
Passenger Travel	All development	Bespoke contributions for • small sites – funding towards bus infrastructure; • medium sites – fund diversions to existing routes or contribute to a new route; • large sites – provide a transport service. • Commercial sites as required.
Public Rights of Way	Development where there is a PROW	Contribution to or appropriate works carried out and arranging temporary or permanent diversions. Cycle Track Conversion Orders to be provided as necessary.
Waste Management	New communities	Bespoke on case-by-case basis.
Libraries	20 dwellings +	Where required (per dwelling) £244.92 library extension, £77.80 to upgrade existing facilities.
Flood and Water Management	Major sites	Ensure provision of SuDS on major sites. Commuted sums for maintenance of SuDS as required.
Monitoring Costs	All S106 agreements	£550 per obligation. Bespoke payments on complex and/or major sites 1000+ dwellings. To include operational energy monitoring as required in new county buildings such as (carbon net zero) schools.

List of Tables and Figures