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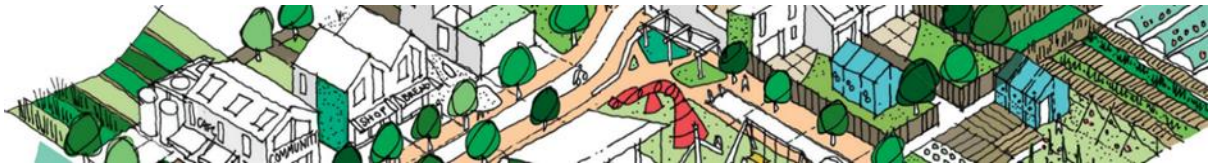

INDEPENDENT EXAMINATION

Tendring Colchester Borders Garden Community (TCBGC)
Development Plan Document (DPD)

HEARING STATEMENT – LOCAL PLANNING AUTHORITY

Main Matter 8 – Sustainable Infrastructure (GC Policy 8: Sustainable Infrastructure)

April 2024

Tendring District Council

Colchester City Council

1. INTRODUCTION

1.1 This document is Tendring District Council (TDC) and Colchester City Council (CCC) "the Councils" response to the Matters, Issues and Questions identified for examination by Inspector Graham Wyatt of the Planning Inspectorate, as published on 4 March 2024 (IC3). This is one of nine separate response papers produced by the Councils to address the specific matter and issue as identified on the front page.

1.2 Each response paper includes a number of references to specific evidence which has been relied upon in answering the matters, issues and questions. These reference numbers relate directly to the Examination Library website, where all evidence is published:

Tendring Colchester Borders Garden Community Development Plan Document: Examination Library | Creating a Place for Life (tcbgardencommunity.co.uk)

1.3 As a result of a full and comprehensive review by the Councils of all Regulation 19 representations, and following positive and cooperative engagement with statutory bodies and stakeholders through Statements of Common Ground (SoCG), a series of modifications have been recommended to the DPD Policies and supporting text. Where relevant these modifications are referred to throughout the Councils' Hearing Statements and a full schedule can be found in the 'Schedule of Modifications' (CC4).

2. RESPONSE TO INSPECTOR'S QUESTIONS

Main Matter 8 – Sustainable Infrastructure (GC Policy 8: Sustainable Infrastructure)

Are the requirements of the Policy justified by appropriate available evidence, having regard to national guidance, and local context?

2.1 Yes, GC Policy 8 is justified by appropriate available evidence, having regard to national guidance and local context.

2.2 In December 2015, the UK joined forces with 195 countries to endorse a ground-breaking international accord aimed at curbing climate change. The Paris Agreement compels nations worldwide to reduce greenhouse gas emissions to avert the direct consequences of global warming. The UK's Climate Change Act, established in 2008, sets a target to slash net carbon emissions to 20% of 1990 levels by the mid-21st century, with five-year carbon budgets setting interim targets and tracking progress. This ambition has been bolstered by subsequent laws mandating a transition to net zero greenhouse gas emissions by 2050 and the latest, Sixth Carbon Budget[1], sets a target of a 78% reduction in emissions by 2035.

2.3 The Climate Change Committee[2] warned in their 2022 report to Parliament that the UK is off target and rapid and deep cuts to emissions must be made in all sectors to get on track. It is therefore imperative that the built environment sector does not delay and plays its full role in tackling climate change. Evidence[3] prepared for Essex County Council (ECC) shows that

[1] Carbon Budget order 2021 - https://www.gov.uk/guidance/carbon-budgets#setting-of-the-sixth-carbon-budget-2033-2037
[2] https://www.theccc.org.uk/wp-content/uploads/2022/06/Progress-in-reducing-emissions-2022-Report-to-Parliament.pdf
[3] Essex Net Zero Evidence | Essex Design Guide

delivering net zero carbon homes and buildings now is technically feasible, financially viable and legally justified.

2.4 The Climate Change Committee's May 2019 report, "Net Zero – The UK's contribution to stopping global warming," proposed the net zero goal. The committee found that achieving this target is feasible with current technology and changes in behaviour. It detailed strategies for various sectors; for instance, it recommended that the building sector could reach net zero through enhanced efficiency, heat pumps, low carbon heat networks and electrification. Primary legislation sets out Local Planning Authorities' (LPAs) statutory obligations and duties and in doing so establishes the critical role of the planning system in mitigating and adapting to climate change, which is further bolstered by national policy.

2.5 Section 19 (1A) of the Planning and Compulsory Purchase Act 2004 (P&CP Act 2004) requires that development plan documents must include policies designed to secure that development of land in the local authority's area *"contribute to the mitigation of, and adaptation to, climate change."*

2.6 Reflecting this, the National Planning Policy Framework (NPPF) explicitly identifies climate change mitigation and adaptation as core objectives in Paragraph 8 and Section 14. To be in conformity with the NPPF, local development plans should reflect this principle, ensuring that planning policy clearly and comprehensively deals with climate change mitigation and adaptation.

2.7 Furthermore, paragraph 152 of the NPPF states how the *"The planning system should support the transition to a low carbon future in a changing climate"* and how it should help to *"shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure."*

2.8 Paragraph 153 explains that *"Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures[53]. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts."* (Footnote 53: *"In line with the objectives and provisions of the Climate Change Act 2008.").*

2.9 Footnote 53 as noted above, makes it clear that the proactive approach to mitigating and adapting to climate change must be in line with the objectives and provisions of the Climate Change Act 2008 (which includes the Carbon Budgets and targets). In addition, the Planning and Energy Act 2008 (PEA 2008) empowers local authorities to set their own energy efficiency standards in their development plan documents.

2.10 The recently updated (26 February 2024) open legal advice Energy and Building Regulations published on the Essex Design Guide provides a useful assessment of current climate science, relevant legislation and national policy. The purpose of the advice is to make publicly available consistent and clear justification for local energy efficiency policies that local authorities and planning inspectors can rely upon in examinations if they wish.

2.11 In 2019, Colchester City Council (CCC) and Tendring District Council (TDC) acknowledged the pressing need to address climate change by declaring climate emergencies. CCC and TDC have respective net zero emissions targets they are committed to achieving by 2030.

2.12 Following climate emergency declarations across Essex, ECC established the Essex Climate Action Commission (ECAC), bringing together the skills and expertise of 30 independent commissioners, drawn from a range of public, private, and third sector organisations to help develop a co-ordinated approach to addressing climate change. It was launched in May 2020 for an initial term of two years and has since been extended for a further three years. The commission will run until 2025.

2.13 In July 2021, ECAC published its report 'Net Zero: Making Essex Carbon Neutral' which set out a series of recommendations, that were adopted in full by ECC and endorsed by Essex LPAs. Among these was the recommendation that all new homes and commercial buildings granted planning permission in Essex should be zero carbon by 2025, and carbon positive by 2030.

2.14 ECAC acknowledges that nature is our most effective ally in reversing climate change, playing a vital role in carbon absorption and storage. The report suggests that the risks posed by changing weather patterns – including increased flooding, overheating, soil degradation, subsidence, and water shortages – can be addressed by creating space for green infrastructure and preserving our natural world. The report emphasises that if Essex is to become a net zero county by 2050, the majority of the work needs to be accomplished in the next decade. ECAC provides recommendations in the report that are both necessary and achievable for Essex to be net zero by 2050. Many of these measures must be implemented, or at least well underway, by 2030 if not before. ECAC believes that the measures detailed in the report will also lead to an enhanced natural environment for public enjoyment and a thriving economy that benefits local employment and livelihoods. By transforming Essex into a net zero county, it can evolve into a sustainable, flourishing place to live, work, and enjoy leisure activities.

2.15 GC Policy 8 is founded upon a robust evidence base, and evidence has been established by TDC, CCC, ECC, ECAC and other LPAs within Greater Essex collaboratively (available on the Essex net zero evidence page of the Essex Design Guide Essex Net Zero Evidence | Essex Design Guide). The primary objective of the evidence base is to ensure that net zero carbon development in Essex is technically feasible, financially viable, and legally justified and ensures for a clearly defined and consistent planning policy approach towards achieving net zero carbon development in Greater Essex. By doing so, it aims to offer much-needed certainty and clarity to the development industry and other stakeholders.

2.16 Drawing upon the evidence base, a planning position document, collaboratively prepared by the Greater Essex local authorities led by the Climate and Planning Unit of ECC, sets out a 'model policy' approach for Essex to net zero carbon development along with explanatory text and reasoned justification. The published 'model policy', is in line with best industry practice and is recommended to LPAs in Greater Essex to embed in their Local Plans (and other associated planning documents). The model policy is currently being embedded in emerging Local Plans. The model policy uptake into Local Plans ensures that all new homes and buildings in Essex will achieve a consistent, clearly defined, net zero carbon (in operation) standard that aligns with local and national climate targets and delivers high quality, healthy, energy efficient, climate resilient homes and buildings.

2.17 The recommended 'model policy' for net zero carbon homes and buildings, published in the Essex Design Guide, aligns with best practices recommended by leading industry bodies and experts (such as the South West Energy Hub), by incorporating easily understandable, measurable and verifiable energy metrics. Furthermore, it harmonizes with the 'net zero' energy metrics policies adopted by other local authorities as well as the UK Net Zero Carbon Buildings Standard which is being developed by BBP, BRE, the Carbon Trust, CIBSE, IStructE, LETI, RIBA, RICS, and UKGBC.

2.18 In line with the Climate Change Committee's 2019 guidance, the policy emphasises that new homes should achieve ultra-high levels of energy efficiency as swiftly as possible, with a target of achieving this by 2025. Specifically, this corresponds to a space heat demand of 15-20 kWh/m²/yr. Incorporating these energy-efficient features from the outset is estimated to cost only about one-fifth of retrofitting to the same quality and standard (as highlighted on Page 14 of the UK Housing: Fit for the Future Report 2019). Also, the amount of energy needed for space heating by residents is reduced by over 70% (Net Zero Carbon Viability and Toolkit Study | Essex Design Guide Toolkit study - Technical Appendix, Three Dragons, Qoda and Ward Williams, August 2022). Minimising energy demand helps shield residents from potential future energy price shocks. In 2021, 11.4% of Essex residents lived in fuel poverty and this has likely increased since the energy crisis started emerging in 2022 post invasion of Ukraine.

2.19 Another part of the 'Net Zero' evidence base for Essex includes a 'Net Zero Carbon Viability Study' conducted by Three Dragons consultants. This study assessed the financial feasibility of constructing buildings to higher energy efficiency standards (similar levels of efficiency achieved in the Passivhaus standard) while integrating non-fossil fuel heating and renewable energy technologies. The findings indicated that building to this standard was viable for most development types across the majority of Essex.

2.20 The 'Net Zero Policy Study for Essex' by Introba, Etude and Currie & Brown (Net Zero Policy Study) progressed the recommendations of the 'Three Dragons study' and explored the technical feasibility of building to a clearly defined net zero carbon in operation standard that aligned with climate targets and addressed both regulated and unregulated energy uses of a building. This Study included detailed costings of the policy approach recommended building upon the work within the three dragons study. The cost findings achieved within this study found a similar or lower prospective costs for net zero building developments in Essex compared to the findings within the 'Three Dragons report', which is positive for viability. The costs findings within both studies falls within the allowance earmarked for improved building standards in the 'Financial Viability Assessment' by Gerald Eve (EB24).

2.21 GC Policy 8 outlines that the Tendring Colchester Border Garden Community will serve as an exemplary development in taking climate positive action towards climate mitigation and addressing the climate crisis in Essex. It will foster the creation of energy-efficient, sustainable structures and spaces that enable communities to adopt climate resilient, low-carbon lifestyles. Above and beyond energy efficient buildings that produce renewable energy to match demand the development will include measures to reduce non sustainable travel and create a biodiverse environment that supports carbon sequestration and natural flood management. The emphasis is on achieving the ultimate goals of a net-zero carbon development and maximized water efficiency through optimal solutions, which may evolve over time.

Part A: Net Zero Carbon

2.22 GC Policy 8 Part A requires the construction of buildings with net zero carbon emissions thanks to energy efficiency, no fossil fuel use on-site and renewable energy generation. This is in line with the current industry definition of net zero carbon in operation developed and supported by LETI (Low Energy Transformation Initiative), UKGBC, CIBSE, RIBA and others (Essex Net Zero Policy Study).

2.23 It includes specific requirements in terms of space heating demand and Energy Use Intensity (EUI). EUI represents a building's total annual energy consumption. The definition is based on work undertaken by LETI to align building energy performance with climate change objectives. In their climate emergency design guide, LETI outlines specific energy targets. They emphasise that this approach is crucial for meeting the UK's climate goals (where all buildings must achieve net zero operational energy/carbon on a national scale).

2.24 The definition also includes the need to incorporate renewable electricity generation and to seek a balance between total annual energy use and annual energy generation. Research conducted by Etude, Bioregional and Currie & Brown (for Cornwall and Greater Cambridge Councils) demonstrates that this is both technically achievable and economically viable across various development types. The technical evidence specifically produced for Essex (and published on the Essex Design Guide in July 2023) also supports and adds weight to these findings. To achieve this principle, it is necessary to have high standards of fabric efficiency, use low carbon heat, use efficient and smart systems, and maximise onsite renewable energy generation.

2.25 The metric recommended by the 2023 Written Ministerial Statement (WMS) (% improvement over the Target Emission Rate, TER) is a single performance metric which amalgamates into one metric the building's efforts in terms of energy efficiency, low carbon heat and renewable energy generation. This is not ideal as objectives can be traded off against each other (e.g. less energy efficiency, more renewable energy generation).

2.26 GC Policy 8 Part A is based on a slightly different approach. It uses a set of three metrics to separately measure each of the key attributes needed to achieve Net Zero:

- Space heating demand (kWh/m^2.yr) for energy efficiency (fabric and ventilation)
- EUI (kWh/m^2.yr) for energy efficiency (including system efficiencies)
- Energy balance (kWh/m^2.yr) for renewable energy generation.

2.27 Having a dedicated metric per key objective helps to deliver a minimum or threshold performance for each objective. This avoids 'trading' between the different objectives and recognises each as being essential components of a Net Zero Carbon new building. Furthermore, as the grid decarbonises, there is a real risk that looking only at the carbon emissions (as the TER does) will dilute the differences between buildings. A move towards energy metrics would ensure the ability to distinguish and support good building design is maintained. Finally, the TER does not include CO_2 emissions from equipment and appliances. This represents approximately 50% of energy use in an ultra-low energy home.

2.28 GC Policy 8 Part A is supported by robust evidence and is soundly based in its current from as submitted.

2.29 In consideration of the developing evidence position since the submission of the DPD, relating to net zero carbon development that has been established collaboratively between the

Greater Essex local authorities and the recent update to the Essex Design Guide, the Councils would like the opportunity to explore the potential for possible modifications to the wording of GC Policy 8 Part A.

2.30 As such, to ensure better alignment with the Essex Design Guide, a modification is suggested to the Inspector to explore the opportunity to revise the quantitative standards within the Part A of GC Policy 8 and, additionally, for these standards to cover non-residential buildings. The suggested modification reflects the findings of the recent technical evidence and ensures alignment with the updated Essex Design Guide. The Inspector is invited to consider whether revised wording along the following lines, as detailed within the 'Schedule of Modifications' (CC4) would be appropriate:

- *The space heating demand for homes and buildings is being revised to 15 kWh/m2 Gross internal floor area (GIA) /yr or less (except bungalows which can be 20 kWh/m2 GIA/yr or less)*
- *And total energy consumption (energy use intensity) is being revised to 35 kWh/m2GIA/year or less for residential and for non-residential buildings:*
  - *70 kWh/m2 GIA/year or less for offices*
  - *65 kWh/m2 GIA/year or less for schools*
  - *35 kWh/m2 GIA/year or less for light industrial*

2.31 These suggestions, or similar amendments, could help to ensure that all new homes and buildings mitigate, adapt and are resilient to a changing climate, and reflect the recommendations of the most up-to-date evidence available and 'model policy' published on the Essex Design Guide. The suggested modification does not impact or change the key requirement of the policy for homes to be net zero carbon.

Part B: Design and Construction

2.32 Part B of GC Policy 3 deals with the design and construction of new buildings. The Governments Heat and Buildings Strategy (October 2021) outlines the need to eliminate virtually all emissions arising from heating, cooling and energy use in our buildings. Paragraph 133 of the NPPF states that local planning authorities *"should ensure they have access to, and make appropriate use of, tools and processes for assessing and improving the design of development".* Also, the National Model Design Code Part 1 (para.66) explains that *"standards relating to sustainability are important and can be incorporated into codes or other policy, and the detail of inter-related requirements resolved at project level."* Amongst the standards suggested by the National Model Design Code are passive energy design and BREEAM. Both Passivhaus and the appropriate BREEAM standard are reflected within GC Policy 8. BREEAM and Passivhaus energy targets, similar to those within the net zero Essex model policy do not conflict and can work in tandem to achieve a low carbon sustainable development.

Part C: Renewable Energy

2.33 GC Policy 8 Part C outlines that the Garden Community aims to derive a substantial portion of its energy from renewable sources. To fulfil the net-zero carbon requirement, we must implement renewable energy technologies. The ECAC recommendation for Essex involves generating enough renewable energy within the county to meet its own demands by 2040. Solar photovoltaics (Solar PV) play a crucial role due to their affordability, rapid installation, and strong performance. As a result, they should be standard features in new construction

projects, integrated into roof design, this is also a key part of the net zero Essex model policy. According to the Low / Zero Carbon & Smart Energy Appraisal study conducted by Hydrock in February 2022 (EB24), solar PV installations are anticipated across the site.

Part D: Water Conservation and Wastewater

2.34 GC Policy 8 Part D suggests a water standard of 110 litres per day per person. Through their Regulation 19 Representations Affinity Water and Anglian Water (Anglian Water Reg.19 rep and Affinity Water Reg.19 rep) have confirmed that they are supportive of the measures introduced by this policy. However, both water authorities recommend that the DPD should introduce new policy text for water efficiency and reuse given the scope for, and policy drivers to deliver rainwater/storm water harvesting and reuse and greywater recycling, meaning that the requirement of a standard of 110 litres/person/day (l/p/d) can be more ambitious.

2.35 Both Anglian Water and Affinity Water suggest that the government's Environment Improvement Plan (Water Efficiency Roadmap) intention to require 100 l/p/d in water stressed areas should be used as a minimum, with developers required to meet this and encouraged to demonstrate how they can go further utilising integrated water management and a fittings-based approach to minimise potable water use. The Councils have continued to engage with both water bodies on this matter and have completed a SoCG (SGC02) with Anglian Water which has resolved the outstanding concerns through the suggested modification. This has resulted in the inclusion of a suggested modifications as agreed with Anglian Water and outlined within the 'Schedule of Modifications' (CC4).

2.36 A SoCG has also been prepared with Affinity Water covering the same notable points. Whilst informal agreement has been received, the SoCG it has not yet been formally signed. An update will be provided to the Inspector in advance of the Hearings.

Part E Green-Blue Infrastructure

2.37 Green-Blue Infrastructure plays a pivotal role in enhancing biodiversity, managing floods and droughts, promoting soil health, improving air quality, mitigating the urban heat island effect, and fostering human health and well-being. Within the Garden Community, the specific requirements for green-blue infrastructure are outlined in GC Policy 2. To effectively address climate change, we must make evidence-based choices when selecting plant species. A diverse planting palette, featuring resilient and adaptable plants—particularly those that thrive in drought conditions—will be crucial. By doing so, we can establish a robust and resilient green infrastructure network that benefits both people and wildlife over the long term.

Part F: Digital and Fast Technology

2.38 Ultra-fast Gigabit broadband and the provision of fibre to the premises (FTTP) infrastructure is essential for work-life balance, flexible working, non-commutable working, and progress towards net zero carbon communities. Paragraph 114 of the NPPF states *"advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being. Planning policies and decisions should support the expansion of electronic communications networks, including next generation mobile technology (such as 5G) and full fibre broadband connections. Policies should set out how high-quality digital infrastructure, providing access to services from a range of providers, is expected to be delivered and upgraded over time; and should prioritise full fibre connections to existing and new*

developments (as these connections will, in almost all cases, provide the optimum solution)". GC Policy 8 therefore reflects the requirements of the NPPF.

Part G Materials

2.39 GC Policy 8 Part G states that proposals must be submitted with a whole-life carbon assessment (WLC). Whole life-cycle carbon emissions, or embodied carbon, are the carbon emissions resulting from the construction and use of a building over its entire life, including its end-of-life demolition and disposal. Other Local Authorities have adopted this approach; a whole life carbon assessment is currently required by the London Plan (Adopted March 2021) and associated guidance. The RICS Whole Life Carbon Assessment for the Built Environment second addition provides a comprehensive way to gauge and reduce a buildings carbon footprint. The overall objective is to ensure the minimum overall lifetime carbon emissions, and maximum lifetime resource efficiency. The Essex Net Zero Policy Position and evidence base accords with RICS WLC assessment guidance.

Part H Minerals – Prior extraction

2.40 GC Policy 8 Part H requires proposals to take account of mineral deposits within the site as the Garden Community is located within a Mineral Safeguarded Area in the Essex Minerals Local Plan (MLP), which forms part of the Development Plan. The NPPF makes clear that minerals are a finite natural resource, and can only be worked where they are found, best use needs to be made of them to secure their long-term conservation (para. 209). The Minerals Planning Authority requires a Mineral Resource Assessment in compliance with the MPL to demonstrate how the scheme reflects and takes advantage of the opportunities afforded by prior extraction, so as to avoid sterilisation of mineral sites and identify potential improvements afforded by extraction. These opportunities will influence and be reflected in the Garden Community masterplan.

2.41 Considering the aforementioned points, the policy is justified. It draws from rigorous research and evidence, aligning with national objectives while being tailored to the specific local circumstances. Furthermore, it is supported in both national policy and local precedent. The stipulations of the policy are viable and implementable, ensuring its overall robustness.

Does the Policy provide clear direction as to how a decision maker should react to a development proposal?

2.42 Yes, the Council submits that the GC Policy 8 provides clear direction as to how a decision maker should react to a development proposal.

2.43 The policy sets out a number of clear policy requirements, articulating the ultimate objectives of a net zero carbon development and water efficiency.

2.44 It describes the detailed requirements for proposals, such as achieving net-zero by reducing energy demand, ensuring efficient systems and renewable energy technology are in place, and minimizing carbon dioxide emissions, offering a clear roadmap for decision-makers. The policy establishes quantifiable standards for new homes and commercial property. It allows flexibility for changes acknowledging that optimal solutions are likely to evolve over time, granting decision-makers the adaptability to embrace new technologies and strategies

as they emerge. The policy lists the information requirements for the planning application and provides guidance on compliance for the applicant and the decision maker.

2.45 By offering clear goals, comprehensive requirements, measurable standards, and guidance on demonstrating compliance, the Policy provides a thorough and lucid framework for decision-makers to adhere to in the development of sustainable infrastructure. This clarity can contribute to ensuring that the Garden Community accomplishes its sustainability objectives.

END.