

APPENDIX 2

STATEMENT OF CONSULTATION ON THE DRAFT SUSTAINABLE DESIGN AND CONSTRUCTION SUPPLEMENTARY PLANNING DOCUMENT

December 2019

1. Summary of Consultation Measures

- 1.1 Consultation took place from 16th July to 6th September 2019. The Supplementary Planning Document (SPD) supplements policies in the Local Plan, and at the time the outcome of the Local Plan Examination was not known. However, it was considered to be essential to undertake the consultation on the assumption that the Local Plan would be found sound, to enable adoption of the SPD as soon as possible after Local Plan adoption.
- 1.2 Consultation involved contacting all those on the Council's planning policy consultation list, which includes a mix of statutory consultees, businesses, voluntary and community organisations and interested individuals. The document was also published on the Council's website and was available to view in Reading Borough Council libraries and in the Civic Offices.

2. Summary of Responses

- 2.1 A total of 17 responses were received.
- 2.2 The following points were raised by respondents:
 - All respondents expressed support for the general themes of the SPD and agreed that RBC must take urgent action to address CO² emissions and reduce energy use generally.
 - Many respondents provided helpful technical detail with regard to sustainable design and construction methods.
 - Some respondents felt the SPD does not go far enough in addressing carbon emissions and energy use. (However, officers would like to reiterate that the SPD cannot introduce new policy requirements in and of itself. The SPD is limited to supplementing the standards which have already been adopted in the Local Plan.)

- Some respondents felt that references to certain technologies, such as biomass, should be removed because they are out-of-date or have air quality implications.
- Historic England requested that the SPD references specific considerations for heritage assets as sustainable design and construction interventions have the potential to cause harm to the historic environment.
- Some developers felt that the SPD imposes undue burdens on developers that will slow or deter development or make development unviable.
- Some respondents expressed doubts that BREEAM is the best tool for improving sustainable design and construction and suggested that other measures be used, such as Passivhaus, Minergie or LEED.
- Some respondents expressed concerns that district heating systems would not be achievable.
- Some respondents recommended that as-built energy performance be assessed consistently at the end of the planning process in order to ensure actual compliance with standards, as opposed to simply evaluating schemes at design stage.
- Some respondents suggested that the document go into further detail regarding the natural environment, such as biodiversity enhancement, landscape enhancement, protected species and habitats.

2.3 Detailed summaries of each individual representation, as well as a response from the Council are included below:

Name	Representation	Council Response
Bedford, Chris	<ol style="list-style-type: none"> 1. In table 3.1, some acknowledgment is needed under conversions and refurbishments that the required standard may not be achievable in the case of listed buildings, and it may be helpful at some point in the document to indicate the kinds of measures (underfloor and loft insulation, secondary glazing, reinstatement of window shutters etc) that may be appropriate in such cases. 2. The prescriptions in 4.3 have profound implications for townscape and sense of place. Large free-standing commercial buildings clearly offer considerable flexibility in matters of layout. When it comes to housing, however, sustainable building requires a complete re-think of housebuilders' approach to design and layout, so the principles need to be robust, but those set out here perhaps represent just one of a range of possible design strategies. At Bedzed in Mitcham, for 	<ol style="list-style-type: none"> 1. Change proposed. 2. In order to futureproof the SPD it is considered that it is best to avoid very prescriptive language. The SPD is not intended to be a technical guide. Nevertheless, a change is proposed to clarify that these suggestions represent just one of many possible strategies. 3. Change proposed. 4. It is agreed that the wording is overly prescriptive and that a reference back to Local Plan policies is preferable. 5. Change proposed. 6. Change proposed. 7. It is considered that detailed construction and demolition measures are not within the scope

	<p>example, these ideas lead to single-sided streets and extra access roads. They would in any case be inappropriate for most infill development (though on many sites orientation of at least part of the roof can be tailored to the needs of solar panels) and this needs to be acknowledged. Even for larger sites, the principles set out represent a far too narrow approach. They appear to rule out, for example, north-south rows of one room deep houses with large-windowed single storey projections at the rear - a form that could harness substantial solar gain while maintaining a conventional street. Solar conservatories should be allowed for (an important element at Bedzed): they collect and store (in the adjacent wall) solar heat which can then be redistributed as required (4.5 acknowledges the efficiency of mechanical ventilation) and can provide ventilation by convection in summer, as well as space for plants that could improve indoor air quality.</p> <ol style="list-style-type: none"> 3. 4.6 should mention earth sheltered housing, which as well as benefitting from the low temperature variations in the ground can enable infill housing to be built on difficult sites. 4. More intensive development and re-development for housing in those suburban areas with good access to services and public transport is vital if car use is to be reduced. Para 5.8 should be re-worded to make it clear that it is not ruling out building on gardens. Many of these in any case comprise grassed areas with a few shrubs and do little for CO2 reduction, and their loss can be offset by better quality planting over a smaller area. 5. 6.6 should mention that most SUDS techniques must be avoided on extensively contaminated sites. 6. The embodied energy in building materials is touched on in 7.4, but is not just a waste issue. Choice of materials deserves separate and fuller treatment, and an appropriate expansion of points 11 in table A1.1 and 19 in A1.2 (with embodied energy taken together with durability and re-use/recycling potential). 	<p>of this part of the SPD, and are covered by Local Plan policies. This will be required at application stage.</p> <ol style="list-style-type: none"> 8. Change proposed. 9. This appendix describes the technologies rather than providing a full range of planning considerations. Proposals will need to be considered against other policies, which includes impact on air quality under EN15. 10. A change is proposed to deal with air-source and ground-source heat pumps in more detail, and this refers to variations in efficiency.
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	<ol style="list-style-type: none"> 7. 7.8 should flag the need to consider disposal of contaminated water during demolition and construction, particularly where sites adjoin watercourses. 8. In Table A1.2, point 27, 'runoff' should be followed by 'or infiltration'. 9. Appendix 2h should mention recent research at Imperial College and elsewhere that has identified a range of adverse health effects from domestic wood burning. One study equated the particulate output of a domestic wood stove with that of four idling diesel lorries. Mr Gove as Environment Secretary mooted the possibility of banning all domestic wood burning even in DEFRA approved apparatus. Reading has a regrettably patchy coverage of smokeless zones, but even where restrictions apply and are complied with, no control applies to the height of chimneys so that smoke may not be dispersed away from neighbours. Para h should bring local health issues into the equation and indicate that the acceptability of biomass burning in new development depends on an efficient combustion and dispersal of smoke that can normally be achieved only in a large scale plant. 10. Appendix 2l could usefully mention the drawbacks of air source heat pumps (efficiency variable depending on temperature, noise in operation.) 	
Chambers, Donald	<ol style="list-style-type: none"> 1. The overall approach of planning policy supporting green buildings (both new and refurbished) is supported, but it needs to be backed up with support from the Building Regulations Section at RBC to ensure contractors do what they are supposed to do, and also to try to persuade people who are undertaking works that do not require planning permission to also adopt green building approaches. 2. A general criticism is that the document focusses too much on energy and carbon reduction. This approach is prima facie supported by the government, which talks about a move towards a carbon neutral economy and that means the planning and construction sectors have to be planning 	<ol style="list-style-type: none"> 1. Noted. Building Control at RBC is not within the scope of the SPD, but planning works closely with building control officers and private suppliers to ensure that developments meet ambitious sustainability standards. 2. The SPD cannot introduce new policy and must comply with the approach outlined in the National Planning Policy Framework and this is why the SPD focuses on energy use and carbon reduction. Detailed technical requirements are outlined through BREEAM. Matters such as sourcing of materials are considered through

	<p>development and building more sustainably. The National Planning Policy Framework (NPPF) provides a foundation for the RBC policies. However, sustainable buildings are about more than carbon energy use and planning policy needs to consider wider matters such as VOCs in paints and adhesives, user comfort and the sourcing of materials. This is mentioned in paragraph 3.3, but the wording is weak in that it states "Sustainability Statements typically require the developer to take consideration...". There should be a requirement to consider and design in these wider sustainability matters. BREEAM possibly does this (I am more familiar with the United States' LEED requirements than BREEAM), but the document is weak in this respect and needs to be clearer that they are an integral part of sustainable design and build, not an add-on or after thought.</p> <ol style="list-style-type: none"> 3. Table 3.1 - support the requirement to meet green building standards but is BREEAM the best set of standards or are there residential equivalents from elsewhere that can be adopted, e.g LEED or Passivehaus? 4. Paragraph 3.9 - will the price per tonne of CO2 be kept under review? It is likely to change over time and inflation will diminish the impact of the contribution. 5. Paragraph 6.1. The growth in the number of households does not cause a rise in per capita consumption. The document makes an odd link between high use of water and flooding - I am not aware that these two are linked. 6. Are Wokingham and West Berks preparing similar standards otherwise developers will try to go across the border. 	<p>the Sustainability checklist.</p> <ol style="list-style-type: none"> 3. The SPD cannot introduce new policy, and supplements the Local Plan which requires BREEAM Very Good or Excellent. It is considered that BREEAM is the most widespread evaluation method. Requiring compliance with a less well-known system would likely increase administration burdens, as well as burdens on developers. 4. Change proposed. 5. The paragraph states that increasing population increases consumption generally, not per capita. It does not state that consumption and flooding are linked, but states that they exist alongside one another. However, it is agreed that a change can make this clearer. 6. It will be for those authorities to consider the standards that apply. However, it is not considered that RBC's policy approach will have the effect of discouraging development within the Borough.
Cowling, Tony	<ol style="list-style-type: none"> 1. This document lacks a lot of SMART targets these should be: Specific, Measurable, Attainable, Realistic, and Time bound. Without these the document has very little meaning and cannot be validated in any way. The word target is mentioned but the language of the document is often vague, consider, where possible etc. There is an idea that reductions will be achieved at a rate of about 7% per annum but it will become 	<ol style="list-style-type: none"> 1. Reading is currently reviewing its Climate Change Strategy to respond to the climate emergency, and these issues are best addressed there rather than in a SPD with limited scope. 2. The units in the SPD reflect the London Plan approach, and the now-adopted Local Plan

	<p>increasingly difficult to make further savings and this problem ought to be addressed in this document.</p> <ol style="list-style-type: none"> 2. There are many references to energy and energy efficiency and I feel that it would be prudent to translate the carbon dioxide numbers in to kW, hWh or better still kWh/m2/a as these figures would then be absolute and measurable rather than optional carbon targets given. 3. There is a far too heavy reliance on BREEAM and a robust low energy standard should be adopted. A recent project in Norwich and there are similar initiatives in Exeter already with others following suit is, as an example, in the link below https://www.theguardian.com/artanddesign/2019/jul/16/norwich-goldsmith-street-social-housing-green-design 4. Zero carbon needs to be clearly defined. 5. Update Reading's carbon target in paragraph 1.10. 6. Paragraph 1.16 - "we are consulting on the basis that is will <i>be</i> adopted as to include ..." 7. Paragraph 2.1 - "carbon reductions" 8. Paragraph 2.2 - "actively supporting energy <i>use reduction and energy</i> efficiency improvements" 9. Paragraph 2.5 - It will become increasingly difficult to make these reductions as the graph going forward is not linear and so greater reductions will be needed in the earlier years and this fact should be addressed and targets set in this document. This should also be addressed in Paragraph 2.8. 10. Paragraph 2.8 - "High standards of energy efficiency" needs to be defined. BREEAM is not a sufficiently high standard and should refer to Minergie or Passive House. Retrofit measures are already mandated during renovations, but this is not enforced or publicised. We need to move forward with a massive programme of retrofitting entire streets and districts and in some cases, demolitions. Mitigation measures like cavity wall insulation is no longer enough. 11. Paragraph 2.10 - CC2: BREEAM is not a sufficient standard and any building built to this standard now will have to be 	<p>policies, and the language used in the Building Regulations.</p> <ol style="list-style-type: none"> 3. The SPD cannot introduce new policy, and supplements the Local Plan which requires BREEAM Very Good or Excellent. It is considered that BREEAM is the most widespread and well-established standard that will decrease the administrative burden on both developers and the Council. 4. Zero Carbon is clearly defined both within policy H5 that this document supplements, and throughout the document itself. 5. These sections have been updated. 6. These sections have been updated. 7. Change proposed. 8. Change proposed. 9. These sections have been updated. Changes to targets are best addressed there rather than in a SPD with limited scope. 10. The SPD cannot introduce new policy or amend policies within the Local Plan. It can only provide detail to support the Local Plan's implementation. The SPD is not intended to outline large scale retrofitting programs or mitigation measures. The funds raised through the implementation of Policy H5 will contribute to such projects. 11. The SPD cannot introduce new policy or amend policies within the Local Plan. It can only provide detail to support the Local Plan's implementation. 12. The SPD cannot introduce new policy or amend policies within the Local Plan. It can only provide detail to support the Local Plan's implementation.
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	<p>retrofitted with further measures before 2050 at prohibitive costs and huge disruption. Therefore, these measures should be built in now. There is a strong case to go with defined energy use standards now for both new build and renovations/retrofit.</p> <p>12. Paragraph 2.10 - CC4: This should require that reduction of energy use is considered in the first instance in the design stage.</p> <p>13. Paragraph 2.10 - EN18: I would caution against stating that SuDS will help protect people and property from flooding as this leaves the Council open to legal action when it fails.</p> <p>14. Paragraph 2.10 - H5: Yes, this is good but does not achieve the 2050 targets. We need to exceed these targets by a reasonable margin to address upgrading existing housing stock.</p> <p>15. Paragraph 2.12 - "...for users over of the lifetime..."</p> <p>16. Paragraphs 3.2 and 3.3 should emphasise energy use reduction at the design stage.</p> <p>17. Paragraph 3.4 - "...renewable technologies, including additional insulation, combined heat and power, heat pumps..."</p> <p>18. Table 3.1 - All developments should be treated equally in this section i.e. not above or below ten dwellings. All dwellings should meet the higher standard.</p> <p>19. Paragraph 3.7 - Use "Zero Carbon" consistently, rather than "carbon neutral"</p> <p>20. Table 3.3 - There are problems with both SAP and EPC, but post-occupancy testing is need with similar contributions to S106 payable for underperformance. There is typically a performance gap between designed and delivered standards.</p> <p>21. Paragraph 3.9 - This should always be possible. Saying "where possible" is leaving the door open.</p> <p>22. Paragraph 3.9 - Figures should be defined in terms of energy and not CO₂</p> <p>23. Paragraph 3.9 - Should refer to post-occupancy testing and reporting at the end of the first year of occupation.</p>	<p>13. This reference is to the entirety of policy EN18, not just SuDS, and is therefore accurate.</p> <p>14. The SPD cannot introduce new policy or amend policies within the Local Plan. It can only provide detail to support the Local Plan's implementation.</p> <p>15. Change proposed.</p> <p>16. Change proposed.</p> <p>17. Change proposed.</p> <p>18. The SPD cannot introduce new policy or amend policies within the Local Plan. It can only provide detail to support the Local Plan's implementation.</p> <p>19. This reference specifically makes the distinction between 'carbon neutral' and 'zero carbon', but a change is proposed for greater clarity.</p> <p>20. Noted. Change proposed to structure the payment trigger points around post occupancy evaluations.</p> <p>21. The SPD cannot introduce new policy and the Local Plan as adopted contains this language to provide flexibility and ensure viability.</p> <p>22. The SPD cannot introduce new policy or amend policies within the Local Plan. It can only provide detail to support the Local Plan's implementation.</p> <p>23. Noted. Change proposed to structure the payment trigger points around post occupancy evaluations.</p> <p>24. Change proposed to the potential spend of carbon offsetting contributions, although this will need to be kept under review.</p> <p>25. Change proposed.</p> <p>26. Change proposed.</p>
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	<p>24. Paragraph 3.11 - This list should be ordered differently and needs to be thought through.</p> <p>25. Paragraph 3.27 - "...have been incorporated <i>into</i> the design from..."</p> <p>26. Paragraph 4.3 - "...a summer afternoon/<i>evening</i>. Main living or..."</p> <p>27. Paragraph 4.3 - "...Landscaping, <i>in particular design of natural shading by trees and plants</i> also has a role..."</p> <p>28. Paragraph 4.5 - This paragraph is poor and needs to be rewritten, focussing on appropriately design ventilation. The title should be "ventilation."</p> <p>29. Paragraph 4.6 - Experts no longer talk about thermal mass, but simply about mass.</p> <p>30. Paragraph 4.6 - "Thermally massive materials should be internally located (i.e. <i>inside the insulation layer</i> so that the internal air [...] from the diurnal and inter-seasonal <i>and day to day</i> stabilising effects."</p> <p>31. Paragraph 4.7 - "...minimum with maximum <i>high levels of</i> airtightness. [...] adequate ventilation <i>is always a requirement</i>. without draughts is essential to avoid condensation problems."</p> <p>32. Paragraph 4.10 - omit the section in brackets</p> <p>33. Paragraph 6.3 - This is a dangerous suggestion. Grey water is difficult to deal with on a small scale and breaches many water regulations.</p> <p>34. Paragraph 6.4 - This should be point 6.1.</p> <p>35. Paragraph 7.5 - "reduce (<i>i.e. avoid use in the first place</i>)"</p> <p>36. Paragraph 7.8 - state that waste sent to landfill will exacerbate problems with pests</p> <p>37. Paragraph 7.8 - "development should consider" presents a problem. Developers can consider, then rule it out.</p> <p>38. Paragraph 7.9 - Greywater recycling, composting toilets and on-site food composting are laudable but should be deleted.</p> <p>39. Section 8 - Heat networks can be exceedingly disruptive to install and in the UK have proven very difficult to make work,</p>	<p>27. Change proposed.</p> <p>28. Some changes are proposed to this paragraph.</p> <p>29. No change proposed. 'Mass' also has other connotations in planning, and it makes sense to distinguish in a planning document.</p> <p>30. Change proposed.</p> <p>31. Change proposed.</p> <p>32. Change proposed.</p> <p>33. Designing buildings to accommodate greywater recycling is a requirement of CC2. However, a reference to regulations can be included.</p> <p>34. Change proposed to move this paragraph forward, although it should still start by outlining the issue.</p> <p>35. Change proposed.</p> <p>36. Whilst this may be true, it is not a key outcome that is relevant to the scope of the SPD.</p> <p>37. The specific measures that are appropriate to achieve the policy will vary from site to site. However, the overall content of CC5 is a requirement, and a change is proposed to reflect this.</p> <p>38. Change proposed in part - composting toilets have specific requirements under the Building Regulations and would be better not to refer to here. Greywater recycling is part of policy CC2.</p> <p>39. Changes proposed to amend references to district heating and emphasise requirement for developers to prepare for connection in future.</p> <p>40. The issues with biomass are already reflected in the table, which merely describes an assessment that has been undertaken.</p> <p>41. This will need to be assessed as proposals</p>
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	<p>particularly after the first major maintenance bill. Schemes will not be implemented without major input from the Council. Developers will circumvent these requirements and are reactionary.</p> <p>40. Paragraph 8.3 - Biomass should not be considered in our urban environment which already has severe air quality issues.</p> <p>41. Paragraph 8.4 - In my opinion, this will freeze rivers in low flow conditions. The total amount of extractable heat depends on flow.</p> <p>42. Table A1.2 - Point 5 may directly conflict with the reduction of light pollution.</p> <p>43. Table A1.2 - Point 29, NO₂ is generally a pollutant produced from transport, not buildings.</p> <p>44. Appendix 2 - e. Solar Thermal Heating Systems, these are so similar to 'd' that they should be omitted.</p> <p>45. Appendix 2 - f. "...connected to the natural National grid..."</p> <p>46. Appendix 2 - g. small scale wind energy is not suited to the urban environment and should not get planning permission. When sited near buildings they lose a lot of output.</p> <p>47. Appendix 2 - h. again, biomass is inappropriate. It is best to omit this section.</p> <p>48. Appendix 2 - j. "...a gaseous product composing composed of methane [...] power a boiler <i>or both at the same time in a CHP system, but this is unlikely to be viable on a small scale.</i>"</p> <p>49. Appendix 2 - k. "...make use of the natural heat capacity in the soil [...] Water A fluid is pumped through the pipes absorbing the ground heat, which can be used to provide relatively cheap heating for building in the winter months and cooling in the summer months. It works best with underfloor heating systems in maximising the heating and cooling effect <i>utilised by a heat pump to provide heating or cooling in a building, for heating in domestic buildings underfloor heating is appropriate, but for cooling and heating commercial units, forced air systems work best.</i>"</p>	<p>develop.</p> <p>42. This is not necessarily the case, and a balance will need to be struck.</p> <p>43. NO₂ may also arise from other sources such as manufacturing processes, and it should therefore continue to be referred to.</p> <p>44. Change proposed.</p> <p>45. Change proposed.</p> <p>46. This section does not set out to discuss the merits of each technology, and some small-scale turbines do not require planning permission.</p> <p>47. This section does not set out to discuss the merits of each technology, and a proposed change at the beginning of the section clarifies this.</p> <p>48. Change proposed.</p> <p>49. Change proposed.</p> <p>50. Change proposed.</p> <p>51. These are quotes from adopted policies and cannot be changed.</p> <p>52. These are quotes from adopted policies and cannot be changed.</p> <p>53. These are quotes from adopted policies and cannot be changed.</p> <p>54. These are quotes from adopted policies and cannot be changed.</p> <p>55. Change proposed.</p> <p>56. Change proposed.</p> <p>57. Change proposed.</p>
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50. Appendix 2 - i. "... an internal heat pump and a pressured hot water tank [...] unit draws air across the water and anti-freeze solution and transfers this energy into the refrigerant. The refrigerant boils and the gases from this are compressed to produce temperatures in excess of 100 degrees C. **through a heat exchanger and delivers heated or cooled air into the building.** [...] heat pump or more traditional low temperature radiator or convector system. Air sources heat pumps are ideal for very tight spaces and within an eco-architectural design or within the design of a building which has large internal spaces such as audience halls and public places."
51. Appendix 3 - "New buildings shall be oriented ..." This is a contradictory statement as the sun shines from the south and the prevailing wind comes from the southwest. The orientation of a building has often been determined by the planners so that this is now a departure whereby the planners are now asking the applicant to point the building within thirty degrees of due South.
52. Appendix 3 - "...such as solar shading, **high levels of insulation and airtightness**, thermal mass..."
53. Appendix 3 - CC4 - This is complex and unlikely to happen as intended.
54. Appendix 3 - Again, this document refers to BREEAM but this standard is not as robust as it ought to be and does not have a good record for delivery. A robust low energy standard should be adopted like Minergie or Passive House. Failing that, an overall energy demand or heating demand figure should be settled on. Bear in mind that we do not want to have to retrofit buildings built between now and 2050. Our standard needs to have target figures for energy use measure in kWh/m²/a and these need to be quite low, say 15kWh/m²/a.
55. Appendix 4 - Net CO₂ emissions, "...dwelling CO₂ emissions (KkgCO₂/m²/yr)"
56. Appendix 4 - Renewable and low carbon energy, "...from biomass and geothermal **heat within the substrate.**" Note

	<p>that biomass is not a low carbon technology and is producing carbon faster than the planet can absorb it. Supply chains are being ramped up when they need slowing down.</p> <p>57. Appendix 4 - TER, “...emissions per m² (KkgCO₂/m²/yr)”</p>	
<p>Friends of the Earth</p>	<ol style="list-style-type: none"> 1. Context: It is difficult that the Local Plan was revised before Reading declared a Climate Emergency, and when the Climate Change Strategy revision to run beyond 2020 had not been completed. However we understand that the SPD must relate to the Local Plan as approved by central government so unless central government changes its regulations the Local Plan cannot be changed to call for lower carbon standards that will be required to meet the Borough’s revised ambitions. 2. On-site storage: There seems to be no consideration of facilities to be designed-in for on-site storage of waste/recycling or for storage of bicycles, motor-bikes or other low-carbon transport equipment. 3. Electric Vehicles: There seems to be no consideration of facilities to be designed-in for charging electric vehicles. 4. On-site Batteries: There seems to be no consideration of facilities to be designed-in for accommodating on-site batteries to store electricity - from on-site PV or to be purchased from the grid at off-peak rates. 5. Retro-fit: Planning regulations cover extensions and changes to existing buildings as well as new-build. This document appears to focus solely on new-build when improvements to existing stock are urgently needed to reduce carbon emissions and (we hope) there will be far more buildings retrofitted than newly-built in the next decade. 6. 1.3 “Reading has set out its commitment to become a zero carbon city by 2050.” Comment: Reading has now committed to aim for carbon neutrality in 2030 not 2050. Zero carbon and carbon neutrality are not well-defined - working definitions should be supplied. ‘Carbon Neutrality’ is assumed to relate to emissions within the Reading area with an allowance for gas and electricity generated elsewhere but consumed in Reading, 	<ol style="list-style-type: none"> 1. Noted. 2. These matters are covered elsewhere within the Local Plan. 3. These matters are covered elsewhere within the Local Plan. 4. This could be one way of development meeting its sustainability requirements, but is too prescriptive to apply to each development. 5. The SPD can only supplement policies which are already in place in the Local Plan. These are not restricted to new build only, and the SPD applies to refurbishment as well as new build. However, the SPD does not have the ability to require retrofit. Funds raised through the carbon offset contributions may help to fund retrofitting projects within the Borough. 6. These sections are amended to take into account the Climate Emergency and the associated commitments. 7. These sections are amended to take into account the Climate Emergency and the associated commitments. 8. Change proposed. 9. Noted. Embodied carbon is an important consideration, but the SPD cannot introduce new policy. It is considered that introducing detailed technical requirements will increase the administrative and financial burden on both the Council and developers and may reduce flexibility in the future. However, additional references in the Sustainability

	<p>but not to include emissions elsewhere to provide other goods or services consumed in Reading, or to provide transport used by Reading residents. Offsetting and ‘net zero ‘(first used in 1.10) should also be defined.</p> <p>7. 1.10 ‘Reading Borough Council’s Climate Change Strategy entitled ‘Reading Means Business on Climate Change - Reading’s Climate Change Strategy 2013 - 2020’. Comment: Not referring to the revised version expected early 2020 means this document will be out of date soon after it is issued. However, as in our introduction, this will not make much difference because the SPD has to reflect the adopted Plan. Carbon footprint reduction targets should relate to the aim of carbon neutrality by 2030.</p> <p>8. 2.5 This section should also refer to the government’s legislation in late June 2019 committing the UK to a target date of 2050. https://www.gov.uk/government/news/uk-becomes-first-major-economy-to-pass-net-zero-emissions-law.</p> <p>9. 2.8 - see comments on 1.3 and on 1.10 above. This is the only reference to ‘embodied carbon’ in the whole document. Developers should be made to account for embodied carbon in their buildings. A typical house is said to embody 50 Tonnes of CO2 - about 5 to 10 years’ typical UK per capita emissions. If Reading allows 700 new homes to be built per year that could be 3,500 tonnes per year ...</p> <p>10. 2.10 As covered in Reading FoE submissions to the Local Plan Examination the BREEAM levels required will not necessarily have very substantial or even any impact on carbon emissions - BREEAM scores are built up from several factors. BREEAM ‘Very Good’ and ‘Excellent’ standards require respectively no credits and 6 credits for CO2 reduction as a minimum standard. See our comments on CC2 in http://www.reading.gov.uk/media/8658/LP007-Full-Copy-of-Representations-on-Pre-submission-Local-Plan-alphabetical-L-R/pdf/LP007_Full_Copy_of_Representations_on_PreSubmission_Local_Plan_(alphabetical_L-R).pdf</p>	<p>checklists now refer to embodied carbon in materials.</p> <p>10. Noted. It is considered that the BREEAM standards within the Local Plan represent an increase on existing requirements but also provide for flexibility and viability. The SPD cannot change the BREEAM levels required by the Local Plan.</p> <p>11. Noted. Some changes are proposed, to deal with the matters of energy and emissions and embodied carbon. However, to be a requirement of planning policy, the Sustainability Statement must relate to adopted policies not other targets.</p> <p>12. It is considered that cost information will quickly become out-of-date.</p> <p>13. The SPD should refer to the units used in the Building Regulations for consistency, and as that is the Local Plan policy requirement.</p> <p>14. Changes to this section make clear what is meant by zero carbon.</p> <p>15. Change proposed to the potential spend of carbon offsetting contributions, although this will need to be kept under review.</p> <p>16. Change proposed.</p> <p>17. Change proposed.</p> <p>18. Change proposed.</p> <p>19. This section does not set out to discuss the merits of each technology. Changes are proposed to another section to consider district heating/CHP, and this describes the disadvantages of some of the technologies, including where gas-fired.</p> <p>20. This section does not set out to discuss the merits of each technology. Changes are</p>
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	<p>11. 3.3 Sustainability Statement should start with requirement to detail how the development is to contribute to Reading's progress towards carbon neutrality. (See comment on 1.3). Energy use and carbon emissions are not the same thing - they will depend on the technology used to supply energy to the development. Should address 'embodied carbon' - see comment on 2.8.</p> <p>12. 3.4 Suggest include reference to cost information on ground-sourced, water-sourced and air-sourced heat-pumps.</p> <p>13. Does Target Emission Rate (TER) cope well with varying carbon footprint of electricity generation - both hour-by-hour and year-by-year? As TER is a per m² measure it isn't very helpful in absolutely reducing emissions - low TER will be easier to achieve in larger buildings which may have higher emissions? Need a target for carbon emissions per occupant at a standard occupancy level.</p> <p>14. 3.7 Suggest put 'Zero Carbon' in inverted commas and provide a link to a definition.</p> <p>15. 3.11 From the point of view of the developer this is really only for information? Perhaps omit the list? But we hope RBC will be auditing the efficacy of spend of offsetting funds.</p> <p>16. 4.5 It seems sensible to have provision for 'natural ventilation' but buildings must also be able to be made air-tight to reduce energy demand for heating or cooling in extreme weather. With anticipated higher summer temperatures some level of air conditioning may well be widely adopted. This fits well with heat-pump heating systems and ventilation systems with heat recovery and electricity from solar panels on hot days.</p> <p>17. 4.9 and 4.10 - Green roofs and walls deliver certain benefits but may increase the embodied carbon in a building, and may have running/maintenance costs of energy and water use. These and associated carbon footprints should be accounted for in any such proposals. See T2SP1.9 of CC Strategy Action Plan.</p> <p>18. 5.5 Deciduous trees can shade on-site solar panels, require</p>	<p>proposed to another section to consider district heating/CHP, and this describes the disadvantages of some of the technologies, including where gas-fired.</p> <p>21. This section does not set out to discuss the merits of each technology, and a proposed change at the beginning of the section clarifies this.</p>
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	<p>maintenance to prevent accidents, can undermine buildings, and shed leaves into drainage systems. These downsides should be acknowledged and developers should explain how they will be addressed.</p> <p>19. Appendix 2: b. CHP/CCHP - need to address whether (and how) any carbon emissions from fuels will be addressed in context of net-zero targets. Inspector changed the Local Plan on this point. Government proposals to stop use of natural gas for heating should be mentioned. Implications for air quality of other fuels should be discussed.</p> <p>20. Appendix 2: c. District Heating - need to address whether (and how) any carbon emissions from fuels will be addressed in context of net-zero targets. Government proposals to stop use of natural gas for heating should be mentioned. Implications for air quality of other fuels should be discussed.</p> <p>21. Appendix 2: j. Energy from Waste. Need to look very hard at CO2 implications of any such proposals, as well as air quality.</p>	
Hammerson PLC	<p>1. Envision has been instructed by Hammerson to make representations towards the draft Sustainable Design and Construction Supplementary Planning Document which has been published for consultation up to 6th September 2019. Hammerson operates the Oracle Centre in Reading. As a leading developer and operator of retail properties across the UK and Europe, Hammerson has a vested interest in the sustainability of buildings, both new and existing. It is noted that the draft SPD does not set new policy, however provides further explanation towards the planning requirements with regard to energy, climate change, water management and waste reduction. It is intended to supplement the policies of the Local Plan. The policies supported by the draft SPD were consulted upon extensively during the production of the Local Plan, which Hammerson has already made representations against. The representations presented below are not made against the emerging policy, but rather the implementation and interpretation of the policy as established by the draft</p>	<ol style="list-style-type: none"> 1. Noted. 2. Changes are proposed to update these sections of the SPD, including to reference the Climate Emergency. 3. Noted. These considerations would be addressed on a case-by-case basis at such time planning applications are made. A proposed change recognises this issue. 4. Change proposed to reflect the wording of the Local Plan. 5. Agreed, but the SPD already states with regard to refurbishment that “the appropriate approach with regards to sustainability will be considered on a case by case basis.” 6. Change proposed to bring the wording on Energy Statements and Sustainability Statements into line. 7. Changes are proposed to recognise the issues

	<p>SPD. Hammerson is recognised within the property sector for its contribution to sustainable development. The real estate investment trust is a member of the Better Buildings Partnership and has a vision is to create retail destinations that deliver net positive impacts economically, socially and environmentally. This is achieved through leading edge design, operational efficiency and a culture of respect and responsibility. Hammerson has the objective to become net positive for carbon, resource use, water and socio-economic impacts by 2030. This ambition is therefore consistent with Reading Borough Council’s own aspirations towards sustainable development with regard to carbon, resource use, water and socio-economic impacts.</p> <p>2. Paragraph 1.3 states that Reading has set out its commitment to become a zero carbon city by 2050. Whilst this is in line with national policy through amendments through the Climate Change Act (2008), it is understood that Reading Borough Council declared a climate emergency in June 2019, which pledged to achieve carbon neutrality by 2030. It is recommended that clarity is provided here.</p> <p>3. Paragraph 2.12 suggests that <i>“applicants will be expected to adapt design and construction in order to make sustainability measures viable. If compliance cannot be achieved, applicants will need to demonstrate why not and will be expected to install the proportion of measures that are viable. Applicants must demonstrate that all options have been explored. In many cases, whole-life considerations may justify capital costs at the time of construction. For example, installation of energy-efficient technologies will likely decrease the electricity and gas costs for users over of the lifetime of the development”</i>. The principles presented in paragraph 2.12 are welcomed, particularly recognition that in certain cases the implementation of policy may threaten scheme viability. Hammerson would add that for certain development</p>	<p>in submitting final as-built assessments, and a general timescale of six months after first occupation is proposed, with flexibility for different timescales to be negotiated at planning application stage.</p> <p>8. Noted, but the SPD cannot introduce new policy that is not included within the Local Plan.</p> <p>9. Change proposed. This section has been amended to clarify the expectations of individual developers.</p>
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scenarios, whole life considerations may not help to justify investment. As a business that delivers speculative retail buildings, investment in building performance may not always lead to paybacks that Hammerson can directly realise.

Tenants in the Oracle for example and elsewhere in Hammerson's properties install their own M&E equipment and pay their own utility bills. Whilst the efficiency of the equipment can be influenced by Hammerson's retail delivery process in part, Hammerson cannot control their fit out.

4. Table 3.1 provides further detail on the interpretation of BREEAM standards set out in draft policy CC2 of the emerging Local Plan. This clarifies the target requirements for BREEAM for buildings subject to for new build and refurbishment, separating these for both major and minor developments. Whilst there is no longer a small buildings threshold recommended by BRE, it should be acknowledged that achieving BREEAM Very Good for smaller developments, particularly those subject to refurbishment, can be very onerous and should be given consideration on a case by case basis. This is because the application costs of BREEAM is not directly analogous to building size, which construction costs are closely aligned, but through numerous design studies, team activities and assessments where costs do not vary significantly by floor area. Therefore ostensibly the proportionate cost impact of achieving BREEAM ratings on larger buildings is generally much lower than for small units. In addition smaller units often have practical and physical restrictions for retrofitting equipment such HVAC systems or rainwater harvesting. Supporting text within section 4.1.4 of the emerging Local Plan recognises the potential restrictions on achieving high BREEAM ratings in all cases, and it is recommended that similar wording is included within the SPD, especially for minor developments.
5. Additional Information in Table 3.1 recognises that *“applications for change of use may fail to be considered*

as refurbishment depending on the level of internal alterations proposed. The appropriate approach with regards to sustainability will be considered on a case by case basis". This is welcomed, however it should be noted that when considering the applicability of BREEAM refurbishment, the current 2014 standards focus more closely on the extent of external works, rather than internal modifications. As a developer of speculative retail spaces (shell only), the only aspects in which Hammerson could apply BREEAM to a refurbishment project is against Part 1 of BREEAM Refurbishment 2014. This considers whether there are substantial changes to the fabric of the building, including roof, walls and windows. Under a number of refurbishment and change of use projects, the Part 1 thresholds may not be met. It is suggested that the applicability of BREEAM refurbishment is generally considered on a case by case basis.

6. At the Pre application stage, the draft SPD states that a draft Sustainability Statement and a draft Energy Statement should be submitted for all major developments. This appears onerous and may delay project planning. It is acknowledged that important principles are established at the concept design stage, however it is felt that a full suite of draft documents may often be onerous for pre application discussions. Paragraph 3.20 of the draft SPD suggests that *"whilst pre-application enquiries will be considered without a Sustainability Statement accompanying the submission, it is very much in the applicant's interest to submit a statement and ensure it is considered at this stage"*. No such clarifications are provided for the Energy Statement. It is recommended that similar clauses are provided.

7. Section 3.28 clarifies the likely nature of planning conditions that would be imposed on a scheme. It states that *"condition/s will be attached to any permission granted requiring a BREEAM sustainability assessment and/or*

Final/As-Built Building Regulations Compliance Report. Typically this would be a condition requiring an Interim BREEAM Certificate to be submitted prior to commencement of development demonstrating that the development will be built in accordance with the pre-assessment estimator. Additionally, it will require that a Final BREEAM Certificate and/or Regulations Compliance Report submitted prior to occupation of the development”.

It is suggested that some flexibility in timing is clarified here. In many cases providing an interim BREEAM certificate before commencement of development (which may typically include demolition activities) is often impractical, due to the certification timescales from BRE. Similarly, due to final evidence gathering, such as commissioning data and final BRE QA checks, submission of certification prior to occupation may often also be onerous. It is recommended that a programme of 6 months is included to take account of this.

8. As Hammerson’s operations concern the development and refurbishment of retail buildings, Hammerson will not comment on the zero carbon home standard presented by Policy H5, however acknowledges that a carbon offset mechanism is now available via a S106 mechanism. It should be considered that the offset mechanism could be extended to non-residential developments for applicants that fail to demonstrate BREEAM Excellent energy standards.
9. The Oracle Centre has been identified to be within a cluster of buildings known as the Old Civic Building Area which according to Element Energy, could be potentially viable for decentralised energy. Paragraph 8.4 states that ***“a detailed technical and economic assessment identified several potentially deliverable heat network scheme options centred on the four clusters. These would reduce energy costs and carbon emissions, as well as improve air quality and increase inward investment, spurring local economic growth. Almost all scheme options in all four clusters were***

	<p><i>found to be viable, some with additional financial support and some without</i>". The Oracle Centre is shown in Figure 8.1 to be within cluster 3, with the Bridge Street elevation (currently occupied by House of Fraser) to be adjacent to the potential second phase of the DE route. It is understood that Water Source Heat Pump (WSHP) have been determined to be the most viable heat supply option. The Oracle Centre does not have a centralised energy centre, and all tenants install and operate their own M&E equipment. At this stage it is considered that the suitability of a decentralised supply to the Oracle Centre is limited, due to the existing lease arrangements in place with tenants. Hammerson look forward to further engagement on the potential for Decentralised Energy, however at this stage cannot be considered as a potential demand.</p>	
Highways England	We have reviewed the consultation and its supporting documentation and have no comments.	Noted.
Lochailort Thames Quarter	<ol style="list-style-type: none"> 1. We note that the SPD rightly does not introduce any new or additional policy requirements that are not already set out in emerging Local Plan policies. Provided that the SPD does not come into effect until such time as the emerging Local Plan has been adopted, we are satisfied that the SPD could be given weight accordingly. 2. The SPD should state that it will not be applied to any planning applications that had been submitted but remain undetermined at the date of its adoption. 3. It should state that as an alternative to an offsetting financial contribution, off-site CO2 offsetting will be an equally acceptable solution. 4. It should state that any offsite offsetting (such as tree planting) will not be restricted to the spatial confines of Reading Borough given that CO2 is a globalised gas rather than one which has demonstrable specific localised effects. It should state that there is no sequential preference between off-site offsetting or a financial contribution. 	<ol style="list-style-type: none"> 1. Noted. 2. Applications determined following the adoption of the new Local Plan on 4th November 2019 are subject to the policies within the plan, including CC2 and H5, and this SPD is essential to implementing those policies. 3. Whilst this would not be in line with the policy position, a change has been introduced to give further guidance on how this would be assessed. 4. Whilst CO2 is a globalised gas, allowing offsetting outside the Reading Borough area will not make any contribution to achieving the important aim of a carbon neutral Reading by 2030. These would need to be exceptional circumstances, justified outwith the policy.

<p>McKay Securities PLC</p>	<ol style="list-style-type: none"> 1. On behalf of our client, McKay Securities PLC, we enclose representations in respect of the Draft Sustainable Design and Construction Supplementary Planning Document (SPD). Our client is the freehold owner of three commercial properties within Reading Town Centre located at: 9 Greyfriars Road, 20-30 Greyfriars Road and Great Brigham’s Mead, 1-9 Vastern Road. McKay Securities specialise in the development and refurbishment of high quality buildings and seek to ensure that their portfolio is future-proofed, resilient and able to actively participate in the transition towards a low carbon economy. As part of this, they deliver high sustainability ratings for all new developments and major refurbishments schemes and have achieved a BREEAM ‘Outstanding’ rating for 9 Greyfriars Road, Reading. This was the first office building in the South East to achieve this standard and it was subsequently awarded a British Council for Offices (BCO) Award in 2017. 2. A key area of concern for our client is the new chapter entitled ‘Site Specific Considerations’. Within this chapter, it appears that our client’s sites fall within the following clusters: North of the station cluster - Great Brigham’s Mead; and Station Hill and around cluster - 9 and 20 - 30 Greyfriars Road. These clusters are identified as potentially suitable for “heat network schemes”. As drafted, the SPD is also not clear on what these clusters mean and how a heat network scheme would come forward. For example, there is no guidance on whether every development within these clusters should look to provide decentralised energy or if there is a pre-planned network for each cluster. No clarity is provided on whether one location is identified within these clusters for the delivery of a facility or how this would be funded without significant financial burden on development. Without this necessary information, it is unlikely that the market will bring forward a heat network within each cluster and the guidance will be ineffective. Paragraph 8 of the Planning Policy Guidance (PPG) is clear that the role of SPD’s is to build upon and provide 	<ol style="list-style-type: none"> 1. Noted. 2. Change proposed. This section has been significantly amended to be clearer about the purpose of the section and what expectations are for individual developers, in particular to emphasise requirements that developments are ‘future-proofed’ for eventual connection to a district heating system. 3. This section has been significantly amended to be clearer about the purpose of the section and what expectations are for individual developers, in particular to emphasise requirements that developments are ‘future-proofed’ for eventual connection to a district heating system. However, it will be for an applicant to demonstrate the reasons for not complying with the policy. 4. This section has been significantly amended to be clearer about the purpose of the section and what expectations are for individual developers, in particular to emphasise requirements that developments are ‘future-proofed’ for eventual connection to a district heating system. However, it will be for an applicant to demonstrate the reasons for not complying with the policy. It is also important to note that the policies on energy efficiency/emissions and decentralised energy are distinct, and that complying with one does not mean that the requirements of the other are met. 5. This section has been significantly amended to be clearer about the purpose of the section and what expectations are for individual developers, in particular to emphasise
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more detailed advice or guidance on policies in an adopted Local Plan and that they should not add unnecessarily to the financial burdens on development. The draft SPD does not provide sufficient information to understand how Local Plan Policy CC4 interacts with the designation of clusters for 'heat network schemes' and does not advise how to apply the policy and guidance to future development proposals. Therefore, as drafted, the document does not pass the PPG test for the role of an SPD.

3. Policy CC4 requires development of more than 20 dwellings and/or non-residential development of over 1,000sqm to consider the inclusion of decentralised energy provision, within the site, unless it can be demonstrated that the scheme is not suitable, feasible or viable for this form of energy provision. Under Policy CC4, where there is existing decentralised energy provision, development will also be expected to link into the existing decentralised energy network or demonstrate why this is not feasible. Currently this is a vague policy requirement and no guidance is provided as to what information would be required to satisfy the requirements that decentralised energy is not suitable, feasible or viable. The purpose of the supplementary document should be to provide further details on policy requirements and provide guidance for site specific applications. Currently the SPD does not offer any clarity on what information would be accepted or required and is falling short of its purpose as a supplementary planning document under the PPG.
4. Furthermore, more information is needed on what would be considered sufficient to demonstrate that linking to an existing energy network is not "feasible". For example, would the provision of an alternative site-specific provision be appropriate to address feasibility? As outlined above, our client is committed to delivering high quality and sustainable schemes, but in order to continue to deliver the best quality

requirements that developments are 'future-proofed' for eventual connection to a district heating system.

6. Changes are proposed to give further guidance on CHP including avoiding use of combustion CHP, as well as commentary on alternative technologies.

developments such as 9 Greyfriars, they would need to maintain control over what measures are utilised. The appropriate measures to maximise sustainability should be developed on merit within the context of a development. Allowing this choice would be more flexible and sustainable than forcing developments into an existing energy system which may not be best suited to a site or proposal. Therefore, there should be sufficient clarity and flexibility within the SPD to confirm that if micro-renewables or other energy efficiency measures to serve an individual building are proposed, this would be sufficient to demonstrate that it is not 'feasible' to connect to an existing network.

5. Additionally, no clarity has been provided as to how decentralised heat networks will be funded or delivered. There would be a significant cost undertaking from seeking consent for, and building out, a heat network / decentralised energy scheme. If it were proposed for other developments to link up to this network at a later date, there is no guidance on how cost and contributions towards this would be negotiated and shared between different stakeholders and developers. This is a significant barrier to delivery and under the PPG, SPDs should not add to the financial burdens on development. There is also uncertainty on assessing the viability of providing decentralised energy networks when the potential capacity and end users of the network may not be known at the commencement of the first development within a cluster. It may be more appropriate in some cases to make financial contribution in lieu to decentralised energy which could be pooled to provide the infrastructure at a later date but again this would put unnecessary financial burden on development. Overall, our client has significant concerns with the lack of guidance on the heat network scheme clusters and this section of the SPD should be deleted in order to avoid confusion and difficulties for future developments which could prevent sustainable growth within Reading. Presently, the SPD does

	<p>not deliver in its role of providing more detailed advice on policy and its application to proposed development.</p> <p>6. Decentralised energy networks simply provide efficiencies over centralised electricity production which waste significant energy during transmission to the end user. However, as noted within the emerging Local Plan, some decentralised energy technologies such as CHP plants are fuelled by fossil fuels and so, although more efficient, are not necessarily renewable. It is very likely that a heat network scheme which serves a cluster of large development sites would be served by CHP powered by fossil fuels and so in many cases a more localised and renewable energy measure for each individual site is likely to be more environmentally sustainable. The SPD should be amended to make it clear that cleaner and more renewable energy measures on a site-specific basis would be preferable over more polluting energy options such as CHP.</p>	
Natural England	<ol style="list-style-type: none"> 1. While we welcome this opportunity to give our views, the topic this Supplementary Planning Document covers is unlikely to have major impacts on the natural environment. We therefore do not wish to provide specific comments, but advise you to consider the following issues: 2. Biodiversity enhancement: This SPD could consider incorporating features which are beneficial to wildlife within development, in line with paragraphs 8, 72, 102, 118, 170, 171, 174 and 175 of the National Planning Policy Framework. You may wish to consider providing guidance on, for example, the level of bat roost or bird box provision within the built structure, or other measures to enhance biodiversity in the urban environment. An example of good practice includes the Exeter Residential Design Guide SPD, which advises (amongst other matters) a ratio of one nest/roost box per residential unit. 3. Landscape enhancement: The SPD may provide opportunities to enhance the character and local distinctiveness of the surrounding natural and built environment; use natural 	<ol style="list-style-type: none"> 1. Noted. 2. The purpose of the SPD is limited to supplementing policies CS2-5 and EN18, rather than policies relating to biodiversity. These issues are therefore not within the scope of the SPD. The Council is preparing a Biodiversity Action Plan which will consider these matters, and may consider a biodiversity SPD at a later date. 3. It is considered that landscape and townscape enhancement is effectively addressed through the policies in the Local Plan. 4. The purpose of the SPD is limited to supplementing policies CS2-5 and EN18, rather than policies relating to biodiversity. These issues are therefore not within the scope of the SPD. The Council is preparing a Biodiversity Action Plan which will consider these matters, and may consider a biodiversity

	<p>resources more sustainably; and bring benefits for the local community, for example through green infrastructure provision and access to and contact with nature. Landscape characterisation and townscape assessments, and associated sensitivity and capacity assessments provide tools for planners and developers to consider how new development might make a positive contribution to the character and functions of the landscape through sensitive siting and good design and avoid unacceptable impacts.</p> <ol style="list-style-type: none"> 4. Protected species: Natural England has produced Standing Advice to help local planning authorities assess the impact of particular developments on protected or priority species. 5. Strategic Environmental Assessment/Habitats Regulations Assessment: A SPD requires a Strategic Environmental Assessment only in exceptional circumstances as set out in the Planning Practice Guidance here. While SPDs are unlikely to give rise to likely significant effects on European Sites, they should be considered as a plan under the Habitats Regulations in the same way as any other plan or project. If your SPD requires a Strategic Environmental Assessment or Habitats Regulation Assessment, you are required to consult us at certain stages as set out in the Planning Practice Guidance. 	<p>SPD at a later date.</p> <ol style="list-style-type: none"> 5. Each of the policies that are supplemented by the SPD has been subject to strategic environmental assessment and habitat regulations assessment during the development of the Local Plan. They did not give rise to significant effects on European sites, and there is no additional need for habitat regulations assessment of this SPD.
Historic England	<ol style="list-style-type: none"> 1. It is important to ensure that the implication of this important policy document does not adversely affect or undermine the historic, physical and social value of the historic environment. We recognise the importance of producing this SPD, unfortunately however, the SPD provides little detail on how the historic environment should be treated. The SPD should set the expectation that all developments will be sustainable, including the conservation and enhancement of this historic environment. Climate change can have a range of direct impacts on the historic environment, for example, accelerate weathering to building fabric, erosion of archaeological sites through severe weather and flooding and harm to historic landscapes and vegetation patterns. Climate mitigation and 	<ol style="list-style-type: none"> 1. Whilst the SPD is not the place to go into substantial detail on this issue, a new paragraph has been added to provide guidance on the relationship with the historic environment, and this includes a cross-reference to the Historic England guidance. 2. Change proposed to cover these elements. 3. The SPD does not deal with sustainable development generally, as this is throughout the Local Plan, rather it specifically supplements CC2-5, EN18 and H5. This is not considered to be the right place to make these statements.

adaptation responses can also have unwelcome impacts such as damage to historic fabric through poorly designed energy-saving measures or erosion of historic character through inappropriate located micro-generation equipment. At present, the SPD does not recognise the risks posed to the historic environment, makes no distinction between historic buildings and modern development and does not address the wider historic environment. The SPD provides no guidance on how the setting or wider character and appearance of the historic environment should be factored into the design process. A sustainable approach should secure a balance between the benefits that such development delivers and the environmental costs it incurs. The SPD should therefore seek to limit and mitigate any cost to the historic environment. Listed buildings, buildings in conservation areas and scheduled monuments are exempted from the need to comply with the energy efficiency requirements of the Building Regulations where compliance would unacceptably alter their character and appearance. Special considerations under Part L are also given to locally listed buildings, buildings of architectural and historic interest within registered parks and gardens and the curtilages of scheduled monuments and buildings of traditional construction with permeable fabric. In developing the SPD you may find the Historic England guidance *Energy Efficiency and Historic Buildings - Application of Part L of the Building Regulations to historically and traditionally constructed buildings* <https://content.historicengland.org.uk/images-books/publications/energy-efficiency-historic-buildings-ptl/heag014-energy-efficiency-partL.pdf/> to be helpful. Significant energy savings can be achieved without damaging alterations, but the SPD does not make this clear. Small scale changes can result in improved performance e.g. altering how an existing building is used, improving/up keeping maintenance, repairing or refurbishing existing historic windows and doors, installing secondary glazing, improving

4. Policies in the Local Plan already deal with the setting of heritage assets, and these policies will apply to relevant developments. There is a need for the SPD to remain focused on the implementation of the sustainability policies, but any proposals will of course need to be considered in conjunction with relevant policies.
5. Policies in the Local Plan already deal with the link to conservation area appraisals, and these policies will apply to relevant developments. There is a need for the SPD to remain focused on the implementation of the sustainability policies, but any proposals will of course need to be considered in conjunction with relevant policies.

	<p>thermostat controls and boilers, upgrading lighting etc.</p> <ol style="list-style-type: none"> 2. The SPD should set out the need for current environmental performance to be analysed in the first instance in order to support proposals using a ‘whole house’ approach. Non-invasive measures should be pursued before moving onto physical interventions. 3. The SPD should recognise that the reuse of existing historic buildings and spaces can help to achieve sustainable development. 4. The SPD should make explicit reference to the setting of heritage assets. Setting is often an important aspect of an asset’s significance and can be harmed as a result of inappropriate development. It is important to understand the significance of any heritage assets, and their settings, that would be affected by the design, location, siting, size and height of proposed renewable energy infrastructure and equipment. 5. The SPD should also make reference to any conservation area appraisals within the SPD in order to ensure awareness of the unique issues a developer would need to take into account when considering introducing energy efficiency measures. 	
Ropemaker Properties	<ol style="list-style-type: none"> 1. It is appreciated and understood that there is a need to transition to a low carbon future and that everyone has a role to play in that. 2. <i>Section 3: Submission Requirements</i> - This section sets out a number of requirements to be submitted with applications. Firstly, it would appear that this information is required for all applications which is considered to be overly onerous, and it is considered that additional flexibility should be added into the SPD, particularly in the early years of the plan. This is because zero carbon homes are still considered aspirational with many of the techniques/measures required not yet considered to be mainstream. As has been set out previously, there are concerns with the proposed charging rate in respect of the zero carbon developments. This will only seek to delay 	<ol style="list-style-type: none"> 1. Noted. 2. The SPD sets out the differing requirements for different types of development. These submission requirement, or similar, were part of the existing SPD and have been required since 2011 without causing issues. Zero carbon homes is a requirement of the Local Plan for new build residential as of 4th November, and is not ‘aspirational’. It has been part of a draft Local Plan since 2017, and there has therefore been considerable forewarning. The viability of the requirements were tested at Local Plan stage. In terms of draft Energy Statements at pre-application stage, a change

developments as viability arguments persist. Developers are currently experiencing a significant premium in making homes zero carbon, which is not reflected in the end value. Whilst the submission of a draft Energy Statement submitted as part of the pre-application process or outline applications may be ideal for the Council, it is putting additional pressures on the developer who may only be seeking a view on the principle of the proposals at this stage and as such may prevent proposals coming forward. As a result, the Council should simply suggest this is good practice.

3. *Section 4: Energy Efficiency* - The fabric improvements within this section are noted and it is agreed that these should be considered by developers as part of the proposals. However, it should also be acknowledged that given the built-up nature of Reading and the need to make the most efficient use of land particularly in the centre of the town where sites are often constrained, a pragmatic approach should also be taken.
4. *Section 5 - Section 7* - These measures are noted within the document. However, the PPG guidance on climate change sets out that *“different rules apply to residential and non-residential premises. In their development plan policies, local planning authorities: 1) Can set energy performance standards for new housing or the adaptation of buildings to provide dwellings, that are higher than the building regulations, but only up to the equivalent of Level 4 of the Code for Sustainable Homes 2) Are not restricted or limited in setting energy performance standards above the building regulations for non-housing developments”*. (ref: 6-012-20190315) As a result, the SPD needs to ensure that it is in line with the PPG Guidance on Climate change.
5. *Section 8: Site Specific Considerations* - It is noted that my clients site CR12b is identified as being suitable for heat network schemes. This seems to be somewhat premature as 8.5 sets out that *‘at the time of writing, all four clusters are entering detailed feasibility analysis’*. It is not known whether

is proposed to bring this into line with draft Sustainability Statements.

3. It is considered that there is sufficient flexibility within the sustainability policies of the Local Plan. The Local Plan clearly states that policies are subject to viability on a case-by-case basis.
4. The Council’s sustainability policies within the new Local Plan were found to be sound during examination and have been adopted.
5. Change proposed. This section has been amended to clarify the expectations of individual developers and to emphasise requirements that developments are ‘future-proofed’ for eventual connection to a district heating system.
6. Zero carbon homes is a requirement of the Local Plan for new build residential as of 4th November, and is not ‘aspirational’. It has been part of a draft Local Plan since 2017, and there has therefore been considerable forewarning.

	<p>any of these proposals have been discussed with the landowners particularly as many already have planning permission and are currently being or about to be developed. The initial assessment also identifies Water Source Heat Pumps as being most suitable, however one of the cons of this system is the high capital cost. The PPG is clear that <i>“Local requirements should form part of a Local Plan following engagement with appropriate partners, and will need to be based on robust and credible evidence and pay careful attention to viability.”</i> As a result, this section should be removed until such time as evidence is available and engagement has been undertaken with landowners, as serious questions remain as to whether this is really a viable option.</p> <p>6. Whilst the ambitions of the SPD are noted, and it is acknowledged that everyone has a role to play in this. However, it is also noted that the NPPF at paragraph 148 should <i>“support the transition to a low carbon future”</i>. In light of this, the SPD should introduce a phased approach to zero carbon development so as not to render developments unviable and to allow measures to become more mainstream.</p>	
Rowe, Simon	<p>1. There is some encouragement in the document to ensure that the ecological impact of new developments on existing wildlife is minimized, and that the well-being of residents/workers using the new development is helped by careful planting and landscaping in the area. This is very good and I agree with the concept, but can I suggest that some consideration be given to the <i>types</i> of plants used? So often, the planting around buildings consists of flowerless hedging, easy on the eye and chosen as it is cheap to buy and maintain, but this is a desert for butterflies, bees, and many insects which are at the base of the food chain and necessary for pollination. Could something go into the plan to enforce/suggest that a minimum percentage of landscaping should be flowering plants for supporting insect life? This also brings helps other wildlife like birds. Flowering hedging is</p>	<p>1. The purpose of the SPD is limited to supplementing policies CS2-5 and EN18, rather than policies relating to biodiversity and landscaping. These issues are therefore not within the scope of the SPD. The Council is preparing a Biodiversity Action Plan which will consider these matters, and will include actions relating to pollinators.</p> <p>2. Noted. Actions to invest in local energy generation are not within the control of the SPD as they are not part of the development management process, but the new Reading Climate Change Strategy is in production and can take a more holistic approach. Changes are proposed to acknowledge these issues and</p>

	<p>easily available. It looks good too!</p> <ol style="list-style-type: none"> 2. There is a lot of discussion about local energy generation. This requires significant investment which is unlikely to be leveraged out of a potential developer. For instance, the Caversham Weir has fantastic potential for electricity generation but unless there is a development right by the lock (unlikely as it is an attractive location likely to be preserved) then there is little chance of getting a developer to pay for any scheme. What steps can the council take to seed or assist such a scheme, attract investment and partnerships? 3. The document seems to cover mostly new developments. What steps will be taken to encourage existing office blocks in the town centre and elsewhere to install roof gardens, solar panels, solar heating and other climate change measures? 	<p>emphasise developers' responsibilities to 'future-proof' developments in order to connect to systems in the future.</p> <ol style="list-style-type: none"> 3. These planning policies can only be implemented through the determination of individual applications and therefore, these measures focus on improvements to be made through new developments. Funds raised through the carbon offset contributions may help to fund retrofitting projects within the Borough.
SH Reading Master LLP	<ol style="list-style-type: none"> 1. SH Reading Master LLP made representations to the Main Modifications proposed on the Reading Borough Local Plan, in particular commenting on Policy CC4. We recommend that these representations are read alongside those made against Policy CC4. The Council will be aware of the planning history for the Station Hill site, and the recent resolution to grant two Section 73 applications and reserved matters for the southern part of the site. The energy strategy for the south site has been approved pursuant to the Section 73 applications. SH Reading Master LLP are currently in ongoing discussions with officers at the Council regarding the future phases on the northern part of the site. These representations have been prepared regarding the consented position and emerging discussions on the northern part of the site, to ensure the SPD is compatible and provide flexibility for the future. 2. Page 9, Policy H5 refers to a requirement of new-building residential achieving zero carbon homes and all other new-build housing must achieve a minimum 19% improvement over the 2013 Building Regulations target. Given that the 2013 Building Regulations Part L is due to be upgraded, we 	<ol style="list-style-type: none"> 1. Noted. 2. The Local Plan requirements to which this SPD relate are specifically linked to the 2013 Building Regulations to ensure consistency. The SPD must be in line with the policies it supplements. 3. The Local Plan requirements to which this SPD relate are specifically linked to the 2013 Building Regulations to ensure consistency. The SPD must be in line with the policies it supplements. 4. Change proposed. 5. Change proposed to refer instead to low carbon decentralised energy. 6. Change proposed to the buffer, which is in line with practice elsewhere. 7. In terms of BREEAM timescales (see also point 6), changes are proposed to recognise the issues in submitting final as-built assessments, and a general timescale of six months after

	<p>recommend that this supporting text is updated to clarify that the proposals should be in line with the most up to date version of Part L to provide flexibility and ensure that schemes comply with modern building regulations.</p> <ol style="list-style-type: none"> 3. Table 3.1 sets out the required level of sustainability standard for new developments. As per the comment on Page 9, we consider that reference to the 2013 Regulations be removed and text requiring compliance with the most up to date version of Part L included. 4. Paragraph 3.3 provides an overview of the requirements of a Sustainability Statement. We consider that “wastage” should be included under materials. 5. Paragraph 3.4 sets out the material required to be included within an energy statement. This includes combined heat and power technology. Combined heat and power (CHP) is no longer considered to be a low carbon technology. This is reflected in the new SAP10 calculations. We strongly recommend that the reference to CHP is removed, as this is likely to impact on the Council’s overarching aspirations to be carbon neutral by 2030. 6. Paragraph 3.6 identifies the need for a buffer to be added to BREEAM Pre-Assessment Stage calculations. The buffer included within the Draft Sustainable Design and Construction SPD is 3%. However, it is recommended that a minimum of a 5% buffer is targeted at the BREEAM Pre-Assessment stage. A 3% buffer is too marginal and does not provide reasonable security for the assessment rating going forward into the Construction Phase. The BREEAM application requirements (Table 3.2) provide an overview of timescales for BREEAM deliverables over the course of pre-application to post-approval. It is typical that an interim BREEAM certificate would not be ready prior to commencement of the development, and in the instances when a certificate is pushed for, the assessment is based on a number of design commitments rather than actual design, and therefore is not a 	<p>first occupation is proposed, with flexibility for different timescales to be negotiated at planning application stage.</p> <ol style="list-style-type: none"> 8. Changes have been made to this section to improve clarity, although they differ from those proposed. 9. Change proposed. 10. This policy provision applies to all developments, and requiring modelling of impacts for all would be excessive. 11. It is not clear how the graphic is unreadable. We can find no issue with it. 12. In Appendix 2, where technologies are discussed, new wording is included to recognise that some technologies may have air quality impacts that need to be assessed.
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	<p>robust assessment. It is recommended that this requirement is removed. In addition, the final BREEAM Certificate should be requested 3 months post occupation to enable the collation of the final pieces of information and the review by the BRE which is likely to take a minimum of 8 weeks.</p> <p>7. Paragraph 3.28 should also be brought into line with the above.</p> <p>8. Paragraph 3.8 should be amended to remove the first two sentences and replace with the following: <i>“All major new-build residential development should achieve zero carbon, with a minimum on-site carbon reduction of 35% beyond Part L 2013. Where it is demonstrated that zero carbon cannot be fully achieved on site, any shortfall should be provided through a cash in lieu contribution”</i></p> <p>9. Paragraph 4.3 needs further consideration. We would recommend that the wording in this section is amended to consider the careful balance between limiting excess solar gain in the summer and maximise solar gain in winter.</p> <p>10. Section 5 is a dedicated chapter on mitigating overheating in dwellings by using the cooling hierarchy. We would recommend that modelling is required in order to verify the impacts within new developments.</p> <p>11. Paragraph 7.5 needs to be amended. The present draft SPD graphic is unreadable.</p> <p>12. There is limited consideration throughout the SPD on air quality. All combustion processes can emit oxides of Nitrogen (NOx) and, solid or liquid fuelled appliances (such as those using biomass or biodiesel) can also emit Particulate Matter. These pollutants can have negative impacts on the health of local residents and occupiers of the development. It is important that these impacts are taken into account in designing the energy strategy of a development.</p>	
Smeeth, Elizabeth	<p>1. I am just an ordinary member of the public and most of this plan is over my head. It occurs to me to wonder though if some-one is, in point 2.8, playing with the figures. I have no idea how</p>	<p>1. The references here are to the carbon footprint rather than pollution levels, which are separate if inter-related. The 7% is an</p>

	<p>much pollution levels have fallen since 2005 but according to the local press they are dangerously high so probably have been climbing not falling. I cannot see how they can be reduced by 34% at the rate of 7% per annum until 2020. To my thinking 7% for current year and 7% next year 2020 is 14% not 34%.</p> <p>2. In point 2.11 the second point, 2, second sentence appears to make no sense to the layperson. Maybe there is a word missing.</p>	<p>annual reduction from the 2013 date of the Strategy up to 2020. A proposed amendment changes much of this text anyway to make reference to updated aims.</p> <p>2. Change proposed.</p>
South Oxfordshire District Council and the Vale of White Horse	The councils agree that planning should raise the bar on sustainable construction and support the achievement of high levels of sustainability in development, and very much welcome the approach adopted within Reading Borough as a positive contribution to addressing the Climate Change Emergencies declared across the three administrative areas.	Noted.
TFL	We have no comments to make on the draft SPD.	Noted.
University of Reading	<ol style="list-style-type: none"> 1. The University supports RBC's sustainability aims of working with the local community and businesses to respond to the challenges of climate change by reducing greenhouse gas emissions and preparing for the changes that climate change will bring. 2. Paragraphs 2.1 and 2.16 should refer to the revised NPPF published in February 2019. 3. Table 3.1 - this table should reflect language in the policies ("where possible") to ensure flexibility. Every development should be considered on their own merits as it may not be possible, for example, due to viability reasons, for a scheme to meet BREEAM 'Excellent' standards, yet such schemes are still able to achieve BREEAM 'Very Good' standard. 4. Furthermore, the University considers there to be a poor relationship between delivering BREEAM Excellent buildings and genuine low energy/low carbon buildings. The additional cost of delivering BREEAM Excellent may actually divert funds away from making the buildings as efficient/low carbon as possible. The University would therefore advocated a policy for delivering BREEAM Very Good buildings, with a specific focus on credits in the Energy topic. 	<ol style="list-style-type: none"> 1. Noted. 2. Change proposed. 3. Change proposed in a note underneath the table, to refer back to the relevant caveats in policy CC2 and H5. 4. The SPD cannot introduce new policy. It can only support the implementation of the policies within the Local Plan. RBC acknowledges that BREEAM is an imperfect method, but it is considered that it is the most widespread and familiar method that will ultimately reduce administrative burdens on both developers and the Council. 5. Change proposed to add this wording. 6. Whilst this would not be in line with the policy position, a change has been introduced to give further guidance on how this would be assessed. 7. It is considered that providing detailed technical information or going into detail with

	<ol style="list-style-type: none"> 5. Main Modification 21 (MM21) which adds reference to viability considerations in Policy H5 should be reflected in the SPD in order to ensure it is consistent with the Local Plan. 6. A financial contribution alongside other S106 obligations may make development unviable. Therefore, the Council should refer to other means of offsetting remaining emissions within land controlled by the applicant i.e. building renewable energy sources or off-site tree planting. 7. Section 4 should provide clear examples of low-carbon heating, low-carbon power generation and fabric energy efficiency. 8. Section 5.8 states that development will not be permitted which would undermine current levels of soft landscape provision, particularly tree cover. The University notes that Policy EN14 of the emerging Local Plan states that trees and hedges will be protected from damage or removal <i>where they are of importance</i>. Noting the wording of Policy EN14, the University considers that each development should be considered on its own merits but agrees that every effort should be made to ensure that development does not undermine current levels of soft landscape provision. 9. Section 8 - Due to the rapid decarbonisation of the national grid, the University consider that new CHP installations should not be encouraged unless it forms part of a wider low-carbon heating network. This reflects Main Modification 4 (MM4) that CC4 is amended to remove specific reference to CHP in order to future-proof the policy and avoid giving undue preference to CHP. The draft SPD should make it clear that CHP is merely one example. 	<p>regard to specific technologies will become outdated quickly. The SPD discusses technologies generally in order to future-proof the document.</p> <ol style="list-style-type: none"> 8. A change is proposed to this section, as it is unduly inflexible given other policies in the Local Plan. 9. Change proposed to deal with the carbon implications of combustion CHP and distinguish from other technologies.
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