

## APPENDIX A: ANALYSIS, RESPONSES AND PREFERRED APPROACH WATER AND FLOODING, PLUS SUMMARIES OF REPRESENTATIONS RECEIVED

### ISSUE: BEYOND SUSTAINABLE DRAINAGE SYSTEMS (SuDS) – AN INTEGRATED APPROACH TO WATER MANAGEMENT

<b>Total representations: 44</b>	
<b>Object: 8</b>	<b>Support: 36</b>

OPTION NUMBER	KEY ISSUES ARISING FROM CONSULTATION
Option 51: Develop a comprehensive integrated water management policy. This option seeks to ensure that water management proposals are integrated into the overall design of development proposals	<ul style="list-style-type: none"> <li>• Very important policy to develop – strong level of support;</li> <li>• Concern that requirement to set aside 10-15% of development area for open space/multi-functional surface water management could impact on viability of development.</li> </ul>
<b>NEW OPTIONS ARISING FOLLOWING COMMUNITY INVOLVEMENT</b>	
No additional options have been suggested.	

<b>SUMMARY OF INTERIM SUSTAINABILITY APPRAISAL REPORT</b>
This option should have positive effects on ensuring all developments incorporate sustainable drainage systems to minimise surface water flood risk. Surface water management will result in the protection of existing natural flood risk management infrastructure, such as green open spaces, which is likely to bring further benefits associated with improving the health and well-being of Cambridge residents, and maintaining and enhancing biodiversity. Under this option water sensitive design such as the integration of multiple small ponds rather than one large pond will be of high quality and could therefore contribute to improved visual amenity.

<b>KEY EVIDENCE</b>
<ul style="list-style-type: none"> <li>• Draft National Standards for sustainable drainage systems: Designing, constructing, operating and maintaining drainage for surface runoff, DEFRA (2011);</li> <li>• Cambridge Water Cycle Strategy Phase 1 (2008) and Phase 2 (2011);</li> <li>• Cambridgeshire Green Infrastructure Strategy (2011);</li> <li>• The National Flood and Coastal Erosion Risk Management Strategy for England (2011)</li> </ul>

#### **CURRENT POLICY TO BE REPLACED**

- Policy 8/18 (Water, Sewerage and Drainage Infrastructure)

#### **ANALYSIS OF KEY ISSUES AND OFFICER RESPONSE**

One of the core planning principles of the National Planning Policy Framework (paragraph 17) is that planning should take full account of flood risk, encourage the use of existing resources and encourage the use of land for multiple benefits. The Flood and Water Management Act and National and Local Flood and Coastal Erosion Risk Management Strategies espouses consideration of flood risk being central to planning and highlights the positive benefit to existing issues that good design within new developments can bring. Option 51 seeks to provide the policy basis for this, by ensuring that the principles of integrated water management are embedded into all development proposals.

The sustainability appraisal indicates that this option would be beneficial to Cambridge and the new communities created with an integrated water management policy. This policy approach would ensure that water management proposals form an integrated element of the overall design of development proposals. This will in turn lead to water management solutions that offer multiple benefits beyond just reduction of flood risk, including the enhancement of biodiversity and mitigation of the urban heat island effect.

In the responses, there were concerns about having a prescriptive approach to assigning land use to multi-functional water management features and the effect on the viability of a development. This has been noted and a less prescriptive approach to encouraging best practice will be incorporated into the development of the policy as development sites within the City Centre may require a larger open space to built form ratio to be viable. It is possible on these sites to still encourage best practice without restricting percentages of open space through the use of rainwater harvesting and/or green roofs.

#### **RECOMMENDATION FOR PREFERRED APPROACH**

The recommendation is to pursue Option 51 with a less prescriptive approach on the percentage of land use. This policy will set out the range of integrated water management principles that will need to be embedded into all development proposals. Criteria could include:

- Design considerations, for example the integration of smaller multiple features such as multiple small ponds, swales and basins instead of one large pond;
- Green/blue/grey infrastructure integration so that surface water management is given priority above other uses. For example green open spaces with the ability to temporarily store water (say once every 100 years) should be the priority;
- Consideration of how the water management features will look, ensuring that they are of high quality design and relate to their surroundings;
- How the water management features could promote biodiversity;
- How ecosystem services are considered before any other method;
- How water management should make the most of multi-functional spaces;

- Encourage best practice in assigning land within developments for water management, including the encouragement of rainwater harvesting and/or green roofs;
- Adoption of local sustainable drainage standards, for example those that are being produced by Cambridgeshire County Council;
- Ensure adequate water services provision.

#### ISSUE: WATER EFFICIENCY IN RESIDENTIAL DEVELOPMENT

<b>Total representations: 81</b>					
<b>Object: 29</b>			<b>Support: 52</b>		
<b>Option 52</b>		<b>Option 53</b>		<b>Option 54</b>	
<b>Support: 8</b>	<b>Object: 3</b>	<b>Support: 2</b>	<b>Object: 5</b>	<b>Support: 3</b>	<b>Object: 4</b>

OPTION NUMBER	KEY ISSUES ARISING FROM CONSULTATION
Option 52: Water efficiency – Water neutrality. This option would require all developments to be water neutral	<ul style="list-style-type: none"> <li>• Clear need for a policy dealing with water conservation;</li> <li>• General support but with questions as to whether this policy would be achievable;</li> <li>• Need to consider approach to engaging the existing community in water reduction;</li> <li>• Concern from developers over impact on viability of new development;</li> <li>• Support Option 53 up to 2022 moving up to Option 52 after 2022.</li> </ul>
Option 53: Water efficiency – 80 litres per head per day. This option would require all new development to meet a maximum water consumption of 80 litres/head/day in line with the requirements of Levels 5 and 6 of the Code for Sustainable Homes	<ul style="list-style-type: none"> <li>• Clear need for a policy dealing with water conservation;</li> <li>• Concern from some that this approach would not go far enough in dealing with issues of water shortage and its wider impact;</li> <li>• Support from those who see this as a more realistic option than Option 52;</li> <li>• Need to consider approach to engaging the existing community in water reduction;</li> <li>• Concern from developers over impact on viability of new development;</li> <li>• Support Option 53 up to 2022 moving up to Option 52 after 2022.</li> </ul>
Option 54: Water efficiency – 105 litres per head per day. This option would require all new development to	<ul style="list-style-type: none"> <li>• Clear need for a policy dealing with water conservation;</li> <li>• Concern that this approach would not go far enough in dealing with issues of water shortage and its wider impacts;</li> <li>• Need to consider approach to engaging the existing community in water reduction;</li> </ul>

meet a maximum water consumption of 105 litres/head/day in line with the requirements of Levels 3 and 4 of the Code for Sustainable Homes.	<ul style="list-style-type: none"> <li>• Support from developers as less focussed on seeking enhanced measures.</li> </ul>
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#### **NEW OPTIONS ARISING FOLLOWING COMMUNITY INVOLVEMENT**

There was a suggestion that a further option could be to support Option 53 up to 2022 moving up to Option 52 after 2022.

#### **SUMMARY OF INTERIM SUSTAINABILITY APPRAISAL REPORT**

Option 52	Water neutrality results in the most positive effects against the sustainability themes, as it is the most radical in terms of addressing the severe water stress identified for the area. From an economic perspective, this option could place Cambridge in a competitive position, as it would be at the forefront of water efficiency initiatives. However, it is also the most expensive option presented.
Option 53	Option 53 requiring 80 litres per head per day would result in the same benefits to Option 52 but to a lesser extent. This is due to the fact that there would be a net increase in water used in Cambridge per year, which may exacerbate the existing water stress in the area as identified by the key sustainability issue 'place no additional pressure on water scarcity in the region'.
Option 54	Requiring 105 litres per head per day would still result in increased water efficiency and reduce per capita water consumption as Cambridge currently has an average per capita water use of 151 litres per day. Both these issues are identified in the sustainability framework. In addition the economic impact could be positive as this is the lowest cost option with regards to the associated water supply infrastructure. However, there would be a net increase in water used in Cambridge, which could overtime create additional pressure on water scarcity in the region. In addition, the contribution to carbon emission reductions would be less than the above options.

#### **KEY EVIDENCE**

- Cambridge Water Company Water Resources Management Plan (2010);
- Cambridge Water Cycle Strategy Phase 1 (2008) and Phase 2 (2011);
- BRE (2012) Good Practice Guidance: Sustainable Design and Construction

**CURRENT POLICY TO BE REPLACED**

- Not applicable

**ANALYSIS OF KEY ISSUES AND OFFICER RESPONSE**

Cambridge is in an area of serious water stress as defined by the Environment Agency. The National Planning Policy Framework requires local authorities to adopt a pro-active approach to climate change and water supply and demand considerations (paragraph 94). The Cambridge Water Company Resources Management Plan indicates that there is a finite supply of water in the region and irrespective of climate change; action is required now to ensure the availability of water for future uses, including potable water supply and food production, without having a detrimental impact on the environment. Guidance contained in the Good Practice Guidance: Sustainable Design and Construction report (2012), produced to support the National Planning Policy Framework supports such an approach. It notes that there will be situations where it could be appropriate for Local Planning Authorities to anticipate levels of building sustainably in advance of those set out nationally, citing the example of areas where high water stress means that development without high water efficiency standards would be unacceptable for its proposed location.

The main issue is the level of water consumption to be determined and the cost of any proposals. Developers have concerns that too low a consumption figure would lead to higher costs and therefore could potentially have an impact on the viability of developments. The National Planning Policy Framework states that issues such as water supply should be taken account of in the local plan over the long term. As there is a finite supply of water, higher levels of water efficiency now will ensure the viability of development in the long term.

Water neutrality, which was the concept contained within Option 52, would involve not only measures to reduce water consumption in new build, but also retrofitting water efficiency measures in the existing built environment. Option 52, therefore offers the most innovative and progressive approach to water efficiency. However, it may prove difficult to implement and would also be the most expensive option, which may impact on viability. There would also be inherent difficulties in applying retrofit measures to existing properties, with associated ongoing maintenance costs. As such, representing an improvement on the existing situation, Option 53 required all new development to be designed to achieve a maximum water consumption of 80 litres per head per day. This would offer higher water efficiency than is being delivered elsewhere in Cambridge. In terms of the impact of setting requirements for water efficiency on the viability of development, this will be tested as part of ongoing viability work.

However, consideration should continue to be given to the potential for implementing Option 52 in the future. The draft Water Bill, which was published in July 2012, is giving consideration to charging mechanisms and connection charges that may enable water neutrality to be implemented in the future. As such, officers will continue to explore mechanisms that may be outside of the planning system,

which may help with the introduction of water neutrality.

Option 54, considered a policy approach whereby new development would need to be designed to achieve maximum water consumption of 105 litres/head/day, which is in line with Code for Sustainable Homes level 3 and 4. While this policy would have presented the least expensive option, it would still lead to an increase in the amount of water being used in Cambridge each year. As a result, this option would not go far enough to address long-term water availability, which has the potential to impact on the long-term viability of development. The need to set more stringent water efficiency requirements than that suggested by Option 54 was supported by Cambridge Water who have made representations after the end of the issues and options consultation period. In addition, Option 54 would be reliant on the installation of water efficient fittings that could easily be unknowingly replaced with less water efficient fittings throughout the life of the development. Given the severity of water stress in Cambridge, it is therefore considered appropriate to set a policy requiring higher levels of water efficiency than that proposed by Option 54.

#### **RECOMMENDATION FOR PREFERRED APPROACH**

The recommendation is to pursue Option 53 (80 litres/head/day) for all new residential development. The possibility of future implementation of water neutrality within new developments will continue to be explored in light of the Draft Water Bill and other future legislation.

#### **ISSUE: WATER EFFICIENCY IN NON-RESIDENTIAL DEVELOPMENT**

<b>Total representations: 51</b>			
<b>Object: 11</b>		<b>Support: 40</b>	
<b>Option 55</b>		<b>Option 56</b>	
<b>Support: 4</b>	<b>Object: 3</b>	<b>Support: 5</b>	<b>Object: 0</b>

<b>OPTION NUMBER</b>	<b>KEY ISSUES ARISING FROM CONSULTATION</b>
Option 55: Water efficiency – non domestic buildings full credits for BREEAM water efficiency. This option would require non-residential development to achieve the highest possible credits available for water criteria within the BREEAM assessment methodology	<ul style="list-style-type: none"> <li>• Support from those who feel that the highest possible standards should apply across all new development regardless of use;</li> <li>• Concern from developers around the impact on the viability of new non-residential development as well as refurbishment of existing buildings.</li> </ul>

<p>Option 56: Water efficiency non-domestic buildings – BREEAM. This option would require development to achieve a BREEAM rating of ‘very good’ or ‘excellent’ but would not set a minimum number of credits to be achieved related to water</p>	<ul style="list-style-type: none"> <li>• Support from developers as this represents a lower cost option and is less likely to impact on viability;</li> <li>• Other stakeholders object to this approach on the grounds that it would not go far enough in dealing with issues of water shortage and its wider impacts.</li> </ul>
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**NEW OPTIONS ARISING FOLLOWING COMMUNITY INVOLVEMENT**

No additional options have been suggested.

**SUMMARY OF INTERIM SUSTAINABILITY APPRAISAL REPORT**

<p>Option 55</p>	<p>Requiring all non domestic developments be designed to the highest water efficiency levels will more expensive compared to Option 56. However, as expected Option 55 results in the most significant positive effects against the sustainability topics, as it is the most radical in terms of addressing the severe water stress identified in Cambridge’s Water Resources Management Plan. From an economic perspective, whilst this option is the most expensive, it would place Cambridge in a competitive position in terms of leading on water efficiency Initiatives. This Option would also result in significant carbon emissions savings associated with water production, as overall increases in supply would be kept to a minimum.</p>
<p>Option 56</p>	<p>Requiring a ‘high level’ of water efficiency (Option 56) would result in similar effects against the sustainability topics but to a lesser extent. Although there would be minimal costs associated with this option, compared to Option 55, both the consumption reductions achieved, and carbon emission reductions from reduced water supply would still be significantly above business as usual levels.</p>

**KEY EVIDENCE**

- Cambridge Water Company Water Resources Management Plan (2010);
- Cambridge Water Cycle Strategy Phase 1 (2008) and Phase 2 (2011);
- BRE (2012) Good Practice Guidance: Sustainable Design and Construction

**CURRENT POLICY TO BE REPLACED**

- Not applicable

**ANALYSIS OF KEY ISSUES AND OFFICER RESPONSE**

Cambridge is in an area of serious water stress as defined by the Environment Agency. The National Planning Policy Framework requires local authorities to adopt a pro-active approach to climate change and water supply and demand considerations (paragraph 94). The Cambridge Water Company Resources Management Plan indicates that there is a finite supply of water in the region and irrespective of climate change; action is required now to ensure the availability of water for future uses, including potable water supply and food production, without having a detrimental impact on the environment.

The main issue is the level of water consumption to be determined and the cost of any proposals. Developers have concerns that too low a consumption figure would lead to higher costs and therefore could potentially have an impact on the viability of developments. The National Planning Policy Framework states that issues such as water supply should be taken account of in the Local Plan over the long term (paragraph 94). As there is a finite supply of water, higher levels of water efficiency now will ensure the viability of development in the long term. The impact on viability will be a key consideration in the application of any future policy. In addition, the impact of setting water efficiency requirements through policy will also be tested as part of ongoing viability work.

Guidance contained in the Good Practice Guidance: Sustainable Design and Construction report (2012), produced to support the National Planning Policy Framework supports such an approach. It notes that there will be situations where it could be appropriate for local planning authorities to anticipate levels of building sustainably in advance of those set out nationally, citing the example of areas where high water stress means that development without high water efficiency standards would be unacceptable for its proposed location.

A high level of water efficiency in non-domestic buildings is generally less costly as a percentage of the overall construction cost to implement than in domestic buildings and therefore has a smaller impact on potential viability. There is also a higher potential for cost savings in water bills than in domestic properties. Two options were put forward in the Issues and Options Report, both linked to the BREEAM assessment methodology. Option 55 required full credits to be achieved for BREEAM water efficiency, while Option 56, while continuing to utilise the BREEAM methodology would not have required the achievement of maximum credits for water. While the advantages of Option 56 were that there would be minimal cost associated with it, water consumption reductions could be as low as 12.5% if current usage. As such, this option would have done little to respond to the severe water stress faced by Cambridge. Cambridge Water also objected to this approach on the grounds that it would not go far enough in dealing with issues of water shortage and its wider impacts.



Option 55 would ensure a longer term reduction in water consumption within non-domestic building because achieving the maximum credits would ensure that measures beyond water efficient fixtures would be installed. This would reduce the risk of inadvertent retrofit/repair/replacement using water inefficient fixtures. Cambridge Water who have made representations after the end of the issues and options consultation period would support pursuing Option 55.

**RECOMMENDATION FOR PREFERRED APPROACH**

The recommendation is to pursue Option 55, and set a policy requiring developers of non-residential developments to achieve full BREEAM credits for water, subject to viability.

**ISSUE: FLOOD RISK**

<b>Total representations: 54</b>	
<b>Object: 6</b>	<b>Support: 48</b>

<b>OPTION NUMBER/OTHER</b>	<b>KEY ISSUES ARISING FROM CONSULTATION</b>
Option 57: Develop a comprehensive flood risk reduction policy. This option would see the development of a policy setting out the principles of flood risk management to be embedded into all development proposals.	<ul style="list-style-type: none"> <li>• Strong level of support with policy development seen as vital;</li> <li>• Need for clarification as to how policy would be applied to extensions/refurbishments.</li> </ul>
<b>NEW OPTIONS ARISING FOLLOWING COMMUNITY INVOLVEMENT</b>	
No additional options have been suggested.	

**SUMMARY OF INTERIM SUSTAINABILITY APPRAISAL REPORT**

Addressing flood risk has been identified as a key issue across much of Cambridge. This option should ensure that design considerations in new developments meet the potential for increased flood risk in the future. The flood risk reduction measures proposed, such as the management of flow routes that result from surface water flooding, should help ensure the continued high quality of the city centre as a place to live, work and spend leisure time.

**KEY EVIDENCE**

- Cambridge and Milton Surface Water Management Plan (2011);
- Cambridge and South Cambridgeshire Level 1 Strategic Flood Risk Assessment

(2010);

- Cambridgeshire Green Infrastructure Strategy (2011);
- Great Ouse Catchment Flood Management Plan (2010);
- National Flood and Coastal Erosion Risk Management Strategy for England (2011)

#### **CURRENT POLICY TO BE REPLACED**

- Not applicable

#### **ANALYSIS OF KEY ISSUES AND OFFICER RESPONSE**

Paragraph 100 of the National Planning Policy Framework states that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flooding elsewhere. Local Plans should be supported by Strategic Flood Risk Assessment and develop policies to manage flood risk from all sources. Local plans should apply a sequential, risk-based approach to the location of development to avoid where possible flood risk to people and property and manage any residual risk, taking account of the impacts of climate change.

All of the local and regional studies indicate that Cambridge has a high risk of flooding that will increase in time due to the effects of climate change. This is especially true of surface water flooding. The Cambridge and South Cambridgeshire Level 1 Strategic Flood Risk Assessment (2010) shows that there are areas adjacent to the River Cam and smaller watercourses that are at varying degrees of flood risk. As all surface water drains in the watercourses and the River Cam, due consideration must be given to the impact of any new development in Cambridge upon the consequential increase in flood risk downstream.

There was a strong level of support for this option during the Issues and Options consultation and it is one of the core planning principles in the National Planning Policy Framework (paragraph 17). Cambridge City Council, under the Flood and Water Management Act 2010, are a flood risk authority and must have due regard to flood risk management (which includes the reduction of flood risk) in everything we undertake as that authority, including planning. There is a National Flood and Coastal Erosion risk Management Strategy for England that also encourages local authorities to manage flood and coastal erosion risks in an appropriate way, taking account of the needs of communities and the environment.

The policy will contain specific local requirements based on local evidence from the Surface Water Management Plan for Cambridge and Milton (2011) and the Strategic Flood Risk Assessment (2010) and therefore will not repeat national policy. This policy will mainly focus on existing flood risk and not surface water management issues, which will be dealt with under Option 51, although there will be recognition the two issues are linked. It will focus on location, resilience, resistance and appropriate design.

The scale and size of developments will be a consideration when writing the policy to ensure clarity is provided on how it will be applied to extensions and refurbishments

as measures that would be appropriate for large developments would not necessarily be appropriate for domestic extensions. The policy would also seek to clarify acceptable development in the Environment Agency's flood zone 3 (risk of fluvial flooding up to a 1 in 100 year event).

**RECOMMENDATION FOR PREFERRED APPROACH**

The recommendation is to pursue Option 57, and develop a comprehensive flood risk management policy. Criteria could include:

- Design considerations, for example the most vulnerable parts of the development being constructed in the area of least flood risk on the site;
- Areas to avoid including fluvial (river) flood risk areas and pluvial (surface water) risks for new developments and redevelopments, where practicable;
- The management of flow routes that result from surface water flooding;
- Flood resistance (preventing water from entering a property) and reliance (making a property less prone to permanent damage when flooded) measures to be included in defined areas;
- Discharge of surface water limited to 2 litres/second/hectare for all developments; and
- Surface water discharge on previously developed sites should be limited to 2 litres/second/hectare to limit the amount of water entering water courses thereby providing a positive flood risk reduction.

**ISSUE: ENHANCING THE QUALITY OF WATER BODIES**

<b>Total representations: 26</b>	
<b>Object: 3</b>	<b>Support: 23</b>

<b>OPTION NUMBER/OTHER</b>	<b>KEY ISSUES ARISING FROM CONSULTATION</b>
Option 58: Develop a water body quality policy. This option would allow for the development of a policy that would seek the improvement of the quality of water bodies affected by development proposals	<ul style="list-style-type: none"> <li>• Strong level of support for development of such a policy.</li> </ul>

**NEW OPTIONS ARISING FOLLOWING COMMUNITY INVOLVEMENT**

No additional options have been suggested.

### **SUMMARY OF INTERIM SUSTAINABILITY APPRAISAL REPORT**

This option should improve the water quality of Cambridge's water courses so that they meet the requirements of the Water Framework Directive. Enhancements to open green space where there are water bodies may have positive effects on issues such as protecting and enhancing open space provision. The contribution of waterside developments in improving water quality and the ecology of water bodies is likely to have a positive effect in ensuring that new development does not adversely impact on biodiversity. The outcomes of this policy option may also have positive implications for the quality of the public realm.

### **KEY EVIDENCE**

- Environment Agency, Anglian River Basin Management Plan (2009);
- Cambridge Water Cycle Strategy Phase 1 (2008) and Phase 2 (2011)

### **CURRENT POLICY TO BE REPLACED**

- Policy 3/9 (Watercourses and other bodies of water)

### **ANALYSIS OF KEY ISSUES AND OFFICER RESPONSE**

As a public body, the Local Planning Authority has a duty to have due consideration to the requirements of the Water Framework Directive in relation to ensuring that there is improvement to water body quality through its policies and actions. Option 58 recommended the development of a policy that would seek to ensure that developments in close proximity to water bodies would contribute to the positive improvement of those water bodies, both in terms of water quality and ecology. The policy would also consider minimum water quality criteria that is allowable to be discharged into water bodies from new developments. The National Planning Policy Framework is clear that the planning system should contribute to and enhance the natural and local environment, including preventing new development from contributing to water pollution. There was a strong level of support for this option during the Issues and Options consultation.

The Water Framework Directive and the associated Anglian River Basin Management Plan are required to be taken into consideration when creating plans under the National Planning Policy Framework. The Anglian River Basin Management Plan indicates that the water bodies in Cambridge range from 'poor' to 'moderate' in terms of quality with none currently achieving the desired status of 'good'. The Water Framework Directive requires at the very minimum no deterioration in quality with all waterbodies eventually achieving a status of 'good' and that policies and practices are pro-active in achieving improvements. Option 58 seeks to provide this pro-active policy approach, in keeping with the legal duty placed on the Council by the Water Framework Directive.

### **RECOMMENDATION FOR PREFERRED APPROACH**

The recommendation is to pursue Option 58, and develop a policy that ensures that water body quality is protected and enhanced as part of new development proposals. The criteria for inclusion in this policy could include:

- Design considerations, for example careful consideration of development in close proximity to water bodies and a requirement for positive improvement to those water bodies (both in terms of water quality and ecology of those water bodies);
- Minimum water quality criteria that is allowable to be discharged into water bodies;
- Development taking the opportunity to remove culverts from water bodies to restore them to their natural state; and
- Waterside development contributing to wider improvements to the hydromorphology and ecology of the water body.

#### ISSUE: GREEN ROOFS

<b>Total representations: 48</b>	
<b>Object: 26</b>	<b>Support: 22</b>

<b>OPTION NUMBER/OTHER</b>	<b>KEY ISSUES ARISING FROM CONSULTATION</b>
Option 59: Develop a green roof policy. This option would help to deliver green roofs on new developments	<ul style="list-style-type: none"> <li>• Some support for this approach from residents and other stakeholders due to their multiple benefits;</li> <li>• There are some concerns surrounding the impact on the viability of new development, conflict with renewable energy provision and the long-term maintenance costs of green roofs;</li> <li>• The Local Plan should not be too prescriptive.</li> </ul>
<b>NEW OPTIONS ARISING FOLLOWING COMMUNITY INVOLVEMENT</b>	
No additional options have been suggested.	

<b>SUMMARY OF INTERIM SUSTAINABILITY APPRAISAL REPORT</b>
Extensive green roofs could result in positive effects on water attenuation rates through improvements in surface water management. This can contribute positively to reducing flood risk including climate change adaptation. Similarly, green roofs can reduce the urban heat island effect. This option is likely to result in improvements to water quality, biodiversity enhancement. As the option states, the policy would require careful consideration of the appropriateness of green roofs when dealing with heritage assets, to mitigate any adverse effects.

<b>KEY EVIDENCE</b>
<ul style="list-style-type: none"> <li>• Living roofs and walls technical report: supporting London Plan Policy, Greater London Authority (2008);</li> <li>• Draft National Standards for sustainable drainage systems: Designing, constructing, operating and maintaining drainage for surface runoff, DEFRA (2011);</li> <li>• Cambridge and Milton Surface Water Management Plan (2011).</li> </ul>

<b>CURRENT POLICY TO BE REPLACED</b>
<ul style="list-style-type: none"> <li>• Not applicable</li> </ul>

#### **ANALYSIS OF KEY ISSUES AND OFFICER RESPONSE**

The use of green roofs can deliver multiple benefits not only in terms of reduction in surface water runoff but also they can reduce heating and cooling requirements and therefore the building can exhibit a carbon saving over its lifetime. They can also increase biodiversity in new developments.

Some respondents raised concerns about the impact of such a policy on the viability of development. However, as evidenced by the Living Roofs and Walls Technical Report (2008), if the right type of green roof is used in the right location they can be more cost effective than traditional roofs and can increase the time between major maintenance on flat roofs. In addition, the impact of requiring green roofs on the viability of new development will also be tested as part of ongoing viability work.

As the sustainability appraisal states, the use of green roofs can also reduce the urban heat island effect and contribute to an overall climate change adaptation position which is required under the Planning Act and a core planning principle of the National Planning Policy Framework.

It is recognised that they are not appropriate in all situations and this will be reflected in the creation of the policy, for example in certain instances where they may not relate well to the historic environment.

#### **RECOMMENDATION FOR PREFERRED APPROACH**

The recommendation is to pursue Option 59 and develop a policy requiring green roofs to be incorporated into new developments. The policy might include sizes of flat roofs that would be required and appropriate to be of a green or brown roof construction. It will also provide guidance on building refurbishments and green/brown roof requirements.

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**CHAPTER: 6 - Sustainable Development, 6.21  
Climate Change, Water & Flooding**

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**16362 Support**

Summary:

Yes, agree particularly with the last sentence, but surprised that SUDS are not already required for all developments.

### **13151 Object**

Summary:

Support the aims of Option 51. Seek flexibility in scale and massing of buildings on sites where developable land is limited to ensure that viability is not impacted upon.

### **13315 Object**

Summary:

Sensible water management is required. However, a blanket policy requiring 10-15% of the area to be set aside for water management (for example) might be totally unrealistic. This takes no account of small sites and existing development constraints.

### **18060 Object**

Summary:

Surface Water - Permeable ideal

Gravity Swales/drains ideally working with gravity, but region with immense experience of pumping water - more sustainable to collect and pump than to regrade sites (as Clay Farm, Northstowe etc)

Flooding - we have generations of expertise in region for control of water, don't reinvent the wheel.

Recognise that balancing ponds are very poor environmental assets, hazardous and usually fenced-in mud pools. Encourage occasional overspill onto green areas (as in the

river flooding of Grantchester Meadows - this is rare, exciting and re-orienting).

Rainwater - Insufficient rainfall too unevenly spread to make harvesting economical at building level, use swales and other storage mechanisms to control run-off and harvest rare occurrences.

Quality - Control agricultural run-off, chemical usage, encourage set-aside or sustainable farming in riparian areas.

Un-culvert and de-canalise where possible

Usage - 80l/day limit from mains addressed through specification of fittings and lifestyle

Recycle - at domestic level, grey water recycle - allows increase of actual usage.

### **7660 Support**

Summary:

This sounds a good balance.

### **11298 Support**

Summary:

good inclusion

### **12654 Support**

Summary:

Yes Yes Yes to all!

### **13388 Support**

Summary:

With the integration of multi-use green spaces and their use as water storage areas, it is essential that the drainage system philosophy is well documented to ensure any future development cannot alter this space, which would render the initial design useless.

The maintenance of SUDS is vitally important and this should therefore be considered to ensure it is not disproportionate to the risks of failure.

### **13800 Support**

Summary:

The trend for home-owners to pave over front gardens increases run off. the use of permeable surfaces for parking - both for houses and shopping centres - would alleviate this

### **14644 Support**

Summary:

Yes, please.

### **15161 Support**

Summary:

Support

### **16366 Support**

Summary:

Broadly agree. Bullet point 5 - what are 'ecosystem services'?



## **17737 Support**

Summary:

Natural England generally welcomes Options 41 - 59 which address sustainable development, climate change, water and flooding.

Option 51 Develop a comprehensive integrated water management policy - Natural England welcomes this option which will help to encourage the implementation of integrated water management as part of development; this is likely to provide significant multi-functional benefits including enhancement of biodiversity, GI and landscape and mitigation of the urban heat island effect.

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## **CHAPTER: 6 - Sustainable Development, Questions - Beyond Sustainable Drainage Systems Climate Change, Water &**

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## **7571 Support**

Summary:

It is fundamentally essential that the density of population is controlled first. High density of population will create larger problems of water usage and control than low density population. If you build a route cause problem you have to live with the problem forever

## **10275 Support**

Summary:

The Wildlife Trust supports development of such a policy option

## **10937 Support**

Summary:

Yes, although increasing the number of people in Cambridge is not going to help us save water!

**9047 Object**

Summary:

No. This is the statutory responsibility of the water authority

**12053 Object**

Summary:

No separate policy is required - the matter is already covered in Option 42 and any detailed guidance can be contained in the Sustainable Design & Construction SPD.

**6981 Support**

Summary:

Yes - and I would support the policy entitled Option 51.

**7277 Support**

Summary:

Important to have policy

**7369 Support**

Summary:

yes

**7992 Support**

Summary:

Yes.

**8276 Support**

Summary:

need policy

**8607 Support**

Summary:

The Trumpington Residents' Association supports Option 51. It is vitally important to safeguard the water supply for the city and reduce the risk of flooding.

**9190 Support**

Summary:

It is necessary to have a policy. The issue is that developers will take the short-term financial gain but do not incur the long-term risks of the consequences of flooding, in that development or elsewhere. (Amongst those consequences would be inability to insure against flood damage.) Predictions are that, even without new development, flood risk will increase.

**10182 Support**

Summary:

Water management is critical for quality of life, for adaptation to climate change and biodiversity.

**10788 Support**

Summary:

Good for biological diversity too

**11299 Support**

Summary:

yes, there is a need.

**13042 Support**

Summary:

Water management ought to be integrated as a piece meal approach would create adverse affects by not considering all the relevant aspects.

**13345 Support**

Summary:

Yes policy is required to ensure surface water is managed in a sustainable and appropriate way. However, with the introduction of the Flood and Water Management Act and subsequent SUDS Approving Bodies (part of CCC) there is a risk of unnecessarily duplicating elements of the planning process.

**13487 Support**

Summary:

Yes

## **14943 Support**

Summary:

Yes, support.

## **16195 Support**

Summary:

Whilst we support the proposed inclusion of an integrated water management policy, we believe that the policy should be overarching, and could not be too descriptive, due to the variation of development types and site specific geography that the policy would have to cover.

We would be happy to assist further in the development of a policy to address this issue.

## **16369 Support**

Summary:

Yes

## **17817 Support**

Summary:

Yes

## **18421 Support**

Summary:

The County Council supports this policy option given that the scale of development being considered in Cambridge and the possible disappearance of relevant policies (WAT 1-4) from the Regional Strategy.

## **18526 Support**

Summary:

We support Option 51. It is vitally important to safeguard the water supply for the city and reduce the risk of flooding.

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### **CHAPTER: 6 - Sustainable Development, Question 6.25 Climate Change, Water &**

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## **13674 Object**

Summary:

The drainage issues are not being dealt with well. Surface water drainage is more of a threat to houses than the river rising. This is unacceptable.

## **17818 Object**

Summary:

Encourage the use of more permeable surfaces and disallow paving over where not absolutely necessary to reduce need for runoff and increase levels of natural aquifers.

## **18422 Object**

Summary:

The Council should also refer to the Cambridgeshire SuDs Handbook

## **7993 Support**

Summary:

Option 51 covers the ground well: it is vital that we manage surface water properly and sustainably. Added development costs should not be a major consideration.

## **9147 Support**

Summary:

Water management must be at the very centre of all decisions - and should be the key factor taken into account before all others. Acute problems with the water balance - drought, flood and water quality must take priority over all else. If adequate provision and high enough standards can not be guaranteed then there should be no further applications considered at all.

## **13625 Support**

Summary:

Clarity is required stating if this policy is relevant to extensions and refurbishments, and if so, to what degree. A reiteration of the Flood and Water Management Act preference for above ground surface water conveyance and storage would be beneficial.

## **16199 Support**

Summary:

Within this policy you could also refer back to your authority's SuDS Guidance.

### **15949 Object**

Summary:

On most projections, Cambridge will not have enough water, even for its present and currently planned population. This factor alone should apply a brake on the city's expansion. It's surprising, in fact, that it hasn't already. A nationwide water grid is unlikely to be constructed, for reasons of cost, and similarly, a desalination plant would prove prohibitively expensive. Which leaves us here in a part of Britain with a serious problem - and unless the rain-rich but fairly dismal experience of recent weeks becomes the summer norm there is no solution short of comprehensive metering and/or rationing.

### **15820 Support**

Summary:

The forum is pleased that the document recognises that Cambridge is in an a of severe water stress and we welcome the suggested mitigation measures. This issues, however, also calls into question the level of growth envisaged.

### **7661 Support**

Summary:

Good plan.

### **7102 Object**

Summary:

Water neutrality, however desirable in theory, is surely impossible to achieve in practice without the expenditure of energy in pumping, itself an unsustainable activity.

### **14645 Object**

Summary:

Are these actually achievable or is the outcome measurable? Are the available technologies sufficiently reliable to support the implementation of any of these policies

### **17839 Object**

Summary:

We object to Options 52,53 and 55, not because we are opposed to the promotion of water efficiency but because we believe that sustainability needs to be considered at a holistic level rather than item by item. It is simply unrealistic to expect new development to viably deliver in excess of building regulations on water efficiency and other measures.

### **7662 Support**

Summary:

Important.

### **10290 Support**

Summary:

The Wildlife Trust supports development of such a policy option as the only sustainable option compatible with the conservation of wetland and river wildlife in southern Cambridgeshire, including that associated with nationally important SSSIs and the chalk stream priority habitats.

### **11300 Support**

Summary:

Good idea, if do-able.

### **12660 Support**

Summary:

This seems to be the only viable, sustainable option, even though the most expensive. But how else can we deal with the expansion here in Cambridge, one of the driest areas of the Country. This is the responsible approach in order to conserve the wildlife in this area.

### **15162 Support**

Summary:

Support

### **15827 Support**

Summary:

The forum considers that the most stringent level of water efficiency is essential in view of the level of growth that is likely to take place in the sub-region. We acknowledge that this will be costly, but a sustainable approach requires us to invest now in measures that will safeguard the future.

### **16205 Support**

Summary:

We would support either of these options for water efficiency measures within new homes.

### **17738 Support**

Summary:

Natural England generally welcomes Options 41 - 59 which address sustainable development, climate change, water and flooding.

### **10298 Object**

Summary:

The Wildlife Trust objects to this policy option as unsustainable for and incompatible with the conservation of the natural environment including wetlands and rivers of Cambridge and southern Cambridgeshire.

### **13789 Object**

Summary:

Personally i do not see how this could possibly be achieved. I am careful how I use water, have water butts etc for the garden, but even so my usage is around 150 litres per day.

### **14646 Object**

Summary:

Are these actually achievable or is the outcome measurable? Are the available technologies sufficiently reliable to support the implementation of any of these policies

### **15159 Object**

Summary:

Object

### **17840 Object**

Summary:

We object to Options 52,53 and 55, not because we are opposed to the promotion of water efficiency but because we believe that sustainability needs to be considered at a holistic level rather than item by item. It is simply unrealistic to expect new development to viably deliver in excess of building regulations on water efficiency and other measures.

### **16208 Support**

Summary:

We would support either of these options for water efficiency measures within new homes.

### **17741 Support**

Summary:

Natural England generally welcomes Options 41 - 59 which address sustainable development, climate change, water and flooding.

### **10297 Object**

Summary:

The Wildlife Trust objects to this policy option as completely unsustainable for and incompatible with the conservation of the natural environment including wetlands and rivers of Cambridge and southern Cambridgeshire.

### **14647 Object**

Summary:

Are these actually achievable or is the outcome measurable? Are the available technologies sufficiently reliable to support the implementation of any of these policies

### **15160 Object**

Summary:

Object

### **16213 Object**

Summary:

We would question as to whether option 54 is as innovative an approach as your authority state in your Vision and Objectives, you are attempting to achieve.

### **10412 Support**

Summary:

Support option 54.

Other measures appear too much like Big Brother and the water Police.

### **17742 Support**

Summary:

Natural England generally welcomes Options 41 - 59 which address sustainable development, climate change, water and flooding.

### **17842 Support**

Summary:

We would support Options 54 and 56 which uses a measure that looks at the sustainability of the overall development rather than focussing on and seeking enhanced measures for specific elements.

### **7170 Object**

Summary:

Having raised the issue of Sustainability and the implicit impact of Water Sufficiency, in a semi arid zone, ignored by Cambridge Horizons, in 2005, we are still on the margins of supply. Additional sources, pipelines and conservation must balance any incremental growth in populations. The Infrastructure is required before further development is undertaken, not in parallel.

### **12055 Object**

Summary:

No separate policy required - this should be left to the Code for Sustainable Homes/BREEAM to achieve the highest water efficiency levels practicable. Guidance could be incorporated in the Sustainable Design & Construction SPD.

### **13319 Object**

Summary:

The principle of water efficiency is acceptable, but there is no recognition of how this would actually work in practice. For example, these figures are unenforceable in HMOs, where the occupants are not of the same family (and they do not have an investment in the building), and cultural differences might lead to very different expectations as to water use.

### **13328 Object**

Summary:

The principle of water efficiency is acceptable, but there is no recognition of how this would actually work in practice. For example, these figures are unenforceable in HMOs, where the occupants are not of the same family (and they do not have an investment in the building), and cultural differences might lead to very different expectations as to water use.

### **6983 Support**

Summary:

Yes, there is a need for such a policy - and I would support the policy entitled Option 52 applied to new build, extensions, and refurbishments (though I wonder whether the numbers listed against cost in options 52-54 are correct ?)

However, this would need to be achieved by increased efficiency of recycling and waste reduction, not by restriction on primary uses such as washing and drinking.

### **7150 Support**

Summary:

Undoubtedly. Shortage of water for human consumption will sooner rather than later put a limit on the development of the sub-region. All policies of the sort proposed might extend the period before that limit is reached but it will be reached eventually and planning must take it into account.

### **7278 Support**

Summary:

Self-evident need for policy.

### **7370 Support**

Summary:

yes

### **7663 Support**

Summary:

Yes, we can't manage our water demands without a clear policy.

### **7994 Support**

Summary:

Yes.

### **8278 Support**

Summary:

need policy

### **8608 Support**

Summary:

The Trumpington Residents' Association supports the need for a policy addressing water efficiency in residential developments.

### **10186 Support**

Summary:

Water supply is critical in this part of the country. Although Cambridge Water has a very good record the aquifer that supplies must be used sustainably.



## **10282 Support**

Summary:

The Wildlife Trust supports development of such a policy option

## **13412 Support**

Summary:

Yes this policy is required to encourage developers to consider rainwater and grey water re-use. This is often one of the first elements to be value engineered out of a project despite its clear benefit to property owners (bills) and the environment.

## **13488 Support**

Summary:

Yes

## **15776 Support**

Summary:

Yes

## **16371 Support**

Summary:

Yes

## **17429 Support**

Summary:

a policy is needed to address the issue of water efficiency in residential development

## **17819 Support**

Summary:

Yes this is an area of severe water stress

## **18423 Support**

Summary:

The County Council supports such a policy, given that the existing policies (WAT 1-4) in the Regional Strategy may disappear eventually. There are overarching EU Directives relating to Water and Waste Water which need to be strictly observed against a background of climate change. Part 4 of the National Policy Statement on Waste Water published in March 2012 may be useful in adding context.

## **18527 Support**

Summary:

We support the need for a policy addressing water efficiency in residential developments.

### **8439 Object**

Summary:

I'm puzzled by the figures. Has a zero been missed off?

### **10188 Object**

Summary:

We propose an intermediate option. The council should evaluate water availability for residential needs, taking into account environmental considerations and also potentially increasing agricultural need. From this a target ceiling should be set which would hopefully allow for some new houses at the 80 l/p/day level. After that, all new developments must be water neutral. Also, the council could allow for some of the 80 l/p/day target to be met offsite through the water offsetting fund described in para 6.27. This allows the developers to decide which is cheaper, on or off site and benefits the wider community.

### **10191 Object**

Summary:

We propose an intermediate option. The council should evaluate water availability for residential needs, taking into account environmental considerations and also potentially increasing agricultural need. From this a target ceiling should be set which would hopefully allow for some new houses at the 80 l/p/day level. After that, all new developments must be water neutral. Also, the council could allow for some of the 80 l/p/day target to be met offsite through the water offsetting fund described in para 6.27. This allows the developers to decide which is cheaper, on or off site and benefits the wider community.

### **10286 Object**

Summary:

The Wildlife Trust believes that with the proposed levels of growth to Cambridge, option 52 water neutrality must be adopted. Already there are many wetland SSSIs and our chalk rivers in southern Cambridgeshire that are regularly put under stress during drought or dry periods. The situation does not need exacerbating

### **17383 Object**

Summary:

Water efficiency - further policies are needed to engage the existing community in usage reduction/water efficiency including clear requirements on major new developments to support offset water usage reduction

### **17821 Object**

Summary:

Option 52 may be too onerous, and ultimately unachievable, so Option 53 would be preferred.

### **6984 Support**

Summary:

Option 54 - but see answer to previous question

Previous question response:

I would also support the policy entitled Option 52 applied to new build, extensions, and refurbishments (though I wonder whether the numbers listed against cost in options 52-54 are correct?). However, this would need to be achieved by increased efficiency of recycling and waste reduction, not by restriction on primary uses such as washing and drinking.

### **7104 Support**

Summary:

I rule out water neutrality as being impossible to achieve in practice. I would opt for the third option (Option 54), being the most practical.

### **7279 Support**

Summary:

Option 52. Important measure. despite the expense. Will force imaginative solutions.

### **7371 Support**

Summary:

Option 52

### **7764 Support**

Summary:

If option 52 is really just £320/house more costly than option 53 it is appropriate.

High water efficiency should be required since with limited water capacity locally the need for more water will impose costs on other users.

## **7995 Support**

Summary:

Option 52. Abstraction levels from the chalk aquifer are already so high that they adversely affect flows in watercourses (e.g. Hobson's Brook), particularly at times of high demand in the summer. Everything possible should be done to either stabilise or reduce demand.

## **8280 Support**

Summary:

support option 52

## **8609 Support**

Summary:

The Trumpington Residents' Association supports Option 53, 80 litres per head per day. Transition Cambridge has calculated that current consumption is around 110 litres per head per day. Developers should be required to build for the future. It is much easier to build water efficiency into a new property than to update an older building.

## **9048 Support**

Summary:

Option 54 - but why 105 and not 100?

## **9213 Support**

Summary:

There is clearly a need for a policy. An investment in reduction of water use will be paid back in lower bills (in the same way as it is now standard to invest in thermal insulation to reduce energy bills). Reference 24 states the aspiration to water neutrality. I recommend that developments completed by 2022 be subject to Option 53. Any that are completed after 2022 are subject to 52. Water metering should be in place in all residences by 2022.

## **10941 Support**

Summary:

Option 53, at the moment. We have to start planning and preparing for water shortages.

## **13431 Support**

Summary:

Option 53 is the most workable solution in the short term taking into account current technology. However, the clear intention of option 52 being implemented in (say) 5 years time should be stated to encourage innovation.

## **13490 Support**

Summary:

Option 53

## **16374 Support**

Summary:

Option 52 preferred.

## **17432 Support**

Summary:

It seems unlikely that Options 52 - water neutrality will be achievable and Option 53 should be striven for, because even if this level is not attainable it will be more effective at reducing use than setting higher levels of use.

## **18424 Support**

Summary:

The County Council supports Option 52; water neutrality is already an aspiration in the Joint Water Cycle Strategy (WCS)(Phase 2) for Cambridge and South Cambridgeshire (June 2011)

## **18528 Support**

Summary:

We support Option 53, 80 litres per head per day. Transition Cambridge has calculated that current consumption is around 110 litres per head per day. Developers should be required to build for the future. It is much easier to build water efficiency into a new property than to update an older building.

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**CHAPTER: 6 - Sustainable Development, Question 6.29**  
**Climate Change, Water &**

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**9049 Object**

Summary:

You cannot use a one-size-fits-all solution because family sizes and needs vary so much. In any case, needs will change in line with climate change

**11444 Object**

Summary:

In an area such as Cambridge which lies on chalk, the aquifer can be treated as a free rainwater collection system. Therefore artificial water collection and storage can only be inferior. Water conservation (eg greywater use) has merit. The key is to ensuring that rainwater goes into the aquifer and doesn't simply run off (eg by increased built-up areas)

**17381 Object**

Summary:

Water efficiency - further policies are needed to engage the existing community in usage reduction/water efficiency including clear requirements on major new developments to support offset water usage reduction

**17384 Object**

Summary:

Water efficiency - further policies are needed to engage the existing community in usage reduction/water efficiency including clear requirements on major new developments to support offset water usage reduction

**18425 Object**

Summary:

A reference to the Water Cycle Strategy would add context.

**18593 Object**

Summary:

It is unclear when mention of extensions and refurbishments is made, whether the entire properties would be required to meet these standards or just the water use in the new part.

**7996 Support**

Summary:

In addition Cambridge Water Company should be strongly encouraged to push for installing water meters in all domestic properties in order to raise awareness of water consumption.

**17434 Support**

Summary:

The City Council could take a stronger line on reducing water use and not leave it just to Cambridge Water Company. Educating us to use water more efficiently is not just a job for the Water Company.

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**CHAPTER: 6 - Sustainable Development, Question 6.30**  
**Climate Change, Water &**

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**16821 Object**

Summary:

I am concerned by flooding that may be caused by houses being built on the flood plain or even on land that allows water to soak away

**17386 Object**

Summary:

Water efficiency - further policies are needed to engage the existing community in usage reduction/water efficiency including clear requirements on major new developments to support offset water usage reduction

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**CHAPTER: 6 - Sustainable Development, 6.29**  
**Climate Change, Water &**

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**14648 Support**

Summary:

New buildings should adopt the best available and generally accepted standards

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**CHAPTER: 6 - Sustainable Development, Option 55 - Water Efficiency - non domestic buildings  
Climate Change, Water &**

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**13152 Object**

Summary:

We would have concerns regarding the impact on development viability as a result of Option 55 should it become policy. This would be difficult to implement when retrofitting existing buildings and would have significant cost implications for developers of new buildings which again would impact on development viability.

**13330 Object**

Summary:

Colleges are already stretched in trying to maintain a huge investment in heritage buildings - partly for the benefit of the city in regards to tourism - without additional costs to achieve specific water targets.

**17841 Object**

Summary:

We object to Options 52,53 and 55, not because we are opposed to the promotion of water efficiency but because we believe that sustainability needs to be considered at a holistic level rather than item by item. It is simply unrealistic to expect new development to viably deliver in excess of building regulations on water efficiency and other measures.

**7664 Support**

Summary:

Sounds sensible.

**12663 Support**

Summary:

support

**15830 Support**

Summary:

All non-domestic developments should be designed to achieve the highest water efficiency levels practicable. See comment below:

The forum considers that the most stringent level of water efficiency is essential in view of the level of growth that is likely to take place in the sub-region. We acknowledge that this will be costly, but a sustainable approach requires us to invest now in measures that will safeguard the future.

**17744 Support**

Summary:

Natural England generally welcomes Options 41 - 59 which address sustainable development, climate change, water and flooding.

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**CHAPTER: 6 - Sustainable Development, Option 56 - Water Efficiency - non domestic buildings  
Climate Change, Water &**

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**13155 Support**

Summary:

We would support option 56 in terms of achieving very good to excellent BREEAM for water efficiency. The lower cost implications would assist with the viability of development, however there would be concerns that by using minimum standards, water consumption would actually not be reduced significantly enough to justify the costs of implementation. Issues of development viability must be considered when drafting this policy. Requirements should not be above and beyond those set out in current Building Regulations as this could threaten development viability within the city.

**13332 Support**

Summary:

Conversely, we would support moves to reduce consumption where possible, and a reasonable target can be better communicated to those who actually use the water.

**14649 Support**

Summary:

New buildings should adopt the best available and generally accepted standards

**17746 Support**

Summary:

Natural England generally welcomes Options 41 - 59 which address sustainable development, climate change, water and flooding.

**17843 Support**

Summary:

We would support Options 54 and 56 which uses a measure that looks at the sustainability of the overall development rather than focussing on and seeking enhanced measures for specific elements.

### **12060 Object**

Summary:

There is no need for Local Plan policy on this matter. The principles can be established in the overarching sustainable development policy. The details should relate to BREEAM requirements and be incorporated into the Sustainable Design & Construction SPD.

Option 55 is not supported as it lacks flexibility.

### **17387 Object**

Summary:

Water efficiency - further policies are needed to engage the existing community in usage reduction/water efficiency including clear requirements on major new developments to support offset water usage reduction

### **7372 Support**

Summary:

yes

### **7997 Support**

Summary:

Yes.

### **8281 Support**

Summary:

need policy

### **8440 Support**

Summary:

yes

### **8610 Support**

Summary:

The Trumpington Residents' Association supports the need for a policy addressing water efficiency in non-domestic buildings.

### **10192 Support**

Summary:

Yes we need a policy for non-domestic water usage as for domestic water usage

### **11445 Support**

Summary:

Support

### **13491 Support**

Summary:

Yes

### **16290 Support**

Summary:

We object to Option 55, not because we are opposed to the promotion of water efficiency but because we believe that sustainability needs to be considered at a holistic level rather than item by item. It is simply unrealistic to expect new development to viably deliver in excess of building regulations on water efficiency and other measures.

We would support Option 56 which uses a measure that looks at the sustainability of the overall development rather than focussing on and seeking enhanced measures for specific elements.

### **16378 Support**

Summary:

Yes

### **17436 Support**

Summary:

A policy is needed to address the issue of water consumption in non-residential buildings.

### **17823 Support**

Summary:

Yes and should be the same or higher standards than residential standards.

## **18426 Support**

Summary:

The County Council supports such a policy, given that the existing policies (WAT 1-4) in the Regional Strategy may disappear eventually. There are overarching EU Directives relating to Water and Waste Water which need to be strictly observed against a background of climate change. Part 4 of the National Policy Statement on Waste Water published in March 2012 may be useful in adding context.

## **18529 Support**

Summary:

We support the need for a policy addressing water efficiency in non-domestic buildings.

### **17389 Object**

Summary:

Water efficiency - further policies are needed to engage the existing community in usage reduction/water efficiency including clear requirements on major new developments to support offset water usage reduction

### **17824 Object**

Summary:

I'm not clear on how these compare with the domestic proposed standards. Standards should be the same or higher than for residential buildings

### **6985 Support**

Summary:

There is a need for such a policy. I would prefer the option entitled Option 55.

However, there would probably need to be exceptions - provision of swimming pools is the first that comes to mind, though I don't know enough about water management to be sure that this is a real problem for them.

### **7373 Support**

Summary:

Option 55 - less wriggle room

### **7763 Support**

Summary:

Option 55 - demanding the highest efficiency - is appropriate. Given the restricted amount of water available locally lower efficiency will increase the cost of water for existing users.

### **7998 Support**

Summary:

Option 55. Abstraction levels from the chalk aquifer are already so high that they adversely affect flows in watercourses (e.g. Hobson's Brook), particularly at times of high demand in the summer. Everything possible should be done to either stabilise or reduce demand.

### **8282 Support**

Summary:

Option 55 preferred as option 56 does not achieve aims

### **8442 Support**

Summary:

Option 55 because of limited water resources

### **8611 Support**

Summary:

The Trumpington Residents' Association supports Option 56, assessed using the BREEAM method unless a more appropriate method becomes available, as the more realistic option.

### **9050 Support**

Summary:

Option 56

### **13494 Support**

Summary:

Option 55

### **16380 Support**

Summary:

Option 55 preferred.

### **17438 Support**

Summary:

Option 55 is preferred as this is the more rigorous target to reduce water use in non-residential buildings

### **18427 Support**

Summary:

The County Council supports Option 56, Water Efficiency - BREAM, as the costs of this approach are less onerous and yet a given scheme could still achieve BREEAM accreditation of "very good" or "excellent".



## 18530 Support

Summary:

We support Option 56, assessed using the BREEAM method unless a more appropriate method becomes available, as the more realistic option.

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### CHAPTER: 6 - Sustainable Development, Question 6.33 Climate Change, Water &

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## 17390 Object

Summary:

Water efficiency - further policies are needed to engage the existing community in usage reduction/water efficiency including clear requirements on major new developments to support offset water usage reduction

## 17441 Support

Summary:

I do not know if there is a more appropriate assessment

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### CHAPTER: 6 - Sustainable Development, Question 6.34 Climate Change, Water &

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## 17391 Object

Summary:

Water efficiency - further policies are needed to engage the existing community in usage reduction/water efficiency including clear requirements on major new developments to support offset water usage reduction

## 10195 Support

Summary:

Water efficiency for non-domestic buildings should take into account water availability as for 6.28.

## 17444 Support

Summary:

The City Council could take a stronger line on reducing water use and not leave it just to Cambridge Water company. Educating us to use water more efficiently is not just a job for the Water Company.

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### CHAPTER: 6 - Sustainable Development, Question 6.35 Climate Change, Water &

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## 17392 Object

Summary:

Water efficiency - further policies are needed to engage the existing community in usage reduction/water efficiency including clear requirements on major new developments to support offset water usage reduction

## 17825 Object

Summary:

Single policy for residential and non residential buildings.

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### CHAPTER: 6 - Sustainable Development, 6.30 Climate Change, Water &

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## 8116 Support

Summary:

It is important that the words "with due consideration of the risk to the development and the existing built environment" be clearly defined and that process and procedures be set up to establish what is to be taken into account and how. Mechanisms should be designed to neutralise any negative externality that development imposes on existing built environment in terms of flood risk.

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### CHAPTER: 6 - Sustainable Development, 6.31 Climate Change, Water &

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## 7291 Support

Summary:

Bin Brook has flooded several times in recent history and as such is a threat to the houses close to its course. Any additional development in its catchment that causes more runoff water to drain into the brook will make the problem much worse not only locally but also to homes to colleges close to the Cam, and should therefore be avoided at all costs.

## 8123 Support

Summary:

The Bin Brook is a good example of small watercourse that floods into existing built areas and where existing measures to reduce flood risk (construction of a channel) are making a difference but appear to be insufficient at times. Any development in the drainage basin of the Bin Brook (likely to include the North and South of Barton Road) should be prevented as it is likely to significantly worsens the situation. Residents and users of existing built should not see their flood risk increase as a result of development.

### **16384 Object**

Summary:

Support broadly, but in bullet point 2, delete the phrase 'where practicable' - no flood plains should be built on.

### **9865 Support**

Summary:

because there is a serious problem with flooding including lack of run-off capacity - a particular problem in West cambridge

### **9866 Support**

Summary:

because of flood risk and also the particular problem of lack of run-off capacity

### **10181 Support**

Summary:

Support because there is a serious problem with flooding including lack of run-off capacity - a particular problem in West Cambridge.

### **10413 Support**

Summary:

Flooding of ones home is so dreadful and so expensive that flood risk reduction within financial constraints is obviously to be supported.

### **12664 Support**

Summary:

Strongly agree.

### **13336 Support**

Summary:

Support

### **13427 Support**

Summary:

It is vital in an area like this that a clear policy is developed. A failure to do so could have terrible consequences.

### **13542 Support**

Summary:

It is agreed that discharge on previously developed sites should ideally have flow rates restricted to greenfield run-off rates. However, clarity is required as to when this policy is implemented in relation to extensions/refurbishment/part new build works.

### **13565 Support**

Summary:

As I indicated above for Option 41, it is particularly important to consider the effect of any development on flood risk since development reduces drainage capacity of a given area and increases the risk of flooding. Recent unpredictable weather patterns would confirm the need for extreme caution. This aspect of development and its consequences needs comprehensive and detailed planning.

### **14132 Support**

Summary:

yes - prevent development in risky places and make the ground able to absorb rain run off - more vegetation, less tarmac, concrete etc. We're losing garden space in existing areas to hardstanding for cars, garages, greenhouses, patios, driveways etc etc - bad news for wildlife and flooding.

### **14213 Support**

Summary:

Avoid building on land currently acting as "soak away" for storm water.

### **14650 Support**

Summary:

Can we please stop building in flood plains and in areas which hold back heavy rainfall at a time when it rains less often but more heavily. Limiting discharge but where are you sending it? It is the capacity of the storm drainage system that is being compromised and it is barely 25 years since the previous serious storm flooding problems were dealt with in Chesterton

### **14851 Support**

Summary:

We must stop building in areas where there is a significant (medium to high) flood risk, not just for the sake of householders who might move into these new houses, but to ensure matters aren't made worse when there is nowhere for the water to drain away.

## **16727 Support**

Summary:

Support subject to avoiding building on land currently acting as "soak away" for storm waters.

## **17747 Support**

Summary:

Natural England generally welcomes Options 41 - 59 which address sustainable development, climate change, water and flooding.

### **10183 Object**

Summary:

because there is a serious problem with flooding, including lack of run-off capacity - a particular problem in West Cambridge.

### **12062 Object**

Summary:

There is no need for a separate Local Plan policy - this is a matter for the Environment Agency

### **6986 Support**

Summary:

Clearly there is a need for a policy on flood risk reductions.

However, I am not clear on how developments (whether existing or new) are supposed to prevent discharge of water in excess of the limit of 2 litres / second / hectare if more water than that is raining on them ?

### **7105 Support**

Summary:

Undoubtedly. Current policies seem to be working well, but massive peripheral development requires the development of new policies which will have to be kept under constant review.

### **7374 Support**

Summary:

yes

### **7999 Support**

Summary:

Yes.

### **8094 Support**

Summary:

Given the findings reported in the Surface Water Management Plan for Cambridge it is essential that a comprehensive flood reduction policy be developed and implemented.

Because of the climate change it should be informed by past weather data as well forecasts.

This policy should inform that developments should not be allowed in the drainage basins of watercourses which are known to already flood existing houses and buildings, such as the Bin Brook, unless investments are made and continue to be made to maintain the flood risk to existing 2012 levels or lower (to prevent any negative externality).

### **8284 Support**

Summary:

policy needed

### **8612 Support**

Summary:

The Trumpington Residents' Association agrees that it is vital to develop a comprehensive flood risk policy and supports Option 57.

### **9149 Support**

Summary:

absolutely

### **9226 Support**

Summary:

The policy is required and is consistent with Strategic Objective 2: To ensure that all new developments have a neutral impact on water, contribute to an overall flood risk reduction and help improve the quality of the River Cam and other water features in the city.

is it possible to generate a model for the Region so that the non-local effects of development can be predicted (provides guidance / saves time for development proposals) and allows different authorities to work consistently and in concert.

### **13454 Support**

Summary:

Yes this policy is required. The current Environment Agency guidelines of a flood risk assessment only being required in a fluvial flood zone, or if a developable area is in excess of 1Ha, enables flooding from various other sources to be ignored. Policy should require that flooding from all sources is considered.

### **13496 Support**

Summary:

Yes

## **13680 Support**

Summary:

Yes

## **14952 Support**

Summary:

Yes, support.

## **16387 Support**

Summary:

Yes

## **17393 Support**

Summary:

Flood risk - there needs to be clearer control on all new development in known flood risk areas, to prevent the prospect of increasing flood risk to existing property, as well as to protect occupants of new development

## **17826 Support**

Summary:

Yes

## **18428 Support**

Summary:

The County Council considers this policy to be necessary and therefore supports it as the Lead Flood Authority under the 2010 Flood and Water Management Act. The Council should also refer to the Cambridgeshire SuDs Handbook.

## **18531 Support**

Summary:

We agree that it is vital to develop a comprehensive flood risk policy and supports Option 57.

### **8286 Object**

Summary:

Remove the words 'where practicable' from second bullet point in this option as new developments should simply not be allowed in areas at risk of significant flooding. 'Where practicable' might be retained for re-developments in these areas, but re-developments in significant flood risk areas should be justified.

### **17550 Object**

Summary:

There should be no building near the river in areas subject to flooding.

### **18099 Object**

Summary:

It is evident to be a recurring problem, worsening with Climate change. Resultant loss of wildlife nesting & habitat. A future Plan for upstream balancing lakes/ Nature Park should be considered within Policy. Extent of none development areas; Propose a Plan to maintain river side public access (continuous) throughout the City river length. New planting co-ordinated with flood areas could be beneficial towards wild life & water management. Severe risk is likely to become worse (extent of severe risk). Resultant contamination and management needs future control - possibility for sewer pollution in floods.

### **6895 Support**

Summary:

Coe Fen and Sheeps Green used to flood regularly, now very rarely - because of more effective use of the use of Grantchester Meadows as a potential large reservoir taking the watershed from Cam/Granta/Rhee, which can be released gradually through sluices above the city, No development should be carried out between the Grantchester and Trumpington roads without taking account of this protection.

### **8000 Support**

Summary:

Option 57 covers this well. The reference to "previously developed sites" is important e.g. the former Council estate in Trumpington which feeds unrestricted surface water drainage into Hobson's Brook.

### **8108 Support**

Summary:

This policy should clearly state criteria for success in implementation.

Examples include: present flood risk of existing houses and buildings could not be worsened as a result of development. Last flood risk measures developed by the Environment Agency could be used as baseline.

This policy should also set out the procedures by which remedies can be obtained if the policy fails to reach its objectives.

### **8441 Support**

Summary:

yes

### **9051 Support**

Summary:

Cannot be done in isolation from other authorities (SCDC, County, AWA)

### **11789 Support**

Summary:

With increasing wet weather likely in the next two decades building should not be permitted in flood plains or on land currently acting as soak away for storm waters.

### **13475 Support**

Summary:

Although there is a requirement to control discharge flow rates, there is no mention of controlling discharge volumes.

### **13497 Support**

Summary:

I am particularly interested in the CamToo Project (<http://www.camtoo.co.uk/>), which includes a flood relief channel in Stourbridge Common, as well as improving cycling infrastructure in the area. This proposal deserves increased attention.

### **14953 Support**

Summary:

'Development' should also include caravan sites and associated hardstandings.

### **17106 Support**

Summary:

The paper correctly talks about the risk of flood risk in the area, but does not refer back to Chapter 3, where a number of the location options (in particular 1 and 4) are highlighted as being in the flood plain. The QTSQ document submitted by the Parish Councils of Barton, Coton, Grantchester and Madingley cover this flood risk in the area, and sets out why further housing development would be inappropriate, and why green development is the correct future for that area.

## **17395 Support**

Summary:

Flood risk - there needs to be clearer control on all new development in known flood risk areas, to prevent the prospect of increasing flood risk to existing property, as well as to protect occupants of new development

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### **CHAPTER: 6 - Sustainable Development, Question 6.38 Climate Change, Water &**

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## **9052 Support**

Summary:

Take an intelligent view of actual long-term risks.

## **17396 Support**

Summary:

Flood risk - there needs to be clearer control on all new development in known flood risk areas, to prevent the prospect of increasing flood risk to existing property, as well as to protect occupants of new development

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### **CHAPTER: 6 - Sustainable Development, Option 58 - Develop a water body quality policy Climate Change, Water &**

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## **10304 Support**

Summary:

The Wildlife Trust supports development of such a policy option

## **11302 Support**

Summary:

Yes!

## **12666 Support**

Summary:

agree

## **13250 Support**

Summary:

Naturalisation of water bodies within urban areas is important for a healthy environment and softening the landscape of the city. The policy should require provision in budgets and resources for improving streams such as Cherry Hinton Brook.

## **13339 Support**

Summary:

Support

## **13827 Support**

Summary:

Important to do

## **14651 Support**

Summary:

We have attempted repeatedly to get the discharge of foul water from Chesterton Fen into the Cam taken seriously but Anglian Water uses casuistry to avoid their obligation to provide an adequate main drainage system.

## **15832 Support**

Summary:

The forum strongly supports the development of a water body quality policy along the lines set out here.

## **16220 Support**

Summary:

We would strongly support the proposal to produce a policy to address water body quality issues.

## **17749 Support**

Summary:

Natural England generally welcomes Options 41 - 59 which address sustainable development, climate change, water and flooding.

### **9053 Object**

Summary:

Encourage, but do not require. It will add unnecessarily to building costs. Guidance targets only.

### **12063 Object**

Summary:

There is no need for a separate Local Plan policy - this is a matter for the Environment Agency

### **18429 Object**

Summary:

The County Council objects to this policy; The Water Framework Directive is already addressed through the Environment Agency Action Plan as part of the River Basin Management Plan. Appropriate recognition of the EA's role should be given to allow for full and effective coordination of the water environment elsewhere in a later draft. The SEA should consider all the likely significant effects upon the environment, which includes biodiversity and the water environment, as well as economic and social factors. The preparation of a Local Plan may require Appropriate Assessment where there is a likely significant effect upon a European site, which not be necessarily in the same local authority area. The Water Cycle Strategy for Cambridge Phase One Report refers to sites in Norfolk, given that water is sourced from aquifers within the Breckland SAC/SPA (para 9.3.1)

[http://www.cambridgeshirehorizons.co.uk/documents/environment/Cambridge\\_area\\_wcs\\_phase1.pdf](http://www.cambridgeshirehorizons.co.uk/documents/environment/Cambridge_area_wcs_phase1.pdf)

### **6987 Support**

Summary:

Yes - and I would support the policy entitled Option 58.

### **7375 Support**

Summary:

yes

### **8001 Support**

Summary:

Yes. Option 58 covers this well.

### **8288 Support**

Summary:

policy needed

### **8443 Support**

Summary:

yes

### **10789 Support**

Summary:

Yes - important

### **11303 Support**

Summary:

yes

### **13499 Support**

Summary:

Yes

### **14954 Support**

Summary:

Yes, support.

### **16390 Support**

Summary:

Yes

### **17827 Support**

Summary:

Yes, statutory requirements to do so.



### **13498 Support**

Summary:

There is no mention of the 'first flush' (5mm) rainfall event being retained and cleansed on site. This is generally the most contaminated element of discharging water. Reference should be given to compliance with the relevant SUDS treatment trains for surface water discharge from developments

### **14955 Support**

Summary:

An overlooked aspect to water quality failure is the likely discharge of untreated or part-treated sewage effluent and grey water from moored residential boats into the River Cam. There is an inadequate provision of sanitary facilities for boaters in the Area. A second sanitary station could be emplaced beside the Water Street, Chesterton, car park, as mooted in the past and connected to the foul sewer there.

### **6914 Object**

Summary:  
Green roofs do not have the benefits claimed in the text at inclinations much over 15 degrees. The policy should be limited to new build (not refurbishment) and only to flat roofs or those which have less than a 16 degree fall.

### **10414 Object**

Summary:  
Green roofs need maintenance which requires ladders. Potential for more accidents and expense that will offset benefits. Not a policy to be enforced.

### **11070 Object**

Summary:  
A policy to require development to incorporate green roofs on all buildings is inappropriate and conflicts with other policies, for example the inclusion of solar / photovoltaic panels for energy generation. Green roofs would not be appropriate for listed and other historic buildings. The long term maintenance is also a matter of considerable concern in terms of cost and practicalities if access etc.

NPPF advises that design policies should 'avoid any unnecessary prescription or detail'.

### **13076 Object**

Summary:  
A policy to requiring green roofs on all new buildings is unrealistic and conflicts with other policies, for example the inclusion of solar / photovoltaic panels for energy generation. Nor does it take into account specific design or context issues. NPPF advises that design policies should 'avoid any unnecessary prescription or detail'.

### **13157 Object**

Summary:  
We would not support a policy requiring green roofs owing to the cost implications and impact on development viability. Any requirement for green roofs should be in accordance with current Building Regulations rather than subject to a local level policy.

### **13343 Object**

Summary:  
A policy to require development to incorporate green roofs on all buildings is inappropriate and conflicts with other policies, for example the inclusion of solar / photovoltaic panels for energy generation. Green roofs would not be appropriate for listed and other historic buildings. The long term maintenance is also a matter of considerable concern in terms of cost and practicalities if access etc.

NPPF advises that design policies should 'avoid any unnecessary prescription or detail'.

### **16003 Object**

Summary:  
With specific regard to green roofs, CUH are generally supportive of the contribution that they can make. However, we feel that they should not be required on all buildings and that possibly a size threshold should be set. But even for developments above a threshold, there still needs to be flexibility in the wording of the policy to account for size and project specific circumstances. For example, irrespective of the size of the building, CUH consider it would not be appropriate to provide green roofs on laboratory or operating theatre buildings.

### **16394 Object**

Summary:  
Not a practicable proposition? Don't green roofs need flat roofs? A massive maintenance problem?

### **17846 Object**

Summary:  
We object to this policy and do not consider it necessary or appropriate. Whilst green roofs have their place in the tool kit for delivering sustainable development, they are not an appropriate solution for many types of buildings due to construction, design and cost issues. Sustainability and water efficiency needs to be considered at an holistic level adopting appropriate solutions for each individual development. It is the ability to meet Building Regulations, the Code for Sustainable Homes and BREEAM "Very Good" on a development wide basis that is important. Which parts of the tool kit are used to deliver this will be dictated by the specific situation and the skill of the development team.

### **18065 Object**

Summary:  
Extensive - minimal capacity to attenuate run-off, vulnerability in excessive rainfall, v. limited bio-diversity. Minimal useful thermal mass. Cheap and low maintenance.  
Intensive - higher thermal mass/capacity/biodiversity robustness but higher cost and maintenance

### **7665 Support**

Summary:  
Green roof policies would reinforce your other concerns. I'd like to see this promoted.

## **10311 Support**

Summary:

The Wildlife Trust supports the development of such a policy option.

However, there is considerable scope to secure more benefits for wildlife through the creation of more natural green roofs and not just those composted on stonecrop species.

## **11516 Support**

Summary:

Sounds like a good idea.

## **13829 Support**

Summary:

Interesting

## **14652 Support**

Summary:

Yes if they meet a minimum proven reliability criteria e.g. minimum 10 year life-span before replacement or major maintenance. Only require these for more steeply pitched roofs if evidence provides sound support for such a policy I would like to see a minimum time before failure of 25 years for such roofs.

## **17751 Support**

Summary:

Natural England generally welcomes Options 41 - 59 which address sustainable development, climate change, water and flooding.

Option 59 Develop a green roof policy - a policy to encourage the use of green/brown roofs, where practicable, would provide multi-functional benefits including reduction of flood risk, enhancement of biodiversity and wider climate change adaptation benefits.

### **8290 Object**

Summary:

no policy needed

We question whether there is enough knowledge about green roofs at present to mandate these. There are maintenance issues, and issues about biodiversity being lost if green roofs are used to replace green spaces in areas of high density building. We suggest that the Development plan should not allow such high density building that green roofs are required. If green roofs look promising in the future, then there should be incentives to help those who wish to use them. Mandating green roofs may negatively impact on architectural design.

### **10200 Object**

Summary:

No policy on green roofs is required. A green roof is one of a range of options to reduce the heat island effect and manage surface water drainage, and to keep buildings cool. However, green roofs are not the only way, and for many people not the preferred way, to achieve those goals.

### **11071 Object**

Summary:

There is no need for a policy addressing this issue.

### **11204 Object**

Summary:

A blanket approach in terms of requirement for green roofs is not appropriate given the different characteristics of sites and buildings, The policy context should be one of encouragement rather than requirement.

### **11451 Object**

Summary:

Object

### **12065 Object**

Summary:

A general policy providing a presumption in favour of such development could be introduced but the policy should not be overly prescriptive as to minimum requirements.

### **13346 Object**

Summary:

There is no need for a policy addressing this issue.

### **13580 Object**

Summary:

The strict use of green roofs appears excessive. Although providing significant benefits there are alternative options which may be preferential for a specific scheme, as long as the approach taken can be justified.

### **16179 Object**

Summary:

We object to this policy and do not consider it necessary or appropriate. Whilst green roofs have their place in the tool kit for delivering sustainable development, they are not an appropriate solution for many types of buildings due to construction, design and cost issues. Sustainability and water efficiency needs to be considered at an holistic level adopting appropriate solutions for each individual development. It is the ability to meet Building Regulations and BREEAM "Very Good" on a development wide basis that is important. Which parts of the tool kit are used to deliver this will be dictated by the specific situation and the skill of the development team.

### **17828 Object**

Summary:

No!

### **17847 Object**

Summary:

We object to this policy and do not consider it necessary or appropriate. Whilst green roofs have their place in the tool kit for delivering sustainable development, they are not an appropriate solution for many types of buildings due to construction, design and cost issues. Sustainability and water efficiency needs to be considered at an holistic level adopting appropriate solutions for each individual development. It is the ability to meet Building Regulations, the Code for Sustainable Homes and BREEAM "Very Good" on a development wide basis that is important. Which parts of the tool kit are used to deliver this will be dictated by the specific situation and the skill of the development team.

### **6988 Support**

Summary:

Yes, there is a need for a policy on green roofs - almost nobody will do it (CMS being an exception) otherwise.

### **7376 Support**

Summary:

but unclear how useful this will be when compared with more rigorous planning and enforcement of existing policies to prevent over development and paving of gardens etc

## 8444 Support

Summary:

yes

## 10106 Support

Summary:

yes

## 13500 Support

Summary:

Yes

## 13796 Support

Summary:

Support for the reasons given in para 6.35 of the Issues and Options Report.

## 13812 Support

Summary:

Strongly support - the cumulative impact of this would be very positive

## 14140 Support

Summary:

Yes! green roofs a great idea - go for encouraging it as much as possible!

## 16397 Support

Summary:

Yes, but perhaps for the future?

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### CHAPTER: 6 - Sustainable Development, Question 6.43 Climate Change, Water &

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## 11450 Object

Summary:

Green roofs conflict with the use of solar PV generation. I'd suggest that cost-effective (ie not-overly-subsidised) PV should take precedent.

## 17829 Object

Summary:

The disadvantages of green roofs have not been considered, particularly in our wet climate, and the expense and maintenance need to be considered. Green roofs should only be allowed where they enhance or complement the existing urban environment and adjacent buildings. They have a place in extensions and renovations but only if sympathetic to the existing structures.

## 8445 Support

Summary:

I have a roof of 17 degrees facing S, most of which is now covered with solar panels. Is this compatible with a green roof?

## 13507 Support

Summary:

I'd like to see green roofs actively encouraged for all new developments.

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### CHAPTER: 6 - Sustainable Development, Question 6.44 Climate Change, Water &

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## 10107 Object

Summary:

concern that if intensive green roofs needing managing and you require them to be included in the initial build, how do you avoid of scenario of them not being maintained and becoming an eyesore?

## 17833 Object

Summary:

Green roofs should be encouraged on flat and flattish roofs, (35 degrees is already quite steep), but the idea that green roofs (even if all of our buildings had them) would reduce flood risk is laughably mistaken. The roofs will absorb at most 8-12 inches of moisture and any excess will run off. Their absorption capacity is a tiny fraction of that of bare ground.

## 13510 Support

Summary:

I agree with the second, third and fourth bullet point.

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**CHAPTER: 6 - Sustainable Development, Question 6.45**  
**Climate Change, Water &**

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**17835 Object**

Summary:

Not necessarily

**6989 Support**

Summary:

Probably sheds etc should not be forced to have green roofs, because of relatively high cost proportion that would result.

**13512 Support**

Summary:

Only if they meet either of the second, third and fourth criterias listed in Option 59.

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**CHAPTER: 6 - Sustainable Development, Question 6.46**  
**Climate Change, Water &**

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**9054 Support**

Summary:

Subsidies (NOT found from taxation) to encourage.

**10108 Support**

Summary:

what about alternatives to block paving?

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**CHAPTER: 7 - Delivering High Quality Places 7.1**

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**15525 Object**

Summary:

If this paragraph is retained in the plan, we recommend that it should be amended to reflect the significance of the city's townscape. For instance: 'An essential part of the character of the city stems from the interplay between its rich architecture and the spaces between buildings. Trees and high quality public realm play a significant role. The interface between the urban edge and the countryside is also an important component of how the city is appreciated in the landscape.'

**8293 Support**

Summary:

We support this statement

**10080 Support**

Summary:

Agree strongly.

Tourists linger in our existing high quality outdoor places. We must make more such, and never allow the existing ones to be degraded by new constructions.

**11305 Support**

Summary:

strongly agree - and point to disasters (graffon centre) which have resulted in destruction of built heritage.

**12358 Support**

Summary:

It should be policy of the Council to make locations such as Christs Pieces (specifically as shown on the chapter cover) a pleasant place for residents and visitors to use at all times. The location in question is usually no-go for much of the day and certainly in the evening. So, high quality places must be accessible in practice.

**12953 Support**

Summary:

support.

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**CHAPTER: 7 - Delivering High Quality Places 7.2**

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**10083 Object**

Summary:

Disagree with one part of this para,; the second part of the second last sentence "Given ...the need in particular to accommodate new housing." You have not shown evidence for a need to provide new housing within Cambridge. Agree strongly with the rest of the paragraph.