

F.A.O. Ms L St John Howe  
Claypit Hall,  
Foxearth,  
Sudbury,  
Suffolk CO10 7JD

**Our ref:** GNDP-JCS-1/EA  
**Date:** 14 October 2010

Dear Madam

### **Matters and key questions for examination at the hearings**

We refer to the above document issued for comment on 20 August 2010. We trust the comments set out will aid the inspectors in their consideration of the Greater Norwich Joint Core Strategy (JCS). We consider our comments and those made within our previous representations are most applicable in relation to matter 8. However, the inspectors may also wish to consider our comments in relation to matters 3, 4, 7 and 10, particularly in relation to the provision of infrastructure.

#### **Matter 8      Sustainability, environment and design**

##### **Policy 3:**

*F6 [re necessary water infrastructure referred to in policy 3 and paras 5.19 and 5.23.] Do the providers agree that this investment is likely to be completed in time to support any development contingent upon it? Has such contingent development been identified? What is it?*

*F7 [re water efficiency] Does the standard sought in policy 20 imply a requirement in advance of national standards? Is this justified and deliverable? [See also 5.22]*

##### **Water quality**

1. Our current position in relation to the treatment of waste water remains unchanged. Therefore, for our detailed comments please refer to our original representation (December 2009) as updated by our Water Cycle Study position statement and associated table (27 January 2010).
2. To summarise, we currently have an unsound representation regarding the full level of growth proposed at Long Stratton, Reepham, Aylsham and, to a lesser extent, Acle. This is based upon the outputs of the Greater Norwich Water Cycle Study (WCS).

3. We understand Anglian Water Service's (AWS) position to be that waste water treatment at these locations presents a challenge but they believe that, in some cases, there may be a solution. To date we have not seen supporting evidence of this. Based on the information available, it therefore appears that, should the full level of growth proposed go ahead in these locations, this could potentially result in a failure to meet the requirements of the Water Framework Directive (WFD) and Habitats Directive (HD).
4. We believe that treatment techniques beyond the current economic limit of treatment would be required to treat the additional waste water generated at the above named locations to the standards required by the WFD and HD. It is currently not known if these limitations can be overcome. It has therefore not been demonstrated that the infrastructure required to treat waste water can be delivered in line with the requirements of policy 3 of the JCS.
5. Policy 3 does appear to provide an adequate framework to ensure that development would not be permitted where it may lead to adverse impacts on water quality or areas of environmental importance. We wish to highlight that this may consequently impact upon the ability to deliver development in the locations described above. Furthermore, it is unclear whether the plan is sufficiently flexible should solutions to waste water treatment not be found.
6. Finally, we note that it is unclear if the WCS has included the small scale growth proposed within the service villages (policy 15). However, we understand from paragraph 6.58 that detailed analysis, particularly relating to servicing constraints, may result in smaller allocations in some villages.

### Water Resources

7. Since our original submission, we have completed our Review of Consents (RoC)<sup>1</sup> process affecting the River Wensum Special Area of Conservation (SAC). As a result of this and the ongoing discussions with key partners we felt it would be helpful to the examination to provide an update on the relationship between the water resource availability and the delivery of the JCS.
8. Our review has established that river flows are significantly reduced by licensed abstractions, particularly in the lower reaches of the River. Abstractions prevent the flows from reaching the river flow targets that Natural England has identified for the SAC. Natural England currently

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<sup>1</sup> Carried out in accordance with Regulation 50 of the Conservation (Natural Habitats, & c.) Regulations 1994. We are required to ensure that our permissions do not cause adverse effect on the integrity of any sites of European importance ie. Special Areas of Conservation (SAC) and Special Protection Areas (SPA) for birds..

records the site as being in unfavourable condition and reduced flows is a significant contributor to this assessment.

9. The AWS abstraction at Costessey for the public water supply has the single greatest impact on river flows. We have concluded that this needs to be significantly altered before the river can be restored to favourable condition. AWS has been asked to reduce its abstraction from the River at Costessey in a way that allows the river flow targets to be met. This could be achieved via a single solution or progressively over successive business planning cycles. In either case it is required to be implemented as soon as reasonably practicable.
10. AWS needs to determine how best to achieve this reduction in a way that does not place the public water supply at risk. AWS, Natural England and ourselves have agreed to a way forward by which AWS will aim to achieve an initial reduction from its Costessey abstraction of 20 MI/day by 2015. A further reduction of up to 29 MI/d will be required by 2020 or soon thereafter.
11. AWS is presently appraising the options available to achieve this initial reduction and the preferred option will be identified by January 2012. At this time, AWS will need to secure funding from OFWAT for the chosen scheme, either through the interim Change Protocol process for the current (2010-2015) Business Planning period or through preparation for its next Business Planning period (2015-20) which will be concluded during 2014.
12. The availability of funding will determine when the solution required by the Review of Consents can be implemented. There is currently no certainty that the first part of the RoC solution will be implemented before 2015.
13. Until the RoC solution has been fully implemented, the River Wensum SAC will remain in unfavourable condition. Since the submission of our original response, Natural England has advised that any proposals coming forward ahead of the adoption of the JCS and the implementation of the RoC solution should not exacerbate the adverse affect on the River Wensum SAC by requiring increased levels of abstraction from Costessey beyond agreed historic levels.
14. Currently it has not been demonstrated that sufficient resource will be available from other sources to meet the full amount of growth that may come forward as part of the JCS before the implementation of the RoC solution.
15. We consider policy 1 and 3 in the JCS to provide an adequate framework to ensure that development would not be permitted where it may lead to an adverse impact on the River Wensum SAC. However, depending on the rate of completions, this may consequently impact

upon the ability to deliver development prior to the implementation of the RoC solution.

16. AWS is currently assessing the level of proposed JCS growth that could be supplied by its sources in the Norwich area other than by increasing the level of abstraction from the Costessey licence above the agreed historic thresholds. This assessment is expected by the end of October 2010.

### Water Efficiency

17. A significant part of England (Southern and Eastern parts of England, including Norwich) is classified as being in an area of serious water stress<sup>2</sup>. The water stress classification takes a long-term view of the balance between water availability and the demand for public water supply. It considers where the current and future household demand for water is a high proportion of the current effective rainfall<sup>3</sup>. High population density and high levels of demand increase the pressure on available supplies, as well as environmental factors such as local water resource availability. Future population change and development also contributes, with parts of the East of England forecast to be the fastest growing in England between 2008-2018<sup>4</sup>.
18. The JCS aims to reduce water use levels to 80 l/h/d for developments over 500 houses after 2015, which is below that currently planned for by AWS. If achieved, it would help to reduce overall water use and ensure that existing supplies go further. A recent report by ourselves and the Energy Savings Trust has found that as sustainable building standards are tightened in new homes, CO<sub>2</sub> emissions from hot water use are likely to form a progressively larger component of overall household emissions, and may eventually exceed emissions from heating the home<sup>5</sup>. It finds that more efficient water use could contribute to lower CO<sub>2</sub> emissions.
19. There is evidence which supports the need for a water efficiency standard of 105 l/h/d (level 3/4 of the Code for Sustainable Homes (CfSH)), as required by the JCS for all developments, which can be provided if required. Furthermore, the WCS (stage 2b report) has highlighted a local need for high levels of water efficiency.
20. Within our previous representation (December 2009) we generally supported policy 3, but also referenced specific areas where we considered that the policy should be amended. Whilst not requiring a

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<sup>2</sup> Areas of water stress: final classification, Environment Agency  
<http://publications.environment-agency.gov.uk/pdf/GEHO1207BNOC-e-e.pdf>

<sup>3</sup> Areas of water stress: final classification, Environment Agency 2007

<sup>4</sup> ONS 2008-based Subnational population projections for England (27 May 2010)

<sup>5</sup> Quantifying the energy and carbon effects of water saving, Environment Agency and EST 2009

<http://www.environment-agency.gov.uk/business/topics/water/109835.aspx>

specific target, we recommended that higher standards should be achieved in more situations than the current policy requires. Since that representation, we have published research<sup>6</sup> (August 2010) highlighting that utilising rainwater harvesting and greywater reuse can, in some circumstances, add significant cost and has the potential to result in increased net carbon emissions. Taking this new information into account we feel that it is unreasonable to require water efficiency levels beyond those already specified within policy 3. We therefore remove our unsound representation on the water efficiency requirements of policy 3

21. Although challenges have been identified, it should be noted that achieving high levels of water efficiency (CfSH 5/6) may not be dependant upon water reuse. For example, it may be possible to achieve 80l/h/d through a use of fixtures and fittings, particularly if an efficient washing machine, toilet, taps and bath is specified<sup>7</sup>. In addition, it is likely that as demand increases and the supply chain for water efficient products matures, the carbon and installation costs are likely to reduce. Therefore, the cost/benefit ratio of meeting these higher levels of water efficiency may be more favourable when considering the carbon, environmental and social costs as well as financial. We therefore support the GNDP in seeking to achieve high efficiency standards.
  
22. We are aware that a North East Norwich Water Cycle Study (NEWCS) is currently being undertaken. We understand that the study will look at the feasibility of achieving high levels of water efficiency and water neutrality including through the use of retrofitting within existing properties. This NEWCS will be carried out for the proposed Rackheath eco-community and the North East Norwich growth sector. Given the challenges in achieving water efficiency levels greater than CfSH level 4, it is important that the outputs of this study, as well as any future studies undertaken, are used to guide future development and to aid the implementation of policy 3, with water neutrality as the ultimate long term objective.
  
23. We therefore recommend that the JCS should, either within policy 3 or more likely the supporting text, acknowledge the direction of travel towards a future of much lower water use, guided by the outputs of the NEWCS and any future studies undertaken. A specific reference to utilising the outputs and recommendations of the NEWCS should be made, with a view to applying those outputs, where appropriate, feasible and cost-beneficial, across the whole JCS area in the future.

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<sup>6</sup> Energy and carbon implications of rainwater harvesting and greywater recycling, Environment Agency 2010 <http://publications.environment-agency.gov.uk/pdf/SCHO0610BSMQ-e-e.pdf>

<sup>7</sup> Table 5 in Water efficiency in new developments: A best practice guide, Waterwise East, 2010

We continue to discuss all these issues with the GNDP, Natural England and AWS and are due to meet again on 14 October 2010. We will update the inspectors further prior to the examination through an additional position statement or, where possible, joint statements between the organisations mentioned above.

Yours faithfully

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