

Report on the findings of the Stage 2 Water Cycle Study	Agenda No: 9
<p>Corporate Priority: Housing and transport meet local needs. Business is encouraged and the local economy prospers.</p> <p>Report presented by: Eleanor Dash</p> <p>Report prepared by: Emma Boaler</p>	
<p>Background Papers: The Water Cycle Study – Stage 1 report Entec The Water Cycle Study – Stage 2 Summary Hyder Consulting The Submission Draft Core Strategy – May 2010</p>	Public
<p>Options:</p> <ul style="list-style-type: none"> • To note the summary of the conclusions of the Braintree District Stage 2 Water Cycle Study. • To delegate approval of the Stage 2 Water Cycle Study as LDF evidence to Cllr Nigel Harley and Cllr Nigel McCrea. • To defer approval of the Stage 2 Water Cycle Study as LDF evidence, and therefore delay the submission of the Core Strategy, until the full Water Cycle Study is available for members to consider. 	<p>Key Decision:</p> <p>NO</p>
<p>Executive Summary:</p> <p>A Stage 2 Water Cycle Study for the District has been completed at the request of The Environment Agency. The overall conclusion is that the Braintree District Core Strategy is considered sound in terms of its impact on water resources and the wider water environment. The report also identifies a range of infrastructure improvements, which are likely to be required for the growth in the strategy to be delivered. Stakeholder consultation on the draft study is currently being carried out (with Anglian Water, Essex and Suffolk Water, Natural England, and the Environment Agency) and the final study should be available by Christmas.</p>	
<p>Decision:</p> <p>To note the summary of conclusions of the Braintree District Stage 2 Water Cycle Study.</p> <p>To delegate approval of the Stage 2 Water Cycle Study as LDF evidence to Cllr Nigel Harley and Cllr Nigel McCrea.</p>	
<p>Purpose of Decision:</p> <p>To add the Stage 2 Water Cycle Study to the evidence base for the LDF so that it can</p>	

provide evidence as to the deliverability of the growth proposed in the Core Strategy and contribute to the 'sound' status of the document.

Corporate implications	
Financial:	Any additional work on individual sites is likely to require funding from the developers/site owners involved, alongside Anglian Water.
Legal:	N/A
Equalities/Diversity	N/A
Customer Impact:	The study will ensure that new and existing residents can be served by adequate water and sewerage infrastructure.
Environment and Climate Change:	The document has assessed the impact of the Core Strategy growth on both flood risk at the waste water treatment works, on water quality and on the sites of European protection downstream outside of the District.
Consultation/Community Engagement:	The study has been subject to consultation with key stakeholders including the Environment Agency, Natural England and the water and sewerage companies Anglian Water and Essex and Suffolk Water.
Risks:	If the water cycle study is not agreed as providing sufficient evidence for the Core Strategy, the Environment Agency may not withdraw their objection to the Core Strategy and the planning inspector might not find the document 'sound'.
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1. Background

1.1 In 2008 an Outline (Stage 1) Water Cycle Study was completed for the District by Entec. The study investigated the environmental constraints affecting Braintree, assessed the capacity of the environment and existing water/wastewater infrastructure to accommodate proposed growth and identified improvements to ensure that the development is both sustainable and sensitive to these constraints. The study highlighted those areas where investment would be required to increase the capacity of the existing water infrastructure, in order to facilitate development. It stated that there would be a need for development to be phased in line with required upgrades to infrastructure. However, whilst the document was able to look at the broad locations for growth, it was unable to go into the specific geographical detail of the strategic growth locations as these were not known at this time. This study is part of the evidence base for the Core Strategy.

1.2 During key stakeholder consultation which took place before the Submission Draft Core Strategy public consultation stage in May – July 2010, the Environment Agency raised concerns that a detailed Stage 2 Water Cycle Study had not been completed and that there was no detail on the specific requirements of the strategic growth locations. In their response to the public consultation period, the Environment Agency objected that the Core Strategy was not sound because of this, but resolved to remove this objection when a Stage 2 study had been completed.

1.3 The purpose of the Stage 2 Study was to provide evidence that the development proposed within the emerging Core Strategy could be accommodated by the water and wastewater infrastructure and wider water environment. BDC tendered for consultants to carry out the study and in June, Hyder were appointed to carry out the work. A steering group including BDC officers, Anglian Water, Essex and Suffolk Water, The Environment Agency and Natural England was set up to provide the necessary information and oversee and approve the document completion. The draft document was issued to the steering group for comment on the 5th November, but at the request of Anglian Water and until it is approved by all the steering group members, the report remains confidential. However the early release of the executive summary (which is attached to the end of this report) has been agreed in order to be presented at this meeting.

2 Findings of the Stage 2 Study

2.1 The overall conclusion of the Stage 2 Water Cycle Study is that the Braintree District Core Strategy is considered sound in terms of its impact on water resources and the wider water environment. The more detailed findings are below.

2.2 Water Supply. Water companies have a statutory duty to supply new homes with water when they have been given planning permission and have based their Water Resource Management Plans for the next 25 years on the growth figures in the Regional Spatial Strategy. As our proposed growth is in line with these figures, it is not considered that water supply will constrain development.

2.3 Panfield Lane strategic growth location: New sewerage upgrades will need to be in place to deal with growth in Bocking North, including the Panfield Lane growth

location which will take 3 – 5 years to design and build. The Waste Water Treatment Works (WWTW) hydraulic capacity will need to be improved from 2015 and the receiving water quality consent may require increasing and this would approach the current economical limits for the treatment of ammonia nitrate.

2.4 Great Notley strategic employment location: A strategic sewerage network solution is required for the proposed Great Notley employment site where the current sewer passes under the A120. Anglian Water Services estimate that it may take up to 5 years for this to be upgrade to be designed, funded and built.

2.5 Hatfield Road strategic growth location: It is estimated that extensive upgrades to the sewerage network are required to accommodate this development, but further modelling work and investigation will be required, which would take up to 5 years to construct. It is likely that this upgrade would not be completed until 2020, unless additional funding was made available by developers. The current phasing of this development is from 2017.

2.6 Forest Road strategic growth location: A strategic sewerage upgrade would be required to accommodate flows from this site, which will be expensive. However the proposed phasing of the development should allow time for the upgrade to be carried out.

2.7 Halstead: There are already issues at the WWTW for Halstead which are being investigated although it is likely these will take beyond 2015 to complete and may cause operational issues in the short term. Sewerage modelling for Halstead has not yet been completed but BDC should encourage growth where possible in Halstead to take place after 2015 in order for this to be fully investigated.

2.8 Key Service Villages: As development in these villages is fairly small scale, (even including the regeneration sites at Sible Hedingham and Silver End) the study found that growth proposed can be accommodated with only minor upgrades or increases in consent standards for receiving water required.

2.9 It should be noted that the investment plans of water companies are based on a five-year cycle and each period is known as an Asset Management Period (AMP). In general, infrastructure funding comes from investment through the business plan process whereby the water regulator, Ofwat, sets customer bills. The current AMP is AMP 5 (2010–2015) and the water companies have just recently completed the process of preparing their programme and capital expenditure plan. Therefore any additional infrastructure identified in this document would be agreed in 2014 to be carried out as part of AMP6 (2015 – 2020). However negotiation between developers of the strategic sites and Anglian Water may be able to accelerate the process if additional funding is made available from developers.

3. Next Stage

3.1 Once the full report has been agreed by the stakeholder group, it will be published. This should be published prior to Christmas. Members are requested to delegate approval of the Stage 2 Study as LDF evidence base to Cllr Nigel Harley and Cllr Nigel McCrea, in order that the Stage 2 Study can form part of the evidence base, which accompanies the Submission of the Core Strategy to the Planning Inspectorate in January 2011.

3.2 Developers of the strategic sites are being requested to contact Anglian Water Services as soon as possible to discuss the findings of the report and ensure that the

solutions identified in the document will be delivered. The Environment Agency intend to submit further comments on the Core Strategy, including suggestions for minor modifications to the wording of the Core Strategy policies, which can be considered as pre-examination changes if necessary.

Water Cycle Study (Stage 2 Detailed): Executive Summary



Date 22 November 2010
Reference 5004-UA002126-BMR-01-Executive-Summary
From Hyder Consulting (UK) Ltd
To Eleanor Dash, Emma Boaler
Subject The following document is an extract from the draft Stage 2 Detailed Water Cycle Study report, due for finalisation in December 2010.

Representatives from all the project Steering Group members (Anglian Water Services, Essex and Suffolk Water, the Environment Agency and Natural England) have agreed to the content of the document below, and authorise its use by Council officers to assist with the upcoming LDF committee meeting.

Whilst the overriding messages in this document will remain constant, Braintree District Council should be made aware that the text presented may differ on production of the final report, to account for any changes to the main body of the text requested by stakeholders.

1 Summary

This Stage 2 Detailed Water Cycle Study (WCS) has been commissioned by Braintree District Council (BDC) to provide evidence that the development proposed within the emerging Core Strategy can be accommodated by the water and wastewater infrastructure, and wider water environment.

Baseline data, collected from the steering group members, has been assessed along with current and emerging legislation. The potential impact of the proposed development on water resources, the current water and wastewater infrastructure, and the water environment, has been analysed.

1.1 Water resources and supply

The water resources available to Anglian Water Services (AWS) and Essex and Suffolk Water (ESW) for supplying the District and surrounding areas remain severely limited. The majority of natural resources are classed by the Environment Agency (EA) as either over-abstracted (detrimental to the environment) or over-licensed (potential to be detrimental if all existing licenses are utilised). The abstraction of additional water for public water supply would be limited to times of very high river flow.

Both AWS and ESW finalised Water Resource Management Plans earlier this year, which set out their plans to supply their statutory areas for the next 25 years. Both companies have proposed a number of large scale infrastructure improvements, including expanding reservoirs, transferring raw water from other catchments, and recycling effluent, to help them manage the limited available resources, take account of climate change and where possible benefit the water environment. There is a risk that funding will not be available for infrastructure upgrades in the short term if the water companies have not accounted for this requirement in their recent price review. However, as the above mentioned plans took account of the regional growth targets and phasing; and as BDC's growth proposals remain in line with these targets, it can be concluded that water resources will not constrain development (subject to water company funding becoming available as planned for infrastructure projects). With the issue of supplying

the District resolved, the water companies advise that any local network upgrades required to serve specific sites will not be of a scale where they will constrain development.

However, supplying the additional water will require increased operational and environmental costs (electricity for pumps etc). Reducing water use in the District is also key to reducing the impact on the environment and better insuring against climatic variations. The water companies have a statutory duty to promote water efficiency, install meters and target existing consumers with information to this effect. However BDC should consider including a development control policy, requiring developers to show how, through the installation of certain components and fittings, water use per person per day will be limited to a lower rate than the current statutory requirements.

1.2 Wastewater treatment, water quality and flood risk

Bocking, Coggeshall, Earls Colne and Sible Hedingham Wastewater Treatment Works (WwTW) have recently had the volume of water they are consented to discharge each day increased by the EA to account for existing flow variations.

The implication of this is that any increase in flow resulting from the development in these catchments will require the negotiation of a new consent. The EA will tighten the quality required when this happens, to protect the water quality in the receiving water courses, as required under the Water Framework Directive.

Recent discussions with the EA reveal that the likely quality standards required to ensure no deterioration of current river quality would be achievable using conventional wastewater treatment technologies; hence this will not constrain development.

In addition, Natural England believe that, providing the EA water quality standards can be met, the impact on the water quality in the Essex Estuaries (designated as both a Special Area of Conservation (SAC) and Special Protection Area (SPA) under the Habitats Directive) will not be significant, hence the section on water quality in the BDC Appropriate Assessment for the Core Strategy remains valid.

At Braintree, Halstead, Rayne and Witham, it is predicted that the increased flows can be accommodated within the existing consented discharge, hence there is no immediate constraint to development. The outfall from Witham WwTW to the head of the Blackwater Estuary has sufficient capacity for the proposed growth, and additional flows being discharged from here allow greater abstraction in the River Chelmer upstream at Langford, improving the water resource situation.

There is however a risk that the EA may seek to further tighten the quality standards required at WwTW discharges in the future to aid compliance with the Water Framework Directive. The issue of balancing increased housing and population against environmental constraints such as this is a regional, if not national concern, and will be beyond the control of BDC and the remit of this WCS. However, seeking to minimise water use (and reduce surface water connections to the sewer networks) now, through appropriate policies, will be beneficial when these decisions are made.

The potential increase in flood risk due to the increased flows discharged from the WwTW has been shown to be negligible. The scope for this Stage 2 Detailed WCS does not include an assessment of surface water flood risk (as this issue was discussed in the original WCS, and will now depend on site specific designs); hence only high level guidance has been provided to BDC in this respect.

1.3 Wastewater treatment capacity

Bocking WwTW and Witham WwTW have adequate process capacity to accommodate the proposed development in the short term. AWS have the opportunity to investigate the upgrades required now so that they can be brought online as the growth rate increases past 2015.

The phasing of the proposed growth in the Braintree WwTW and Halstead WwTW catchments may cause some operational issues in the short term, however this may enable AWS to prioritise investment before the development takes place, and therefore drive future investigation and funding. There is a chance that the short term operational issues caused by the growth will increase the risk of pollution events from the WwTW. Liaison is therefore required between AWS, developers and BDC at an early stage to ensure that growth which would potentially cause environmental harm does not come online prematurely.

The relatively low levels of growth proposed in Coggeshall, Earls Colne, Rayne, and Sible Hedingham will not require extensive upgrades to the WwTW processes. Hence, development is not considered to be completely constrained by WwTW capacity.

1.4 Sewerage Capacity

Consultation with AWS reveals that some of the proposed development sites, particularly the strategic sites in the main towns, will require strategic upgrades to the sewerage network. Potential high level solutions to these constraints to sewerage network have been identified in this WCS.

On the whole, the phasing of the development preferred by BDC allows adequate time for these solutions to be investigated, designed, funded and constructed. Any specific sites where the preferred phasing might clash with infrastructure upgrades have been identified for further discussion. It is important for developers to engage with BDC and AWS at the earliest opportunity to overcome any such constraints, as there is a risk that the required solutions (particularly to sewerage network capacity constraints) may require construction on some sites to be delayed.

Further AWS sewerage modelling will commence, to identify localised solutions to any potential sewerage network capacity constraints in the short to medium term. This should provide additional information to BDC in future stages of the LDF.