

**Committee:** Planning Policy Working Group

**Agenda Item**

**Date:** 22 February 2017

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**Title:** Uttlesford District Water Cycle Study  
Outline Update January 2017

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### Summary

1. A Water Cycle Study (WCS) update has been prepared to provide evidence that development proposed within the emerging Local Plan can be accommodated by the water and wastewater infrastructure, and wider water environment and identify if additional infrastructure may be required as part of the development. A copy of the study is available at [www.uttlesford.gov.uk/backgroundstudies](http://www.uttlesford.gov.uk/backgroundstudies)

### Recommendations

2. That the Working Group note the Water Cycle Study Outline Update January 2017 to support the development of the emerging Local Plan, and its inclusion within the Local Plan evidence base.

### Financial Implications

3. Cost of study was met from existing budgets.

### Background Papers

4. The following papers were referred to by the author in the preparation of this report and are available for inspection from the author of the report.

None

### Impact

- 5.

Communication/Consultation	The study will be publicly available as part of the evidence base supporting the preparation of the local plan.
Community Safety	N/A
Equalities	N/A
Health and Safety	N/A
Human Rights/Legal	N/A

Implications	
Sustainability	The study considers the sustainable use of water and draws conclusions accordingly
Ward-specific impacts	All
Workforce/Workplace	N/A

## Situation

6. Uttlesford Council commissioned Arcadis Design and Consultancy to undertake an update to the water cycle study. Arcadis was formally Hyder Consulting UK who undertook the previous Scoping and Outline Strategy Water Cycle Study in 2010 and the Detailed Strategy in 2012.
7. Water Cycle Studies (WCS) need to be informed by a trajectory which sets out the scale, location and estimated timing of development. For the purposes of this Outline WCS it was based on a strategy of
  - New Settlement(s): 2,800 dwellings within plan period.
  - Towns: 1,200 – 1,800 dwellings
  - Key Villages: 200-400 dwellings
  - An assessment of Type A villages was not required by the WCS update due to the small scale of development envisaged.
8. The WCS assessed the four largest new settlement locations (Great Chesterford, Elsenham, West of Great Dunmow and West of Braintree). It assessed sites in the towns and key villages which were identified as being potentially suitable through the SLAA; the purpose being to confirm whether there were water supply and disposal issues which cannot be resolved. The Water Cycle Study is one piece of evidence to assist in the allocation of sites. Because a site has been assessed it does not imply that it will be allocated. A detailed study can be commissioned when the council has decided on its preferred development strategy.

## The Water Cycle

9. The water cycle is the process by which water is transported throughout a region. The process commences with some form of precipitation. This is then intercepted by the ground, travels through the catchment area before evaporating to complete the cycle. Abstraction of water from surface water and ground water surfaces interacts with this cycle and reduces the amount of water which is naturally held within aquifers. Similarly the use of paved or built areas reduces the amount of water able to percolate to aquifers and increases surface water runoff, potentially leading to flooding. The wastewater from developments is transported via the sewerage network to water recycling centres where it is treated and discharged back into rivers or groundwater.

## Water Supply

10. Affinity Water supply the District with water from a combination of groundwater and surface water abstractions. The study reports that Affinity Water is confident that the potential development sites can be supplied without the need for major infrastructure upgrades that will constrain the scale of development tested. However the Local Plan should contain policies which aim to achieve water efficiency.

#### Wastewater Treatment and Sewage.

11. Wastewater in the District is collected and treated by Thames Water Utilities in the southwest and Anglian Water Services in the northeast. The study concludes that no significant sewerage capacity issues with any of the sites in the draft development trajectory were identified as potential 'show stoppers'. However many of the sites are likely to require some upgrades to the water recycling centres (sewage works) in order to accommodate the increased flow and should a site be allocated, developers need to work with the water companies as part of the pre-development enquiries as the individual sites enter the normal planning application process.

#### Water Quality

12. The results of the qualitative water analysis indicate that the proposed development will not lead to a deterioration of Water Framework Directive (WFD) status or will compromise the achievement of WFD Good status in the receiving watercourses. The development in the towns and key villages will not lead to DWF consents being exceeded apart from at Great Easton and Newport. The study recommends that any development within these catchments are phased to allow improvements in the respective Wastewater Recycling Centre (sewage works) to be made. In relation to the impact of the new settlement locations the DWF consent would be exceeded apart from at the Bishop's Stortford Water Catchment. For the new settlement sites the study recommends that consultation is undertaken early in the development process with the Environment Agency and water companies to confirm if a new water recycling centre is required.

#### Flood Risk Management

13. The study reviews the Uttlesford Strategic Flood Risk Assessment and the latest Environment Agency flood map and none of the sites lie predominantly within flood plains. Small areas of the new settlement sites are at high risk of flooding. The study recommends that opportunities should be exploited at the master planning stage for multiple benefits in terms of integrated sustainable drainage, green infrastructure, amenity and biodiversity. A high level assessment indicates that the increased flow from each water recycling centre is considered as having a low flood risk.

#### Conclusions for New Settlements

14. The study concludes that all four sites have a similar level of general constraints and opportunities in relation to water management although the main differentiating constraint to development is considered to be the capacity

of the receiving Wastewater Recycling Centres. It must be recognised that any planned upgrade to the receiving water recycling centres need to take into account future growth of the sites post plan period.

**Great Chesterford** – Existing flow consents are exceeded due to the new settlement but wastewater capacity could be provided subject to major upgrades to both the treatment processes and associated sewerage networks at the Wastewater Treatment Works. The extent of the required enhancements at Great Chesterford WRC may justify other strategies such as a new WRC or conveyance to Saffron Walden WRC catchment if viable. Anglian Water has concerns regarding the level of growth and should be engaged by the site promoter as early as possible.

**Elsenham** – Existing flow consents are exceeded due to the new settlement, however wastewater capacity could be provided subject to significant upgrades to Stansted Mountfitchet Wastewater Treatment Works. Thames Water has concerns regarding the level of growth and should be engaged by the site promoter as early as possible.

**Little Easton (West of Great Dunmow)** – Existing flow consents are not exceeded due to the new settlement however there are process constraints at Bishop’s Stortford Treatment Works. Thames Water has confirmed that upgrades will be expected along with concerns regarding the level of growth and should be engaged by the site promoter as early as possible.

**Stebbing (West of Braintree)** – Existing flow consents are significantly exceeded at Felsted Wastewater Treatment Works, it is not likely that upgrades can be undertaken to provide wastewater capacity. Following consultation with Anglian Water they have confirmed that a new treatment works would likely be required and that they should be engaged by the site promoter as early as possible.

## Risk Analysis

15.

Risk	Likelihood	Impact	Mitigating actions
That the Local Plan allocates a site which cannot be delivered due to issues relating the water cycle.	Low. This outline study considers all aspects of the water cycle in relation to sites and a detailed study can be commissioned as the development strategy is	The plan may be found unsound if sites are not considered deliverable	To take into account the findings of the outline study and commission a detailed study if appropriate.

	refined.		
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- 1 = Little or no risk or impact
- 2 = Some risk or impact – action may be necessary.
- 3 = Significant risk or impact – action required
- 4 = Near certainty of risk occurring, catastrophic effect or failure of project.