

## **Report to the LDF Cabinet Committee**

**Report reference:** LDF-006-2011/12  
**Date of meeting:** 19 December 2011



**Epping Forest  
District Council**

**Portfolio:** Planning and Technology  
**Subject:** Rye Meads Water Cycle Strategy  
**Responsible Officer:** Ian White (01992 564066).  
**Democratic Services Officer:** Gary Woodhall (01992 564470).

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### **Recommendations/Decisions Required:**

- (1) To note the conclusions and recommendations of the 2009 Water Cycle Strategy in the context of the current situation; and**
- (2) To include the Strategy as part of the Evidence Base for the new Local Plan.**

### **Executive Summary:**

The Rye Meads Wastewater Treatment Works (WwTW) serves the whole of Harlow and that part of this district which abuts Harlow's boundary. It serves another five local authority areas, either entirely or partly: Broxbourne, East Herts, North Herts, Stevenage and Welwyn Hatfield. The capacity of Rye Meads was recognised as an issue in the East of England Plan (EEP), because 70,000 new houses were proposed in the catchment in the period up to 2021 - by 2009 about 8,000 of this total had been built. The proposed urban extensions to Harlow in this District would be served by Rye Meads.

The 2009 Water Cycle Strategy (WCS) assessed these constraints and recommended suitable infrastructure provision, the main implications for this district being a new sewer from Harlow to Roydon south of the railway line and a possible new sewer to the west of Harlow immediately east of Roydon. In addition to wastewater treatment and sewerage network capacity, the WCS also addressed water resources including potable water supply, flood risk and mitigation, water quality and conservation opportunities.

This report considers the conclusions and recommendations of the WCS in the light of issues which have arisen since 2009 including the abolition of the EEP and related housing targets. There is uncertainty about the capacity of the WwTW in the period beyond 2021, and this could be a significant constraint on development.

### **Reasons for Proposed Decision:**

Despite the pending significant planning changes being introduced by the Government, Harlow is still likely to wish to expand, with implications for the north-west of this district. The conclusions and recommendations of the WCS are an important contribution to the consideration of future infrastructure needs in the wider area, and should therefore form part of this Council's evidence base for the new Local Plan. The authors of the Strategy acknowledge that a review will be needed within four years of its publication.

## **Other Options for Action:**

There are no other reasonable options.

## **Report:**

1. The WCS was commissioned by Stevenage and Harlow Councils, in partnership with the Environment Agency and relevant water companies. Officers from this Council attended some of the meetings with the consultants (Hyder) to discuss the preparation of the Strategy but their involvement and contribution was fairly limited, reflecting the fact that only a small area of the district is served by Rye Meads, although the proposed urban extensions to Harlow under the EEP would be affected. The strategy was published in 2009.

2. While the general conclusion was that strategic water infrastructure should not constrain the growth up to 2021 proposed in the EEP, the Strategy acknowledged that some issues remained uncertain and these could have potentially significant consequences after that date. These included:

- The Water Framework Directive (WFD) and its implications for discharge consents relating to water quality. (The WFD establishes a common approach in Europe to protecting and setting environmental objectives for all groundwaters and surface water. For the latter (ie lakes, streams and rivers) the Directive requires that such environmental objectives are based on the chemical and ecological status of the water body);
- The impact of the current economic climate on the location and phasing of development, including agreement for the funding for new strategic infrastructure; and
- The localised benefits of supplementing low flows in rivers with locally treated wastewater – this applies mainly to Hertfordshire, although the Lee has experienced low flows in recent times.

3. Other issues which have arisen or grown in importance since the publication of the WCS include:

- Uncertainty about the future of Stevenage expansion, given the recent withdrawal of North Herts from the proposals – this has implications for the potential development of a WwTW in the Stevenage area which would have relieved pressure on Rye Meads;
- New household projections (currently being commissioned by the County Council) to replace the figures on which the EEP was based – unknown at the time of writing this report how different they will be from the EEP review figures, but officers may be able to provide an oral update;
- The future of the Code for Sustainable Homes (CSH) and its influence on water usage and efficiency in new homes;
- The likelihood of achieving similar levels of usage and efficiency in existing dwellings;
- Continuing uncertainty about whether Harlow North will proceed, and the implications of this for the expansion of Harlow in other directions;
- The impact of climate change on water availability, although the water companies that supply most of this district (Thames Water Utilities (TWU) and Three Valleys Water (TVW)) are confident that they can cope with increased demand at least until the mid 2030s – see also para 4 immediately below.

## Water Supply

4. TWU expressed confidence that a combination of an extensive demand management scheme (including accelerated provision of customer water meters) and optimising its own resources would prevent supply deficit before 2035. While there is a predicted deficit in the London zone, TWU is planning to implement a range of solutions, which should ensure that development is not constrained by supply in the south of the Rye Meads catchment area:

- (i) an enhanced leakage reduction programme;
- (ii) water meters with water use tariffs and promoting water efficiency; and
- (iii) groundwater recharge schemes and a new reservoir.

5. The Strategy highlighted the importance of adopting the CSH water efficiency targets in new houses and aiming for significant reductions in water usage in existing homes. Officers believe, however, that the CSH approach may be discontinued by the Government and it is not known if this will be replaced or how this would affect policies which seek to apply the CSH standards for water consumption in new developments.

## Sewerage Capacity and Wastewater Treatment

6. The sewerage network, particularly in the Harlow area, is known to be close to capacity. Upgrades have been planned and the WCS concluded that these would accommodate the EEP level growth around Harlow, ie 16,000 new homes by 2021. The capacity of the expanded network would therefore not constrain development, providing the appropriate funding became available and the upgrades were implemented in a timely fashion. The extensions to the sewerage network are shown in diagrammatic form in Figure 8-38 of the Strategy (appended to this report). The proposed new sewer south of the railway line to Roydon and the new sewer to the west of Harlow close to the eastern edge of Roydon could raise a number of problems during their construction there is no more detailed information about these potential upgrades.

7. The sewerage network at Stevenage could be upgraded to create the capacity for additional development but the WCS advised that the sustainability of this approach could not be assessed until a long-term solution to treatment capacity and quality at Rye Meads was finalised (see also paragraph 13).

8. The Strategy concluded that no major sewerage upgrades were needed elsewhere in the catchment. It noted however that the development of large strategic housing sites may require the construction of outfall sewers directly linking the new sites to the trunk sewer network, intentionally bypassing the network of existing towns and villages.

9. Other ways of addressing or managing the capacity of the sewerage network include:

- ensuring that surface water drainage from new development does not enter the existing foul sewerage network; and
- pursuing ambitious water efficiency targets in new and existing properties, as discussed in paragraphs 4 and 5 above.

10. A co-ordinated approach by local authorities, water companies and developers would be beneficial in both cases.

11. While the Rye Meads WwTW will be able to operate within its existing volumetric discharge consent until at least 2021, upgrades will still be needed to increase the treatment capacity to meet improved chemical and biological standards, which will probably be introduced by the Water Framework Directive after 2021 (see paragraph 14). The WCS concluded that continuing discussions between local authorities, the Environment Agency, TWU (the water company responsible for Rye Meads) and OfWat (the water services regulation authority) would be required to ensure that TWU received the appropriate permissions and funds for the upgrades in sufficient time to prepare for the proposed development.

12. The requirement for increased volumetric discharge after 2021 will be dependent on the development that actually occurs within the catchment. The expected abolition of the EEP and its housing etc targets means it will be some time before updated information is available for household projections and housing need/demand figures.

13. The Strategy concluded that, in terms of the future capacity of Rye Meads, a key factor would be the destination of wastewater from any development sites to the north, west and east of Stevenage. Alternative options include upgrading a WwTW in the Anglia Water Services region or even the construction of a new treatment works closer to Stevenage in the TWU region. Implementation of either of these would obviously free up capacity at Rye Meads, but the current situation is very uncertain given the recent withdrawal by North Herts from the Stevenage expansion proposals.

#### Water Quality

14. Parts of the River Lee downstream from Rye Meads do not achieve good ecological status – the standards being set by the Environment Agency. Elsewhere within the catchment and with the exception of one other river feeding into Hertford, the current water quality is generally compliant with standards. The WCS concluded that in the short to medium term, water quality would therefore not constrain development. Future demands (post 2021) of the Water Framework Directive (WFD) might make meeting standards much harder, potentially reducing the volume of consented discharge and therefore the number of new dwellings that can be connected. There is thus a risk that water quality could constrain development in the period beyond 2021. The WCS therefore recommended that further studies are needed.

#### Flood Risk

15. The Strategy recommended the preparation of Surface Water Management Plans for Stevenage, Harlow and East Herts due to the amount of proposed growth and the existing flood risk issues. It also reinforced the need for developers to incorporate sustainable drainage systems (SuDS) to control surface water runoff and reduce flood risk. These issues are addressed in more detail in the joint Strategic Flood Risk Assessment (SFRA) for Epping Forest and Harlow which was prepared after the WCS was published.

#### Environment/Conservation

16. The WCS highlighted the need to incorporate biodiversity considerations into all stages of the planning process, particularly when designing SuDS and wastewater treatment solutions. The proximity of Rye Meads WwTW to the Site of Special Scientific Interest (SSSI) of the same name, to Hunsdon Meads SSSI, and the fact that it is upstream of the Lea Valley Special Protection Area (SPA) and Ramsar site only reinforces this point.

#### Conclusions and Recommendations of the Strategy

17. The two water companies primarily responsible for potable water supply in the Rye

Meads catchment (Three Valleys Water and Thames Water Utilities) are confident that continued demand management, leakage reduction and resource development will mean that water supply will not be a constraint to growth. Water quality of rivers within the catchment is generally compliant with objectives set by the Environment Agency, but under the emerging Water Framework Directive, the majority of watercourses will fail to meet the new quality standards. This has the potential to constrain development, but only after 2021.

18. From a wastewater treatment perspective, Rye Meads Works will require substantial upgrades in the future to ensure capacity can be provided for the proposed growth. This has implications for any urban extensions to Harlow, but should not impact on any growth elsewhere in this district. Risks about volumetric capacity can be reduced if (i) planned reductions in per capita consumption of water can be realised (eg through policies advocating Code for Sustainable Homes Standards for new development); and (ii) development outside the Rye Meads catchment (particularly at Stevenage) is maximised.

19. Local authorities, water companies and developers should co-operate to inform future policies and decisions to ensure that new development and major water infrastructure upgrades are funded in a timely fashion and properly co-ordinated.

20. Green Infrastructure Strategies should form part of local plans to identify opportunities to enhance the biodiversity of the water (and wider) environment. The design of SuDS should be linked to these strategies to create an integrated network of flood risk mitigation, pollution control and biodiversity enhancement.

21. A full review of the Water Cycle Strategy is recommended within four years of its publication (2009).

#### **Resource Implications:**

The Strategy was paid for through funding from Central Government – GAF3 and PoD. There was no EFDC contribution. It will need to be reviewed and updated, but it is not clear at this stage how this will be funded. The Strategy covers either wholly or partly the areas of Broxbourne, East Herts, EFDC, Harlow, North Herts, Stevenage and Welwyn Hatfield. It also involves the Environment Agency and three water companies – Anglia, Thames and Three Valleys. If there is no Government funding for a review, and the partner authorities are expected to contribute, this Council's LDF budget would be the relevant source.

#### **Legal and Governance Implications:**

Assessing and making appropriate provision for new infrastructure is a key part of the test of soundness for the new local plan.

#### **Safer, Cleaner and Greener Implications:**

The Strategy addresses water supply, water quality, wastewater treatment and environmental conservation issues.

#### **Consultation Undertaken:**

Hyder consultants involved all local authorities and water companies and the Environment Agency in the preparation of the Strategy.

#### **Background Papers:**

Rye Meads Water Cycle Strategy Detailed Study Report: October 2009

**Impact Assessments:**

Risk Management

No risks identified.

Equality and Diversity:

*Did the initial assessment of the proposals contained in this report for relevance to the Council's general equality duties, reveal any potentially adverse equality implications?* No

*Where equality implications were identified through the initial assessment process, has a formal Equality Impact Assessment been undertaken?* N/A

*What equality implications were identified through the Equality Impact Assessment process?*  
N/A

*How have the equality implications identified through the Equality Impact Assessment been addressed in this report in order to avoid discrimination against any particular group?*  
N/A