WATER CYCLE STUDY FOR SOLIHULL

Background

- The Environment Agency, at a meeting on 1 April 2008, has raised the importance of undertaking a Water Cycle Study as part of the evidence base for the Solihull LDF Core Strategy
- The advice indicated that this should consist of a review of the water supply/water quality and waste water infrastructure studies undertaken by EA for the Regional Spatial Strategy Phase 2 Revision Housing Options, and discussions with Severn Trent Water about the more detailed circumstances in Solihull
- Whilst some time has expired since these reports were prepared, and they relate to the housing growth options for the WMRSS, the evidence is considered to remain relevant. The proposals within the Draft Local Plan are based on evidence which supported the WMRSS Phase 2 Revision and the urban renaissance strategy at its heart, to which the Metropolitan Authorities, including Solihull MBC remain committed.

WMRSS: Impact of Housing Growth on Public Water Supplies

- The Severn (rural east + Knowle/Dorridge) and Birmingham (urban north + west) Water Resources Zones are at high risk of not having enough water to supply growth in all 3 housing options
- Under Option 3 (highest level of new housing, broadly equivalent to draft preferred option), the Severn zone would be in headroom deficit 2011-16 and 2019-24, and Birmingham zone 2016-2020 and 2020-2023
- New water resource developments required to keep zones in surplus, and new/additional management measures or water resources needed to ensure water available for all new housing
- Water efficiency could help, but 8% savings in new properties would have only a small impact, whilst 25% savings a significant impact, although the latter would not ensure zones wholly in surplus
- LPA must recognise the need to develop new water resources, treatment and distribution infrastructure, early planning essential, with planners and developers to talk to water companies
- EA Water Resources for the Future – a Water Resources Strategy for England/Wales recommends a twin track approach, limited new water resources development and improving efficiency (25% savings)
- NB Preferred Option/Final RSS likely to be have even higher housing numbers, potentially greater need for water resources development

WMRSS: Impact of Housing Growth on Water Quality & Waste Water Infrastructure

- Most of the sewage treatment works in the high risk category are in the major urban areas, including Minworth and Barston, where it may be difficult to improve the effluent quality &/or an increase in the volumeof effluent would increase the risk of flooding downstream
- There is a problem of nutrient enrichment in river water (from agriculture and sewage effluent), so an increase in capacity to deal with more waste water may require significant reduction in the amount of phosphate discharged (under the Urban Waste Water Treatment Directive)

- Point source pollution is closely controlled, but diffuse pollution is an increasing problem requiring better surface water management through the use of sustainable drainage systems
- The River Blythe is designated a Urban Waste Water Treatment Directive D Sensitive Area (Entrophic), where growth could have major implications for investment in new sewage treatment infrastructure (more rigorous standard at higher population thresholds)
- New discharges may need to meet tight ammonia standards (Freshwater Fish Directive), a particular problem if works discharge into a small river with limited dilution capacity
- The Environment Agency River Basin Management Plans seek to ensure that all water bodies reach good ecological status, and the planning system will need to help deliver improvements to the water environment
- Issue of capacity of sewers and premature overflow to rivers in wet weather requires difficult and expensive upgrading
- Local Planning Authorities should consult early with water companies and the Environment Agency to ensure adequate sewerage infrastructure, and should undertake water cycle studies where appropriate

Discussions with Severn Trent Water

- Regular discussions have been held with representatives from Severn Trent Water (STW) to ascertain any issues relating to development being proposed through the Solihull Core Strategy/Local Plan
- Meetings took place in June and August 2008 during the preparation of Challenges and Choices, and in January 2009 during the consultation period on the document. These indicated that concentrating development within the main urban areas in the Borough was less likely to be a problem than development in the rural area. STW indicated that development incorporating a significant expansion of Balsall Common as envisaged by the Government's study by Nathanial Lichfield Partnership may be a problem
- Further meetings took place during the preparation of the Emerging Core Strategy in May 2010, and during the consultation on the document in December 2010, again supporting the approach of consolidating development within the main urban areas of the Borough
- A further meeting was held in November 2011 during preparation of the Draft Local Plan, following which detailed site allocations were forwarded to STW

Response from Severn Trent Water

- A response was received from Severn Trent Water (STW) on 27 February 2012, following a high level desk top assessment of the impact of the proposed growth in the Draft Local Plan on sewerage infrastructure. A copy of the assessment is attached as Appendix A to this study
- The proposed development in the North Solihull Regeneration Area may present some sewer capacity issues as the sites will drain to the same sub-catchment, which has some records of minor flooding. Initial analysis indicates that there is sufficient treatment capacity available at Coleshill Sewage Treatment Works to accommodate flows from the scale of development proposed. Surface water should be attenuated on site, or if not possible be discharged to the river Cole or its tributaries
- The proposed development in the mature suburbs and rural areas is generally smaller scale and more dispersed. Localised capacity improvements may be required to accommodate flows from these developments. Initial analysis indicates that there is sufficient treatment capacity available at Coleshill, Barston and Minworth Sewage Treatment Works to accommodate flows from the proposed scale of development

- The proposed business sites are mostly on previously developed land and are not considered to have a significant impact on sewerage capacity

Consultation with the Environment Agency

- The Council consulted the Environment Agency on the draft Water Cycle study on 30 May 2012 and a copy of the Agency's response dated 20 June is attached at Appendix B.
- The Council has responded to the comments made by the Agency by including a reference to the relevance of the WMRSS evidence base to the Draft Solihull Local Plan and the Severn Trent Water assessment with its risk based findings as an appendix to the study
- The assessment was undertaken in February 2012 so will have utilised the latest water resources plan, and in the knowledge of the phasing of development set out in the Draft Local Plan
- These amendments were communicated to the Agency in July 2012, and a further response dated 13 August 2012 is attached at Appendix C
- It is acknowledged that detailed hydraulic modelling will need to be undertaken to confirm sewerage capacity

Conclusions

- The assessment indicates that the housing developments in North Solihull and the mature suburbs and rural area will have a low to medium impact on sewerage infrastructure and that there is sufficient treatment capacity at sewage treatment works to accommodate the flows from the scale of development proposed
- Sewerage capacity will need to be confirmed using hydraulic modelling