

Water Cycle Strategy: Major Growth Areas in and around Cambridge

To: **Joint Strategic Growth Implementation Committee**

Date: **10 November 2010**

From: **Programme Manager, Cambridgeshire Horizons**

Purpose: **To update JSGIC on progress with the Phase 2 Water Cycle Strategy for the Major development areas in and around Cambridge.**

Recommendation: To comment on the report and note:

- a) the recommendations in the Strategy to implement sustainable water management for the major development sites in and around Cambridge;
- b) the outstanding issues that must be resolved before the final report is issued in late November 2010;
- c) the contribution made by the Strategy to a coherent approach to sustainable water management across Cambridge and Cambridgeshire.

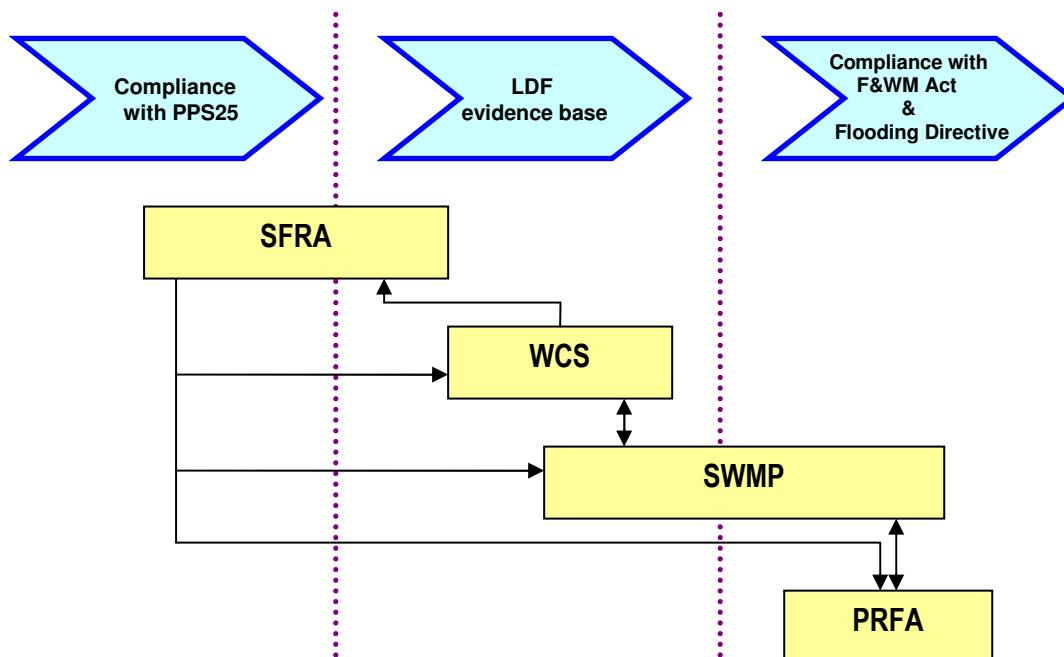
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1. Background

- 1.1 Water Cycle Strategies are examinations of water supply capacity, flood risk, wastewater infrastructure and water quality, undertaken to ensure that new development can be supplied with water services infrastructure that is sustainable in the longer term. Water Cycle Strategies provide a costed programme of strategic infrastructure to inform part of the evidence base for local authorities' Local Development Frameworks (LDFs). Looking ahead, the programme of infrastructure in the Strategy will be used as a mechanism to attract additional funding, allowing water companies to discuss future business planning and infrastructure requirements with Ofwat, and will inform the forthcoming Community Infrastructure Levy.
- 1.2 The Strategy includes three distinct elements: Scoping, Outline (Phase 1) and Detailed (Phase 2). The Outline study for the Major Growth Sites in and around Cambridge was completed in September 2008. The Joint Strategic Growth Implementation Committee received a report on the Detailed Strategy in November 2009 and a presentation in February 2010. We have now received the draft final report and have the opportunity to comment on the report before a final version is issued. The draft final report is not attached here, but is available upon request.
- 1.3 The Strategy has been prepared by consultants Halcrow Group and project managed by Cambridgeshire Horizons. It has been developed through a project steering group comprising representatives from Cambridge City Council, South Cambridgeshire District Council, the County Council, Anglian Water Services, Cambridge Water Company, Environment Agency, the Swavesey, Old West and Swaffham Internal Drainage Boards and Natural England. The Strategy covers the major development sites in and around Cambridge including the existing Cambridge urban area, Cambridge East, Cambridge Northern Fringe, Northstowe, Cambourne, Cambridge Southern Fringe and North West Cambridge.
- 1.4 The Detailed Water Cycle Strategy considers the period to 2031. When work began the Regional Spatial Strategy (RSS) was being reviewed and the figures emerging from this process informed assumptions about levels of growth. Despite Regional Spatial Strategies being revoked, there is enough information about the growth sites to allow reasonable judgements to be made about the scale and timing of new development for the purposes of the Strategy.
- 1.5 The Strategy supports and fits within Cambridgeshire's developing, and comprehensive, approach to sustainable water management.

Water Cycle Strategies (WCSs) are currently underway for Huntingdonshire and for East Cambridgeshire and Fenland. The Cambridgeshire Flood Risk Management Partnership, led by the County Council and set up to respond to the requirements of the Flood and Water Management Act (2010) and the Government's response to the Pitt Review (2008), is leading work that includes a County-wide Surface Water Management Plan (SWMP) and Preliminary Flood Risk Assessment (PFRA). Supporting this are the findings from the three Cambridgeshire Water Cycle Strategies and Level 1 Strategic Flood Risk Assessments, guidance for developers (the City Council's Cambridge Sustainable Drainage Design and Adoption Guide) and examples of best practice arising from the European FLOWS Project at Lamb Drove, Cambourne.

- 1.6 The diagram below shows the linkages between the key water and flooding management studies (adapted from the East Cambridgeshire and Fenland Water Cycle Strategy and DEFRA's 2010 technical guidance on Surface Water Management Plans).



2. Findings from Phase 1

- 2.1 The Phase 1 Water Cycle Study demonstrated that growth can be achieved without detriment to the environment and identified the infrastructure required to serve emerging and future development. The Detailed Strategy goes further and, with the support of the local authorities and other stakeholders, aims to:

- Identify how to support the achievement of water neutrality in the longer term;
- Improve biodiversity by protecting water quality;

- Manage flood risk and enhance the environment through sustainable surface water management.

(Cambridgeshire is within an area of severe water stress. Water neutrality describes a situation where total demand for water within a planning area after development has taken place is no greater than it was before. The aspiration is that this can be achieved by making new development as water efficient as possible and offsetting any new demand by reducing overall demand from existing users, thereby living within the environmental capacity of water resources locally.)

2.2 Existing local planning policy has the ambition to achieve water efficiency in new development. This Strategy is informed by additional drivers for water efficiency, notably the Cambridgeshire Quality Charter for Growth and the Code for Sustainable Homes. The Detailed Strategy sets out a long-term approach to:

- Achieve the highest levels of water efficiency in all new homes – reducing current water consumption of 125 litres per head per day (l/h/d) to 80 l/h/d (i.e. moving from Code for Sustainable Homes level 3/4 to level 5/6);
- Aim for water neutrality by identifying possible mechanisms or pathways to achieve this including enhanced water metering, variable water tariffs and the introduction of water efficiency measures in the existing building stock;
- Aim for all surface water in new development to be managed above ground where feasible through Sustainable Drainage Systems (SUDS);
- Improve water quality in surface water runoff from new developments.

2.3 The strategy recognises that these are ambitious aims and require long term planning and change. Barriers are identified as well as possible ways to overcome the difficulties. The strategy highlights that achieving the long-term vision will require continued collaborative working with all stakeholders and full engagement with the local community.

3. Key findings and recommendations

3.1 Key findings and recommendations can be found in **Appendix A**.

3.2 The technical evidence has identified recommendations to inform the planning process in the following areas:

- Water efficiency targets for domestic and non domestic buildings;
- Above ground SUDS where possible to support Surface Water Management, biodiversity and water quality;

- Management of waste water.

3.3 Implementation of much of the Strategy will depend upon the plan making process, with principles to be tested through consultation before being adopted in development plans. Until then, the WCS provides an evidence base albeit the WCS does not have the weight of the development plan.

3.4 In addition to the policy recommendations a pathway to sustainable water management has been identified up to 2031. The current policy environment which includes water supply, waste water management and surface water management needs to be brought together effectively over the next decade to enable a sustainable water environment to be delivered. The Strategy has therefore identified opportunities and barriers that need further consideration by a broad set of stakeholders including local authorities, government, water companies and government agencies (Environment Agency and Natural England) to help deliver a sustainable water environment suitable for our future. Within this pathway are a range of initiatives that can be taken forward to support water neutrality and these will need to be considered as part of the implementation of the Strategy.

4. Completing the Strategy: Outstanding Issues

4.1 Discussion between local authorities, Horizons, and Environment Agency officers has identified four outstanding issues for the Strategy that should be resolved before the final report is presented to the Horizons Board on 8th December. The following four outstanding issues remain the topic of discussion with Halcrow that must be concluded within the next two-three weeks.

- Additional examples of best practice;
- Further advice on funding mechanisms for water efficiency retrofitting;
- Landtake needed for SuDS;
- Level of detail presented for Northstowe.

4.2 The Environment Agency has commented that they are particularly pleased with the overall standard of the draft report. This is noteworthy as the Environment Agency is co-ordinating and promoting the preparation of Water Cycle Strategies nationally.

5. Local Authority member process

5.1 Each Local Authority is taking the Detailed Strategy through the appropriate member processes to ensure comments are given to the consultants to shape the final report. In addition to being considered by JSGIC, the member processes are set out in the table below.

5.2 Subject to stakeholder comments, the Detailed Strategy will be brought

to the Cambridgeshire Horizons Board on 8th December for sign-off.

Authority	Member group	Date	Comment
Cambridgeshire County Council	Growth and Environment Policy Development Group	2 nd Nov	PDG discussed the issues arising from the report and stressed the need for the water companies, Environment Agency, Cambridgeshire Horizons and local authorities to work together so that growth can be delivered in a sustainable way. The SUDS project at Lamb Drove was highlighted as an example of best practice and the potential of reed bed treatments was emphasised as an alternative to traditional engineering solutions as a way to expand capacity at water treatment works.
Cambridge City Council	Development Plan Scrutiny Sub-Committee	16 th Nov	
South Cambridgeshire District Council	New Communities or Planning Portfolio Holders meeting	14 th Dec	Meets after Horizons Board on 8 th December. Horizons Board will be asked to sign-off the Detailed Strategy subject to any additional comments from South Cambridgeshire.

6. Recommendations

6.1 Recommendations as per cover sheet.

Appendix A: Key findings and recommendations from the Detailed Strategy.

Water resources recommendations

Planning policy recommendations: water resources

- New domestic dwellings should achieve 80 l/h/d (potable consumption) identified in the Code for Sustainable Homes (level 5 and 6) through implementation of water efficient measures and rainwater/greywater systems, unless meeting 80 l/h/d is not viable due to the small size of development. Where 80 l/h/d is not considered to be viable the development should justify why it is unable to deliver this level of water efficiency and provide evidence of the level that can be delivered as well as minimise water consumption through use of water efficient appliances.
- New non-domestic buildings should meet the BREEAM 'excellent' standard with respect to water efficiency, through installation of water efficient measures and rainwater/greywater systems.
- As a minimum, the additional demand for water due to new development should be *partially* offset, through the implementation of measures in the existing housing stock, including, but not limited to, retrofit of water efficient measures and marketing/awareness campaigns with local residents and businesses.

Initiatives to work with local communities and businesses

- In partnership with Cambridge Water, Environment Agency and Waterwise East, Cambridge City Council, South Cambridgeshire District Council and Cambridgeshire County Council should promote a number of initiatives to promote the value of water in local communities and businesses.

Undertake water audits & retrofit water efficient measures

- In partnership with Cambridge Water, Environment Agency and Waterwise East, Cambridge City Council and South Cambridgeshire District Council should promote water audits in domestic and non-domestic buildings, with the objective of retrofitting water efficient measures into existing buildings.
- Relevant partners should carry out an investigation of the mechanisms by which retrofitting of the existing housing stock to achieve water neutrality could be facilitated.

Surface water management recommendations

Planning policy recommendations: Surface water management

- Development should aspire towards 100% above ground surface

water drainage except where this is not feasible due to housing densities, land take, ground conditions, topography, or other circumstances outlined within the development proposals.

- Where 100% above ground drainage is not feasible due to the size of development (e.g. windfall and non-strategic developments) or proposed high densities, the development proposals should maximise opportunities to use SUDS measures which require no additional land take, i.e. green roofs, permeable surfaces and water butts
- Development proposals should ensure that surface water drainage is integrated within the built environment. In addition, surface water drainage proposals should maximise opportunities to create amenity, enhance biodiversity, and contribute to a network of green (and 'blue') open space.
- Surface water drainage should be considered at an early stage of the master planning process, to allow maximum integration of drainage and open space, and to minimise the additional land take required by above ground drainage.

Managing pollutants in surface water runoff recommendations

Planning policy recommendations: management of pollutants in surface water runoff

- Development must ensure that an appropriate number of SUDS treatment stages are provided to treat surface water runoff; 1 treatment stage is required for roof runoff only, 2 treatment stages are required for residential roads, parking areas and commercial zones, and 3 treatment stages are required for refuse collection, industrial areas, loading bays, lorry parks, highways.
- Consideration should be given to sources of pollution in the urban environment to demonstrate that appropriate SUDS measures have been incorporated into the development to protect water quality from polluted surface water runoff.
- Within contaminated land development should allow for measures to remove, reduce or render the contaminants harmless. Within contaminated sites a lined SUDS system should generally be used to prevent infiltration of surface water runoff.

Wastewater recommendations

Planning policy recommendation: wastewater infrastructure

- Planning permission will only be granted for developments which increase the demand for off-site service infrastructure where:

- sufficient infrastructure or environmental capacity already exists or
- extra capacity can be provided in time to serve the development which will ensure that the environment and the amenities of local residents are not adversely affected.
- When there is a capacity problem and improvements in off-site infrastructure are not programmed, planning permission will only be granted where the developer funds appropriate improvements which will be completed prior to occupation of the development.

Ensure sufficient infrastructure capacity exists within the wastewater network

- Anglian Water should progress their preferred solution for Cambridge and Uttons Drove WWTW and the wastewater networks which drain to them

Protection of receiving watercourses from wastewater discharges

- New development should not cause deterioration of receiving water quality or an increase in flood risk from increased wastewater discharges. The Environment Agency should confirm the discharge consents required at both works and progress this through the National Environment Programme, and the preferred land drainage solution at Uttons Drove and Webbs Hole Sluice should be progressed to enable development at Cambourne and Northstowe..