

**CAMBRIDGESHIRE COUNTY COUNCIL SURFACE WATER MANAGEMENT
PLAN - UPDATE 2014**

To: **Economy and Environment Committee**

Meeting Date: **13 January 2015**

From: **Executive Director – Economy, Transport and
Environment**

Electoral division(s): **All**

Forward Plan ref: **Not applicable** **Key decision:** **No**

Purpose: To update members on the outputs of the Cambridgeshire
County Council Surface Water Management Plan (SWMP)
– Countywide update 2014 and associated work streams.

Recommendation:

- a) To approve the Multi-Criteria Analysis methodology for the prioritisation of the wetspots as detailed in the report under section 2.
- b) To approve applying for funding to implement the recommendations of the March SWMP, and Histon and Impington SWMP reports. This would be via the Environment Agency administered 'Medium Term Plan Grant in Aid'.
- c) To seek, as appropriate, partnership contributions toward funding key work from key stakeholders such as Water Companies, private companies, and District and Parish Councils.

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1. BACKGROUND

- 1.1 The wide scale flooding experienced during 2007 precipitated the publication of the Pitt Review which contained 92 recommendations for Government to consider. The key recommendation in the Pitt Review with respect to surface water management is Recommendation 18, which states “the development of local ‘Surface Water Management Plans’... should be coordinated by local authorities, and should provide the basis for managing all local flood risk”.
- 1.2 The Department of Environment, Food and Rural Affairs (DEFRA) technical guidance defines surface water flooding as ‘runoff as a result of high intensity rainfall either before it enters the drainage network, or when it cannot enter because of capacity issues; flooding from groundwater; sewer flooding; flooding from any watercourse not designated as a ‘Main River’”.
- 1.3 The Pitt Review recommendations were transposed in to UK law in the form of the ‘Flood and Water Management Act (2010)’. The Act recommends that Cambridgeshire County Council as a designated ‘Lead Local Flood Authority’ (LLFA) develops Surface Water Management Plans to help ensure that flood risk is managed effectively.
- 1.4 It is important to note that as the LLFA, Cambridgeshire County Council is responsible for managing local flood risk from sources, including ordinary watercourses, surface runoff and groundwater. The Environment Agency (EA) is the competent authority for managing risk from main rivers, the sea and large raised reservoirs. Additionally, there are 63 Internal Drainage Boards (IDBs), and five District Councils in the County that play an important role in local flood risk management, and are designated under the ‘Act’ as ‘Flood Management Authorities’.
- 1.5 Cambridgeshire is one of the fastest growing counties in the country with an estimated 50% of the land at risk of flooding. The County has suffered from surface water flooding, most recently in August 2014, when several roads and an estimated 300 properties flooded.
- 1.6 In Cambridgeshire, the Environment Agency estimates that there are 23,100 homes vulnerable to surface water flooding in a 1:200 year event. (0.5% chance of occurring in any given year). This year Cambridgeshire experienced a 1:330 year event, (0.3% chance of occurring in any given year) fortunately the weather event was localised to one part of the County.
- 1.7 Surface Water Management Plan - Countywide update 2014.
- 1.8 In 2010, Cambridgeshire County Council developed a Strategic Surface Water Management Plan (SWMP). Following stakeholder engagement the plan was published in April 2011. The plan was based on the data and evidence available at the time, and the plan detailed a prioritised list of wet spots in the County that were vulnerable to surface water flooding. Since the production of the plan in 2011, more up to date evidence and data has become available. Most notably the national flood risk mapping data set available from the Environment Agency. Therefore, the outputs from the plan need to be updated using the new data.

- 1.9 In addition, in recent years, and most recently in 2014, instances of surface water flooding have occurred, some due to intensive rainfall events across the County. This provides additional data with which to appraise the priority of the wet spots.
- 1.10 The objectives of the Countywide update are to:
- Collate and review additional flood incidents records from 2011 to 2014 made available by the SWMP stakeholders to identify that the initial wet spot list remains appropriate;
 - Revise the prioritisation methodology to make use of the updated national surface water flood risk mapping available from the Environment Agency; and
 - Produce a revised list of wet spot prioritisation to assist the County and partners in taking action and allocating resources for future investigation via SWMPs.
- 1.11 Input for the update came from a variety of sources including, but not limited to, historical flooding information provided by stakeholders and members of the public as part of the 'Flooding Memories' project, the Environment Agency's National Receptor Database and Flood Maps for Surface Water, District Council and Parish Council records, local members, the County Council's Highways team and Emergency Management Team, and Anglian Water Services.
- 1.12 To date six SWMPs have been produced. Cherry Hinton SWMP successfully bid for Flood Defence Grant in Aid (FDGiA) and was awarded £202,000 toward a property level flood protection scheme to protect 30 properties in Cambridge. Kings Hedges SWMP also successfully bid for FDGiA and was awarded £275,000 toward a flood risk management scheme to protect 164 properties. Both SWMPs have been recognised as delivering 'Best Practice' by the Environment Agency and are used as a template for other authorities.
- 1.13 SWMPs were produced for St Neots and Ely, but unfortunately both could not obtain the minimum cost benefit score to attract Government funding and were therefore not progressed. Two further SWMPs have been produced, one for March and one for Histon and Impington. Both are economically viable and will be discussed in more detail in section 2 of this report.

2. MAIN ISSUES

2.1 Surface Water Management Plan - Countywide update 2014.

- 2.2 This report details the outputs from the countywide update 2014 for each District Council area, and lists the areas at most risk. The risk was assessed using 'multi criteria analysis process' (MCA) recommended by Government. A risk weighting score was given to each wet spot based on its susceptibility to that risk. The categories as recommended by Government are:

- Domestic properties;
- Non domestic properties;
- Critical Infrastructure
- Transport
- Land Use; and
- Cultural.

- 2.3 The top 3 most vulnerable wet spot areas, for each District, are detailed below. The ranking is for domestic and non domestic properties and excludes historical evidence of flooding and other MCA scores. Historical evidence though very important can lack important details needed for the technical calculations, or the flooding could have been caused by an issue that has been resolved. The Countywide update 2014 primarily focuses on flood damages to Domestic and non domestic properties, rather than all MCA categories because the County Council can only apply for funding to undertake work to reduce risk to those receptors. A more comprehensive list including the additional MCA categories can be found in the SWMP Countywide update 2014 report.

2.4 Countywide prioritised list (Domestic and non Domestic - no historic weighting)

Wet spot	Area	Final MCA Score
March	Fenland	1,955
St Ives	Huntingdon	1,646
St Neots	Huntingdon	1,416
Sawtry	Huntingdon	1,213
Huntingdon	Huntingdon	920
Ely	East Cambridgeshire	751
Offord Cluny	Huntingdonshire	722
Buckden	Huntingdonshire	508
Papworth Everard	South Cambridgeshire	473
Linton	South Cambridgeshire	456

2.5 District level prioritised list for top three areas (Domestic and non Domestic - no historic weighting)

Area	Ranked 1st	Ranked 2nd	Ranked 3rd
Cambridge City	Cherry Hinton	Kings Hedges	North Chesterton
East Cambridgeshire	Ely	Dullingham	Littleport
Fenland	March	Chatteris	Wisbech
Huntingdonshire	St Ives	St Neots	Sawtry
South Cambridgeshire	Papworth Everard	Linton	Bar Hill

- 2.6 The outputs of the SWMP Countywide Update 2014 report would influence where future SWMPs might be undertaken in order to apply for Flood Defence Grant in Aid funding.

2.7 March Surface Water Management Plan Pre Appraisal Report

March has a history of some surface water flooding, most notably in August 2014 when several roads and properties flooded. March was one of the worst hit areas in Cambridgeshire during the August 2014 storm event.

- 2.8 A SWMP Pre Appraisal Report has been produced for March, which is required in order to bid for FDGiA funding. The purpose of the report is to

determine if the current model results and options proposed justify taking the wetspot areas forward to an application for FDGiA.

- 2.9 The report includes an economic appraisal that assesses the cost effectiveness of a number of potential solutions to mitigate the impact of future flooding. For wetspot 1 the 'do minimum option' of improved maintenance was most cost viable option. For wetspot 2 the 'do minimum option' of improved maintenance was the most cost viable option. For wetspot 3 the option C2 to create a number of attenuation basins, rain gardens, and install property level protection, is the most cost viable option, but would require a minimum partnership contribution of £49,174. Contributions could come from Fenland District Council, March Town Council, private companies, and the County Council (via a Government grant for flood risk management work).
- 2.10 Histon and Impington Surface Water Management Plan Pre Appraisal Report
Histon and Impington has a history of some surface water flooding, most notably in August 2014 when several roads and properties flooded.
- 2.11 A SWMP Pre Appraisal Report has been produced for Histon and Impington, which is required in order to bid for FDGiA funding. The purpose of the report is to determine if the current model results and options proposed justify taking the wetspot areas forward to an application for FDGiA. Histon and Impington was progressed ahead of the top three areas noted in the Countywide update because there was an opportunity to secure external funding from the Darwin Green development toward the scheme.
- 2.12 The report identifies a number of potential solutions to mitigate the impact of future flooding. The preferred option is 4a, which includes a limited amount of upstream and downstream flow attenuation and channel improvement measures. This option benefits all three wet spot areas, and is the most cost viable option, but would require a partnership contribution of £382,117. Contributions could come from the Darwin Green Development, Histon and Impington Parish Council, South Cambridgeshire District Council and the County Council via a Government grant for flood risk management work.

3. ALIGNMENT WITH CORPORATE PRIORITIES

3.1 Developing the local economy for the benefit of all

The following bullet points set out details of implications identified by officers:

- The SWMP 2014 update is crucial to the development of the local economy through the guidance and direction it provides to planning authorities, helping to encourage new development, and flood risk management in an integrated manner; and
- The SWMP 2014 update can also act as an evidence base to ensure that future development considers flood risk management, thus discouraging investments that will disrupt the lives of local communities and consequently the local economy.

3.2 Helping people live healthy and independent lives

The following bullet points set out details of implications identified by officers:

- Flooding can occur at any time, and anywhere, and tend to affect the vulnerable most severely. Flooding is expected to increase due to climate change;
- The SWMP update 2014 identifies areas of greatest flood risk and enables the County Council to work with partners and the community to plan and prepare for flooding in the future;
- It encourages and facilitates flood schemes to help protect homes and communities in Cambridgeshire;
- On occasion, flooding has been known to cause fatalities. By identifying areas of greatest risk, the County Council is able to engage with organisations, such as emergency services, that provide critical services within the county. Thus ensuring that issues are dealt with in an integrated manner.

3.3 Supporting and protecting vulnerable people

The following bullet points set out details of implications identified by officers:

- The detailed surface water management plan update 2014, and associated SWMPs have been produced to highlight areas at greatest risk from flooding taking into account vulnerable communities; and
- The SWMPs contain action plans for dealing with the areas identified to reduce flood risk. In turn enabling the County Council to take a leadership role in support of the most vulnerable in our community.

4. SIGNIFICANT IMPLICATIONS

4.1 Resource Implications

The following bullet point set out details of significant implications identified by officers:

- The production of the SWMP Countywide Update 2014 and detailed studies for Histon and Impington and March were undertaken as a statutory requirement of the Flood and Water Management Act 2010. As a Lead Local Flood Authority, the county council is responsible for managing flooding from:
 - Ordinary watercourses;
 - Groundwater; and
 - Surface water.
- The County Council may be asked in the future to commit, where affordable, partnership contributions toward a future flood risk management scheme identified in the SWMP - update 2014.

4.2 Statutory, Risk and Legal Implications

The following bullet points set out details of significant implications identified by officers:

- The County Council has a statutory duty under the Part 1, Section 2 (9) of the Flood and Water Management Act 2010 to produce a Local Flood Risk Management Strategy; and
- Should the County Council fail to comply with this duty then it would be in breach of a legal requirement. This could severely damage the reputation of the County Council and jeopardise its position as a leading authority in flood and water management.

4.3 Equality and Diversity Implications

The following bullet points set out details of significant implications identified by officers:

- The Community Impact Assessment prepared under the Equality Act 2010 is contained in the Local Flood Risk Management Strategy; the update is a continuation of this work; and
- The SWMP Update 2014 refreshes one section of the Local Flood Risk Management Strategy, therefore the Community Impact Assessment is still applicable.

4.4 Engagement and Consultation Implications

The following bullet point set out details of significant implications identified by officers:

- The authority has carried out public consultations which have shaped the final report for the SWMP Update 2014, and the key stakeholders including the Environment Agency, and District and Parish Councils were consulted with to update and prioritise the wet spot areas for the 2014 update.

4.5 Public Health Implications

There are no significant implications within this category.

Source Documents	Location
Cambridgeshire County Council Surface Water Management Plan - 2014 update <i>File name: 140901 Countywide_SWMP_Update v1.0</i>	\\ccc.cambridgeshire.gov.uk\data\ETE Growth & Economy\Flood and Water Management\Project Dossier\Project - SWMP\SWMP-Countywide\2014 revision\140901Countywide SWMP Update v1.0
Cambridgeshire County Council Surface Water Management Plan – Histon and Impington Pre-PAR	\\ccc.cambridgeshire.gov.uk\data\ETE

<p><i>File name: 140901 HistonImpington_PrePAR_Final Report</i></p>	<p>Growth & Economy\Flood and Water Management\Project Dossier\Project - SWMP\SWMP-Histon Impington\Pre PAR\</p>
<p>Cambridgeshire County Council Surface Water Management Plan – March Pre-PAR</p> <p><i>File name: 140901 March Pre-PAR Report</i></p>	<p>\\ccc.cambridgeshire.gov.uk\data\ETE Growth & Economy\Flood and Water Management\Project Dossier\Project - SWMP\SWMP-March\Pre PAR</p> <p>Hard copies of the above documents will be located in the Members lounge Shire Hall, Cambridge</p>
<p>Cambridgeshire's Local Flood Risk Management Strategy</p> <p><i>File Name: 130219 LFRMS V1</i></p>	<p>\\ccc.cambridgeshire.gov.uk\data\ETE Growth & Economy\Flood and Water Management\Project Dossier\Project - Local Flood Risk Management Strat\Strategy versions</p>
<p>Strategic Flood Risk Assessment (Final Report)</p> <p><i>File Name: UA005177 Cambridgeshire SEA Non Technical Summary - 14-11-12</i></p>	<p>\\ccc.cambridgeshire.gov.uk\data\ETE Growth & Economy\Flood and Water Management\Project Dossier\Project - Local Flood Risk Management Strat\SEA Tender\SEA\Final Report</p>
<p>Community Impact Assessment</p>	<p>\\ccc.cambridgeshire.gov.uk\data\ETE Growth & Economy\Flood and</p>

File Name: 120901 Community Impact Assessment form_FRMS	Water Management\Project Dossier\Project - Local Flood Risk Management Strat\CIA
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