

**Cambridgeshire County Council and Peterborough City Council**

# **Taking account of flood risk – Non-technical summary of the flood risk evidence base**

**Cambridgeshire and Peterborough Minerals and  
Waste Local Plan**

**January 2019**

## Contents

Strategic Flood Risk Assessment and the plan-making process .....	1
Cambridgeshire and Peterborough's topography .....	2
Planned growth .....	3
Sources of flood risk.....	4
Areas of flood risk.....	7
Key issues and opportunities relevant to minerals and waste planning .....	8
Recommendations regarding preparation of local plan policies .....	9
Appendix 1: Flood risk and water related studies and strategies .....	11

## Strategic Flood Risk Assessment and the plan-making process

1. The revised National Planning Policy Framework (NPPF) 2018 (paragraph 148) recognises that “*The planning system should support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change*”. The detailed national policy approach regarding planning and flood risk as relevant to the plan-making process are set out in the NPPF (paragraphs 155 to 161<sup>1</sup>). The NPPF (paragraph 156) requires that “*Strategic policies be informed by a Strategic Flood Risk Assessment, and should manage flood risk from all sources. In addition consideration should be given to cumulative impacts in, or affecting, local areas susceptible to flooding, and take account of advice from the Environment Agency and other relevant flood risk management authorities, such as lead local flood authorities and internal drainage boards*”.
2. A Strategic Flood Risk Assessment (SFRA) is a study carried out by one or more local planning authorities to assess the risk to an area from flooding from all sources, now and in the future, taking account of the impacts of climate change, and to assess the impact that changes or development in the area will have on flood risk. The findings of the SFRA should be used to ensure that flood risk is considered at a strategic level to inform land use planning.
3. The requirements set out in the NPPF should also be taken in context with the detailed guidance set out through the National Planning Policy Guidance (NPPG) regarding minerals and waste planning<sup>2</sup>, which states that “*Waste and mineral planning authorities need to take account of flood risk when allocating land for development. They should prepare their plan policies with regard to any available Strategic Flood Risk Assessments. Further, potential benefits should be explored, such as restoring mineral working located in flood risk areas to increase flood water storage, which can also enhance the natural environment*”.
4. This makes it clear that in preparing minerals and waste plans there is not a requirement to produce a separate or new SFRA for the plan, rather the plan policies should be prepared with regard to any available SFRAs.

### The flood risk evidence base for Cambridgeshire and Peterborough

5. SFRAs have been undertaken by Peterborough City Council and each of the five district councils within Cambridgeshire (including City of Cambridge, South Cambridgeshire, Huntingdonshire, Fenland and East Cambridgeshire) for their administrative area, including the production of flood risk maps providing coverage across the plan area (to varying scales).
6. The existing SFRA evidence documents cover the plan area. The existing SFRAs address the potential impacts of climate change to varying extents. Detailed guidance on climate change allowances is included in the NPPG (Flood risk assessments: climate change allowances, February 2016, updated 2017). The local flood and water evidence documents are identified in Appendix 1.

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<sup>1</sup> NPPF 2018 paragraphs 162 to 165 refer to planning applications, not the preparation of Local Plans.

<sup>2</sup> NPPG, Flood risk and coastal change, Taking flood risk into account in the preparation of Local Plans, Is flood risk relevant to waste and minerals plans? Paragraph: 008 Reference ID: 7-008-20140306

## **Scope of the non-technical summary of the flood risk evidence base**

7. This report forms a non-technical summary of the existing flood risk evidence base as set out through the Methodology for appraising flood risk matters and application of the sequential test, September 2018.
8. The purpose of preparing a non-technical summary of the flood risk evidence base is to inform the plan-making process by collating information on flood risk, and variations thereof, from all sources of flooding across & from the plan area as it relates to minerals and waste development. This information will be used to identify key local issues and opportunities regarding flood risk & climate change matters and minerals & waste development, including how the plans policies could address such matters. This will assist in preparing appropriate policies for flood risk management that specifically relate to minerals and waste development. This may include measures such as plan policies requiring flood attenuation measures to be identified through restoration schemes, building in future resilience, seeking to reduce greenhouse gases and tackling climate change through design, etc.
9. The existing local flood risk evidence base will be addressed in the following manner:
  - Sources of flood risk
  - Areas of flood risk
  - Key issues and opportunities relevant to minerals and waste planning
  - Recommendations regarding preparation of local plan policies
10. It should be noted that the scope of this non-technical summary does not include preparing new or undertaking a partial/full technical review/update of the existing SFRAs including associated GIS datasets/mapping layers, related studies (including but not limited to: flood risk management plans/strategies, water resource management plans or water cycle studies) or climate change allowance mapping. This level of assessment is not considered to be proportionate to the plan-making task given the existing evidence base regarding flood risk (which provides coverage for the plan area), and national guidance.

## **Cambridgeshire and Peterborough's topography**

11. Cambridgeshire and Peterborough feature a wide range of landscapes, but are predominantly rural. The north and east contain the flat, low-lying fens, rising towards the north-west and south reflecting the limestone and chalk geology respectively. There are gentle undulating claylands in the west and chalk hills to the south. Constructed waterways and meandering rivers, sitting within shallow river valleys, flow across the largely open agricultural landscape.
12. The plan area includes some of the lowest lying and flattest areas in England with much of the plan area being below mean sea level. The Fens form the lowest laying land in the plan area, with Holme Fen being the lowest point in the UK (approximately 2.75m below sea level). This area is predominantly rural and

features a network of artificial drainage channels that are artificially drained (mostly pump-drained)<sup>3</sup>. The Fens are interspersed by islands of higher ground.

13. The main rivers within the plan area include the River Nene, River Welland and the River Great Ouse and their key tributaries. These watercourses progress from the plan area and eventually discharge to The Wash and the North Sea. This demonstrates that changes in flood regimes within the plan area can have wider consequences downstream within these catchments.
14. Many of the larger settlements (such as Cambridge, Huntingdon and Peterborough) are built along and around main river systems resulting in many properties being located within the natural floodplain. However, many settlements are located on 'islands' of higher ground (e.g. within Cambridgeshire – Ely, Littleport, Burwell and Soham, Wisbech, March, Whittlesey and Chatteris, and within Peterborough – Eye and Thorney).
15. Low-lying areas and development within the natural floodplain are (to varying degrees) susceptible to flooding. The drainage of developed areas located on higher ground can impact on lower areas. It is difficult to retrospectively address previous development, however in planning future growth matters such as flood risk can be effectively addressed (and outcomes may also benefit existing development). This is why flood risk is an important issue, for all forms of development and land use planning, and is one that needs to be considered at a local as well as strategic level.

## Planned growth

16. The plan area has two main cities, Cambridge and Peterborough, and a number of market towns and villages. The area is one of the fastest growing in England and will continue to be subject to significant growth. Each of the local planning authorities within the plan area are at different stages regarding the review of their adopted Local Plans. The housing need<sup>4</sup> for the plan area is around 4,700 dwellings per annum (up to 2036); of this Cambridgeshire will accommodate just over three-quarters, with the remainder being accommodated within Peterborough.
17. In order to support this population increase there will also be a need for other forms of supporting development such as services and business (employment) as well as essential infrastructure. All of which will require the raw materials (e.g. aggregates) to support development and facilities to enable sustainable waste management and resource recovery.
18. Regarding minerals, the emerging Minerals and Waste Local Plan (MWLP) identifies a requirement for provision of 2.6Mtpa (total of 54.6Mt up to 2036) of sand and gravel and 0.3Mtpa (total of 6.3Mt up to 2036) of limestone to be

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<sup>3</sup> Internal Drainage Boards (IDBs) manage water levels in these areas.

<sup>4</sup> Cambridgeshire Insight 2017 Strategic Housing Market Assessment (SHMA) - Summary of our objectively assessed housing need <https://cambridgeshireinsight.org.uk/housing/local-housing-knowledge/our-housing-market/shma/>

provided over the plan period through permitted reserves and site-specific allocations.

19. Regarding waste management capacity, the Plan area is well placed in terms of net self-sufficiency for waste management, having sufficient capacity with regards to net self-sufficiency for preparing for re-use and recycling (including composting) and other recovery/treatment. There is a potential need for hazardous waste recycling capacity (0.018Mtpa in 2017 increasing to 0.026Mtpa by 2036), however these wastes are managed at a wider than local scale and the Plan does not seek to include allocations for such use.
20. This report will provide a non-technical summary of the main issues and opportunities of relevance to minerals and waste development within the plan area.

## Sources of flood risk

21. The plan area is vulnerable to flooding from a variety of sources including surface water, sewer and fluvial (including tidal) flooding.
22. Flood risk management measures within the plan area include the use of conventional flood defences, for example structures such as sluices, flood embankments, flood storage/attenuation areas, pumping stations, drains/channels, etc.
23. Regarding new development the existing flood risk evidence base has identified the location of new development and potential development in flood risk areas, and increased surface runoff caused by development (particular in areas where there are drainage capacity issues) to be the main flood risk issues relevant to the plan area.
24. Anglian Water is the sewerage undertaker for the plan area. Water service providers within the plan area include Anglian Water and Cambridge Water Company (Cambridge, South Cambridgeshire and parts of Huntingdonshire).
25. Water resources and water supply infrastructure are outside of the scope of this report and are the primary responsibility of water and sewerage companies (e.g. Anglian Water), the need for additional capacity is addressed through Water Cycle Studies (WCS). However, where relevant the need for additional capacity as identified through existing WCS has been included in this report as this influences potential for flood risk associated with sewers.

## Cambridgeshire

26. The main sources of flooding of concern in Cambridgeshire are fluvial (i.e. watercourses), surface water and sewers. Fluvial flooding is the primary source of flood risk within Cambridgeshire.

### Fluvial flooding

27. The main rivers within Cambridgeshire include the River Great Ouse, River Cam (a tributary of the Ouse) and the River Nene. The majority of recorded fluvial

flood incidents are associated with the River Great Ouse and its tributaries, making this the main source of fluvial flood risk within Cambridgeshire.

28. The tidal limit of the River Nene was Peterborough until the lock and sluice was built at Dog-in-a-Doublet (to the north of Whittlesey), this combined with the North and South Banks of the tidal River Nene effectively manage and minimise the risk of tidal flooding. The tidal limit of the River Great Ouse is at Brownhill Staunch (near Earith). Similar to the River Nene, the existing flood defences have reduced the risk associated with the Ouse regarding tidal flooding.
29. The Fens are artificially drained, this ongoing management means that flooding is rare, but when it does occur it can have catastrophic consequences. The Nene and Ouse Washes are considered flood storage reservoirs and are classified as functional floodplain (Flood Zone 3b).

### Surface water flooding

30. Historic design of underground drainage is often insufficient to deal with high (intense) rainfall events and surface water flows from today's urban settlements (particularly where natural drainage has been reduced). Drainage systems within urban areas that are designed to take in surface water flows include surface water drains and sewers as well as combined sewers. Combined sewers are generally associated with having the greatest risk of flooding within the wastewater network as during intense rainfall events large quantities of rainwater can take up the capacity in the sewers.
31. The plan area is also susceptible to flooding from surface water runoff. Historic surface water flooding incidents have been recorded within urban areas of Cambridgeshire, primarily attributed to the interaction between surface water flooding and drainage capacity but may (in some cases) also be attributed to insufficient flood risk management systems and due to poor surface water management. Surface water flooding also occurs more widely in areas of flat low lying land, as the topography does not encourage surface water flows especially in areas that are not necessarily associated with a particular watercourse.
32. As a result of the Strategic Surface Water Management Plan priority areas were identified. Within Cambridgeshire the top ten wet spots include Cherry Hinton, Kings Hedges and Arbury, March, St Ives, North Chesterton, St Neots, Sawtry, Coldhams Common, Huntingdon and Ely.

### Sewers

33. There are historical records of sewer flooding in urban areas within Cambridgeshire. Resolving capacity issues and associated foul flooding is a key priority for water and sewerage companies; as such the risk of foul flooding is effectively minimised.

### Other potential sources of flooding

34. Other potential sources of flooding include groundwater flooding and reservoir flooding. Groundwater flooding has occurred in areas where groundwater levels are high in the underlying chalk rock (e.g. Burwell, Shepreth and Fowlmere) and within Fenland District related to perched water tables either as a result of extreme pluvial events or the failure of water to drain properly. It is thought that increased ground water levels may be caused by a reduction in groundwater

abstraction, however limited data is available. Very few groundwater flooding incidents have previously been reported.

35. The likelihood of reservoir failure causing flooding is very low and there are no historical records of flooding from this source for Cambridgeshire.

## Peterborough

36. The main sources of flooding of concern in Peterborough are fluvial (i.e. watercourses), surface water and sewers. Flooding events that occur as a result of rainfall or river flows exceeding the design capacity of the drainage and flood risk management systems are of particular concern for Peterborough. Fluvial flooding is the primary source of flood risk within Peterborough.

### Fluvial flooding

37. The main rivers within Peterborough include the River Nene and River Welland. Whilst the river itself does not flow through land within Peterborough, a small part of the authority (south) is located within the River Great Ouse catchment. Records indicate historic incidents of fluvial flooding from the River Nene, Thorpe Meadows (a tributary of the River Nene) and Peterborough Brooks.
38. Peterborough is not at risk of flooding from the sea. As previously noted, the risk of tidal flooding from the River Nene is managed and minimised through the existing flood defences.
39. Maxey Cut is an artificial river channel with raised embankments along its entire length; this channel prevents larger flood flows entering the original course of the River Welland. Maxey Cut now forms the primary flow route for the River Welland (east of Tallington until it rejoins with the River Welland downstream of Peakirk Pumping Station).
40. The ongoing management of the Fens means that flooding is rare, but when it does occur it can have catastrophic consequences.

### Surface water flooding

41. As previously noted, combined sewers are generally associated with having the greatest risk of flooding within the wastewater network. Peterborough is susceptible to flooding from surface water runoff. Although small-scale flooding of highways, footpaths and private gardens from surface water runoff is common in parts of Peterborough, the number of homes flooded is low.
42. As a result of the Strategic Surface Water Management Plan priority areas were identified. Within Peterborough some of the main hot spots are City Centre North, New England and Dogsthorpe, South Bank, North West Stanground, Rivergate, City Road, Fitzwilliam Road and the Railway Station.

### Sewers

43. There are historical records of sewer flooding in the city, with the greatest risk of such flooding being from combined sewers. Peterborough does not have many locations that are identified as at risk from foul (sewer) flooding due to a lack of capacity in the network. Resolving capacity issues and associated foul flooding is a key priority for water and sewerage companies; as such the risk of foul flooding is effectively minimised.

## Other potential sources of flooding

44. Other potential sources of flooding include groundwater flooding and reservoir flooding. There are no known records or reported incidents of groundwater flooding within Peterborough. The likelihood of reservoir failure causing flooding is very low and there are no historical records of flooding from this source for Peterborough.

## Areas of flood risk

45. Within the plan area the main sources of flood risk of concern are fluvial associated with the River Nene and River Great Ouse systems and surface water (particularly where there is an interaction between surface water and insufficient drainage capacity).
46. Specific to minerals, fluvial flooding is of more relevance due to the typical location of mineral extraction sites (being in rural areas – not in urban built up areas). Minerals can only be worked where they occur and although minerals do occur in built up areas, any mineral underlying permanent surface development is not likely to be available for extraction. Hence the location of minerals development is most likely to be within greenfield or rural areas. This is not to say that surface water flooding should not be taken into consideration regarding mineral extraction sites. However, surface water issues relate to the landform, and extractive operations significantly alter the landform with surface water drainage and management typically forming part of the sites management and design plans to ensure efficient and safe operations onsite and that run-off rates are not increased elsewhere. As such these matters are typically addressed in detail through the planning application process and are covered under the planning permission conditions.
47. Whereas for waste both fluvial and surface water are of relevance. This is because facilities for the management of waste are able to be developed on a wider variety of sites and this is likely to include brownfield or urban sites. Sites for the processing of secondary and recycled aggregates are captured under waste related development as these sites will typically also process construction and demolition waste.
48. Flood risk areas (for fluvial, surface and groundwater sources) are identified through the EAs mapping layers and within the SFRAs for the plan area (as detailed in Appendix 1).
49. Sequential testing of the proposed allocations will be carried out as per the Methodology for appraising flood risk matters and application of the sequential test, September 2018. The location of the sites put forward through the Call for Sites process and otherwise identified by the Mineral Planning Authorities with respect to areas of flood risk is taken into account through the Site Assessment process.

## Key issues and opportunities relevant to the MWLP

### Minerals and waste related development

50. Typically, the main components of a minerals and waste plan concerned with flood risk management include the spatial strategies (for minerals extraction and for waste management) and the allocations and/or locations for development.
51. The spatial strategies for both minerals and waste development generally provide broad guidance towards mineral resource areas and/or urban and rural settlements or areas, within which there is a preference for sites to come forward through the planning application process over the plan period. Although the spatial strategies will direct development towards these areas such policies are of a high level nature and do not specify a quantum or specific sites. Minerals can only be worked where they occur and so the range of available locations for such development is generally more limited than other forms of development, including waste related development.
52. Allocations and/or locations for development are identified as sites and/or areas that are considered appropriate to accommodate the proposed development. As previously noted all proposed allocations and/or locations will be subject to the Sequential Test (documented through a separate report, as per the Methodology for appraising flood risk matters and application of the sequential test, September 2018). It is important to note that any allocations or unallocated sites that come forward through the planning application process would be required to be accompanied by a site-specific flood risk assessment (with unallocated sites also requiring assessment as per the Sequential Test), with this requirement set out through the plans policies, reflecting national policy and guidance.
53. Wider flood risk management and climate change matters are generally addressed through policies relating to development management and restoration. It is here that the key opportunities for addressing flood risk and climate change matters arise.
54. The flood risk evidence base has identified several solutions to address flood risk within the plan area, these include:
  - Upstream flood attenuation or storage schemes as part of upstream catchment-based approaches. This is particularly relevant for watercourses that are rural in their upper reaches but have high levels of flood risk to urban areas in the downstream reaches, as this will act to provide benefit to the urban area downstream. Local examples include Great Fen Project and the Block Fen Langwood Fen Master Plan.
  - Floodplain restoration that will allowing watercourses to return to a more natural state, e.g. bank stabilisation, re-naturalisation, structure removal and/or modification and enhancing outfalls in the riparian environment.
  - Incorporating adequate drainage and sustainable urban drainage systems (SuDS) as part of developments (to address surface water flooding).
  - Incorporating flood resilient construction to minimise potential impacts.
55. Mineral extraction sites in particular present key opportunities to deliver flood risk solutions and address climate change matters, predominantly through their restoration e.g. the creation of upstream flood attenuation schemes as well as floodplain restoration and water catchment conservations measures.

56. To a less extent this is also true of restoration of waste disposal (landfill) sites and design of waste management relating to opportunities for recreating more natural riparian environments and water catchment conservation.
57. In addition both minerals and waste development should also, where appropriate, incorporate adequate drainage and SuDS and flood resilient construction to minimise potential impacts.

### **Sewage and wastewater treatment**

58. Assessing future needs for the provision of new or increased sewage and wastewater treatment capacity is outside of the scope of the MWLP, however the MWLP does provide a policy framework for new sites to come forward or extension to existing sites where additional/new capacity is required.
59. Developer contributions to facilitate delivery of sewer network improvements are required under the relevant sections of the Water Industry Act 1991. At a more strategic level required infrastructure upgrades are assessed once growth locations and expected build rates per site are established and adopted in the various local authority plans for the plan area. This is undertaken by Anglian Water who operate on approved investment plans on a five yearly basis. The Asset Management Plan assesses the need for network improvements based on growth profiles and is informed by WCS studies undertaken for the plan area.
60. Anglian Water has recently published its first Water Recycling Long-Term Plan (September 2018) which identifies investment needs over the next 25-years. Anglian Waters plan highlights network assets within Cambridgeshire-Peterborough requiring improvements and sets out a timeframe for this investment.
61. Another key issue affecting sewage and wastewater treatment sites is asset encroachment. Increased growth demands places greater pressure on landuse, it is possible that some proposed development sites for residential or employment use allocated through Local Plans could be within close proximity to existing sewage and wastewater treatment sites. This may create landuse conflict if not addressed.

### **Recommendations regarding preparation of the MWLP policies**

62. It is recommended that the MWLP include policies that address flood risk management and climate change matters (either as standalone policies or with such incorporated into a wider policy) in the following ways:
  - restoration outcomes sought through the plan should include creation of upstream flood attenuation or storage schemes as well as implementation of floodplain restoration and water catchment conservation measures as appropriate, and
  - development criteria for both minerals and waste related development should incorporate the requirement for identification and implementation of flood risk management measures (such as adequate drainage and SuDS and flood

resilient construction) to minimise potential impacts and ensure that development is safe without increasing flood risk elsewhere.

63. In addition the Block Fen Langwood Fen Supplementary Planning Document is to be rolled forward and reviewed as necessary to reflect the allocations in the emerging MWLP following its adoption.
64. Although planning for the provision of sewer network improvements is outside of the scope of the MWLP, it is appropriate for the MWLP to address:
  - asset encroachment, perhaps through the identification of consultation areas based on the cordon sanitaire for sewage and wastewater treatment sites, and
  - identify any local development criteria necessary to provide guidance to industry and decision makers with respect to the determination of planning applications for network improvements (e.g. new and/or extensions to existing sewage and wastewater treatment sites).

## Appendix 1: Flood risk and water related studies and strategies

### Local planning documents

Cambridgeshire Flood and Water Supplementary Planning Document (SPD), December 2016

<https://www.cambridge.gov.uk/cambridgeshire-flood-and-water-spd>

Cambridgeshire and Peterborough Minerals and Waste Development Plan, Block Fen/Langwood Fen Master Plan SPD, July 2011

[https://ccc-live.storage.googleapis.com/upload/www.cambridgeshire.gov.uk/business/planning-and-development/Block\\_Fen\\_Langwood\\_Fen\\_SPD\\_July\\_2011.pdf?inline=true](https://ccc-live.storage.googleapis.com/upload/www.cambridgeshire.gov.uk/business/planning-and-development/Block_Fen_Langwood_Fen_SPD_July_2011.pdf?inline=true)

### Local flood and water documents

Peterborough City Council –

Peterborough Level 1 SFRA & Outline Water Cycle Study, 2018

<https://drive.google.com/file/d/15TmpYEqEP10tJkeWOrAz6X2kGhnJn2bB/view>  
[https://drive.google.com/drive/folders/153L8\\_r9j68vcvIMOKCwzxODceuwCDjil](https://drive.google.com/drive/folders/153L8_r9j68vcvIMOKCwzxODceuwCDjil)

Flood Risk Management Strategy, 2015

Hampton SFRA Phase 2, June 2002

Water Cycle Study, March 2010

<https://www.peterborough.gov.uk/council/planning-and-development/flood-and-water-management/water-data/>

Surface Water Management Plan

Cambridgeshire County Council –

Preliminary Flood Risk Assessment, March 2009

<https://www.cambridgeshire.gov.uk/business/planning-and-development/flood-and-water/flood-risk-management/>

Surface Water Management Plans, September 2014

<https://www.cambridgeshire.gov.uk/business/planning-and-development/flood-and-water/surface-water-management-plans/>

Cambridge City Council and South Cambridgeshire District Councils –

Cambridge and South Cambridgeshire Level 1 SFRA, September 2010

<https://www.cambridge.gov.uk/strategic-flood-risk-assessment>

Water Cycle Strategy, Major growth areas in and around Cambridge, Phase 1 – Outline Strategy, October 2008

<https://www.scams.gov.uk/sites/default/files/documents/Cambridgeshire%20Water%20Cycle%20Strategy%20-%20Phase%201%202008.pdf>

Detailed Water Cycle Strategy, Major growth areas in and around Cambridge, Phase 2 – Detailed Strategy, July 2011

<https://www.scambs.gov.uk/sites/default/files/documents/Cambridgeshire%20Water%20Cycle%20Strategy%20-%20Phase%202%202011.pdf>

Huntingdonshire District Council –

Level 1 & 2 SFRA, June 2017

<http://www.huntingdonshire.gov.uk/environmental-issues/flooding/strategic-flood-risk-assessment/>

Water Cycle Study, December 2014

<https://www.huntingdonshire.gov.uk/media/2532/detailed-water-cycle-study-update.pdf>

Fenland District Council –

Level 1 SFRA, July 2011

<http://www.fenland.gov.uk/search?q=strategic+flood+risk+assessment>

Wisbech Level 2 SFRA, June 2012

<http://www.fenland.gov.uk/article/3588/Wisbech-Strategic-Flood-Risk-Assessment-2>

Water Cycle Study, September 2011

<http://www.fenland.gov.uk/CHttpHandler.ashx?id=5878&p=0>

East Cambridgeshire District Council –

Level 1 & 2 SFRA, November 2017

<https://www.eastcambs.gov.uk/local-development-framework/strategic-flood-risk-assessment-pslp-document-library>

Water Cycle Study, November 2017

<https://www.eastcambs.gov.uk/local-development-framework/water-cycle-study-pslp-document-library>

### Catchment Flood Management Plans

River Welland Catchment Flood Management Plan, December 2009

River Nene Catchment Flood Management Plan, December 2009

River Great Ouse Catchment Flood Management Plan, January 2011

<https://www.gov.uk/government/collections/catchment-flood-management-plans>

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/288870/River\\_Welland\\_Catchment\\_Flood\\_Management\\_Plan.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/288870/River_Welland_Catchment_Flood_Management_Plan.pdf)

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/288873/River\\_Nene\\_Catchment\\_Flood\\_Management\\_Plan.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/288873/River_Nene_Catchment_Flood_Management_Plan.pdf)

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/288877/Great\\_Ouse\\_Catchment\\_Flood\\_Management\\_Plan.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/288877/Great_Ouse_Catchment_Flood_Management_Plan.pdf)

## River Basin Management Plans

Anglian River Basin District River Basin Management Plan, February 2016

<http://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/5>

<https://www.gov.uk/government/collections/river-basin-management-plans-2015#anglian-river-basin-district-rbmp:-2015>

## Sewerage undertaker and water service provider documents

Anglian Water's Water Recycling Long-Term Plan (Cambridgeshire-Peterborough summary page 58 to 66)

<https://www.anglianwater.co.uk/about-us/water-recycling-long-term-plan.aspx>

## Flood risk datasets/mapping layers

EA Flood Zones:

- Flood Map for Planning
- Surface Water Flood Map
- Flood Zone 3a and 3b split (where available)
- Flood Defences
- Flood Extents
- Major Reservoirs and Water Bodies
- Reservoir Breach Plans
- Areas Susceptible to Groundwater Flooding
- Historic Flood Map

Other:

- Flood Alert and Warning Areas (EA)
- DG5 Flooding Information (water companies)
- Historic Flood Hotspot Data (LLFAs, LPAs, IDBs, Canal and Rivers Trust, Highways England and Highways Authorities)

Informative data:

- Main Rivers (EA)
- Detailed River Network (EA)
- Historic Maps
- Canals
- Background Ordnance Survey Mapping (1:10,000, 1:25,000 and 1:250,000)