Cambridgeshire County Council and Peterborough City Council

Taking account of flood risk - Methodology for appraising flood risk matters and application of the Sequential Test

Cambridgeshire and Peterborough Minerals and Waste Local Plan

January 2019

Cambridgeshire County Council

PETERBOROUGH CITY COUNCIL

Contents

Requirement to consider flood risk

1. The revised National Planning Policy Framework (NPPF) 2018 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 (paragraph 148). The detailed national policy approach regarding planning and flood risk as relevant to the plan-making process is set out in the NPPF from paragraphs 155 to 161[1], reproduced below for ease of reference:

   "Planning and Flood Risk

   155. Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere.

   156. Strategic policies should be informed by a strategic flood risk assessment, and should manage flood risk from all sources. They should consider 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.

   157. All plans should apply a sequential, risk-based approach to the location of development – taking into account the current and future impacts of climate change – so as to avoid, where possible, flood risk to people and property. They should do this, and manage any residual risk, by: a) applying the sequential test and then, if necessary, the exception test as set out below; b) safeguarding land from development that is required, or likely to be required, for current or future flood management; c) using opportunities provided by new development to reduce the causes and impacts of flooding (where appropriate through the use of natural flood management techniques); and d) where climate change is expected to increase flood risk so that some existing development may not be sustainable in the long-term, seeking opportunities to relocate development, including housing, to more sustainable locations.

   158. The aim of the sequential test is to steer new development to areas with the lowest risk of flooding. Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower risk of flooding. The strategic flood risk assessment will provide the basis for applying this test. The sequential approach should be used in areas known to be at risk now or in the future from any form of flooding.

   159. If it is not possible for development to be located in zones with a lower risk of flooding (taking into account wider sustainable development objectives), the exception test may have to be applied. The need for the exception test will depend on the potential vulnerability of the site and of the development proposed, in line with the Flood Risk Vulnerability Classification set out in national planning guidance.

   160. The application of the exception test should be informed by a strategic or site-specific flood risk assessment, depending on whether it is being applied

[1] NPPF 2018 paragraphs 162 to 165 refer to planning applications, not the preparation of Local Plans.

during plan production or at the application stage. For the exception test to be passed it should be demonstrated that: a) the development would provide wider sustainability benefits to the community that outweigh the flood risk; and b) the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

161. Both elements of the exception test should be satisfied for development to be allocated or permitted."

2. As part of the preparation of the Cambridgeshire and Peterborough Minerals and Waste Local Plan (MWLP) there is a need to demonstrate how flood risk has been taken into account, application of the sequential test and compliance with the NPPF and National Planning Policy Guidance (NPPG). The purpose of this methodology is to set out how this will be achieved and how this aligns with the plan-making process.

3. The requirements set out in the NPPF should also be taken in context with the detailed guidance set out through the NPPG regarding minerals and waste planning, reproduced below for ease of reference:

   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?

   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. The location of Mineral Safeguarding Areas and site allocations, in particular in relation to sand and gravel workings which are often located in functional floodplains, need to be identified. It is possible to explore benefits, such as restoring mineral working located in flood risk areas to increase flood water storage, which can also enhance the natural environment. Partnership working on joint Strategic Flood Risk Assessments offers the best opportunity to identify and realise these opportunities. (Paragraph: 008 Reference ID: 7-008-20140306).

4. This makes it clear that in preparing minerals and waste plans there is not a requirement to produce a separate Strategic Flood Risk Assessment (SFRA) for the plan, rather the plan policies should be prepared with regard to any available SFRAs.

5. The scope of assessment work undertaken to inform the preparation of the MWLP 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 MWLP administrative area), and guidance set out in the NPPG.

Consultation on the methodology

6. Consultation on the draft methodology was undertaken alongside consultation on MWLP Preliminary Draft Plan during the period May to June 2018. The purpose of undertaking consultation was to ensure that the:
   - methodology for appraising the existing flood risk evidence base, applying the sequential test to proposed allocations (for minerals and waste management development), associated policies and other planning mechanisms to be taken forward into the MWLP have an appropriate scope,
   - most up-to-date information is utilised,
   - local circumstance is given due consideration, and
   - methodology is in line with Government policy and guidance.

7. The Environment Agency (EA) responded to the draft methodology (the only response), council comments on their response is set out in the schedule of responses to the Preliminary Draft Plan (supporting documents). Responses were taken into consideration in finalising the methodology with some minor amendments made as a result, including:
   - clarification of flood risk data and references used to inform the sequential test
   - inclusion of reference to guidance on updated climate change allowances,
   - inclusion of wording to clarify application of a sequential approach to location of new development,
   - inclusion of wording to clarify application of the exception test with respect to allocations for landfill and hazardous waste management sites within Flood Zone 3, and
   - rewording of column title in Appendix 2 for clarification.

8. In addition some minor amendments were also made to clarify the requirement for SFRA relative to the MWLP and to reference the revised NPPF (July 2018).

The flood risk evidence base for Cambridgeshire and Peterborough

9. Strategic policies contained within Local Plans should be supported by a SFRA in accordance with the NPPF (paragraph 156). However, in relation to the MWLP the requirement is for plan policies to be prepared with regard to any available SFRAs.

10. A 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.

11. SFRAs have been undertaken by Peterborough City Council and each of the district councils within Cambridgeshire (namely City of Cambridge, South Cambridgeshire, Huntingdonshire, Fenland and East Cambridgeshire) for their administrative area, producing flood risk maps that provide coverage across the

plan area; this also included the production of flood risk maps providing coverage across the plan area (to varying scales).

12. 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.

13. Whilst the SFRA evidence documents will inform the preparation of plan policies and the sequential test (as appropriate), the national and local flood risk GIS datasets/mapping layers will form the primary data source/reference(s) in undertaking the sequential testing process.

14. The local flood and water evidence documents (including SFRAs and national and local flood risk GIS datasets/mapping layers) will be used to:
    - Inform the Councils' knowledge of flooding, determine the variations in flood risk from all sources of flooding across and from the plan area and prepare appropriate policies for flood risk management. This will be done by collating and giving due consideration to the SFRAs and EA flood mapping as well as other relevant reports and datasets (listed in Appendix 1). The SFRAs will also be used as the basis for identifying the policy approach for flood risk management relating to minerals and waste development. This includes development of the policy approach for flood attenuation measures to be identified through restoration schemes, to address local flood risk issues where appropriate and tackling climate change.
    - Inform the Sustainability Appraisal (SA). This will be done by incorporating the SFRAs into the SA process (e.g. identification of relevant reports and subsequent flood risk issues and SA objectives) and the Sequential Test (and where required Exception Test) into the site assessment methodology (a key tool used to identify allocations taken forward through the plan).
    - Provide the basis from which to apply the Sequential Test and Exception Test in the allocation and development management process. The Sequential Test (and where required Exception Test) will be applied to all proposed allocations through the plan-making process and site assessment methodology.

How will the plan take account of flood risk?

15. The appraisal of flood risk matters as relevant to the preparation of the MWLP will involve the following:
    - Preparation of a non-technical summary of the key existing local flood and water evidence documents (including SFRA's and related studies to the extent relevant to the MWLP),
    - Identification of key issues and opportunities regarding flood risk and climate change matters and minerals and waste development, including how the plan's policies could address such matters,

- Application of the Sequential Test (and Exception Test where required) and climate change sensitivity analysis (where data available and as appropriate) of proposed minerals and waste sites and/or locations, and
- Preparation of a summary statement setting out how requirements of the NPPF and NPPG have been satisfied.

Consideration through the plan-making process

16. The intent is for the review of the flood risk evidence base documents and sequential testing of sites and/or locations to complement and inform the site assessment and plan-making process.

Preliminary Draft Plan

17. The Cambridgeshire and Peterborough MWLP Preliminary Draft Plan was published for consultation in May 2018. A call for sites to address the provision of minerals and future needs for waste management was put out alongside consultation on the Preliminary Draft Plan. In addition records from the relevant planning authority were reviewed to identify sites and/or locations. All sites and/or locations identified (if required) will be subject to assessment as per the site assessment methodology and as set out in this document.

Further Draft Plan

18. The local flood and water evidence documents, including SFRAs, (refer Appendix 1) will be taken into account through a non-technical review, to be prepared alongside the Further Draft Plan. Identification of key issues and opportunities regarding flood risk and climate change matters as relevant to minerals and waste development, including how such matters could be incorporated into the plan's policies, will also be addressed at this stage. National and local flood risk GIS datasets/mapping layers will be used to identify the flood risk zones (including extent onsite and/or proximity to zones 2 and 3) for all sites and/or locations, the results of which will be set out in the Level 1: Initial Screening site assessment, to be published alongside the Further Draft Plan.

19. All sites taken forward through the plan-making process will be subject to the Sequential Test and Exception Test (as required). This will occur alongside the Level 2: Desktop Assessment site assessment, to be prepared to support the Further Draft Plan. The scope of the Sequential Test and Exception Test (as required) will comply with requirements as per the NPPF and NPPG, moreover identification of developer requirements will be outlined as appropriate. A template for the Sequential Test is set out in Appendix 2. Further detail on application of the Sequential Test is set out in the following section. The most up-to-date information available will be used in undertaking the Sequential Test, including the most recent flood risk mapping made available to Cambridgeshire and Peterborough.

20. Consideration of these matters at this stage will allow for the local flood and water evidence documents and information regarding site-specific flood risk to inform the preparation of the Further Draft Plan and identification of proposed allocations.

21. Typically, the main components of the plan concerned with flood risk management include the spatial strategies (for minerals extraction and for

waste management) and the site-specific allocations. 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. Any allocations or unallocated sites that come forward through the planning application process would require site-specific assessment (as acknowledged through the Plan and its policies). Flood risk and climate change matters are generally addressed through policies relating to development management and restoration.

Proposed Submission Plan

22. The final Sequential Test table of the proposed allocations, and a map of the sites and/or locations and flood risk will be produced at this stage. A summary statement, setting out how requirements of the NPPF and NPPG have been satisfied, will be prepared to accompany the Proposed Submission Plan.

The Sequential Test

23. The NPPF sets out a sequential, risk-based approach to the location of development. The Sequential Test ensures that a sequential approach is followed to steer new development to areas with the lowest probability of flooding. The NPPF states:

    158. The aim of the sequential test is to steer new development to areas with the lowest risk of flooding. Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower risk of flooding. The strategic flood risk assessment will provide the basis for applying this test. The sequential approach should be used in areas known to be at risk now or in the future from any form of flooding.

    159. If it is not possible for development to be located in zones with a lower risk of flooding (taking into account wider sustainable development objectives), the exception test may have to be applied. The need for the exception test will depend on the potential vulnerability of the site and of the development proposed, in line with the Flood Risk Vulnerability Classification set out in national planning guidance.

24. The same approach should be taken with other sources of flood risk to ensure that new development is steered to areas with the lowest risk of flooding (considering all sources of flood risk).

25. Regarding mineral extraction, sand and gravel extraction is classified as water-compatible development with other forms of extraction and mineral processing classified as less vulnerable. For waste management and disposal, waste management facilities are generally classified as “less vulnerable” with hazardous waste management sites and disposal sites (landfill/landraise) as “more vulnerable” (refer below tables).

26. Mineral and waste planning authorities should apply the sequential test in line with the NPPF and NPPG to all sites/locations for minerals and waste management development proposed for allocation. It is important to recognise that mineral deposits have to be worked where they are found, and that sand and gravel extraction is defined as 'water-compatible development' in Table 2, acknowledging that these deposits are often in flood risk areas. However, mineral working should not increase flood risk elsewhere and needs to be designed, worked and restored accordingly.

27. Application of the sequential test for Local Plan preparation is set out in the NPPG, summarised in the figure and tables below for ease of reference (sourced from the NPPG). For full details and notes please refer to the NPPG.

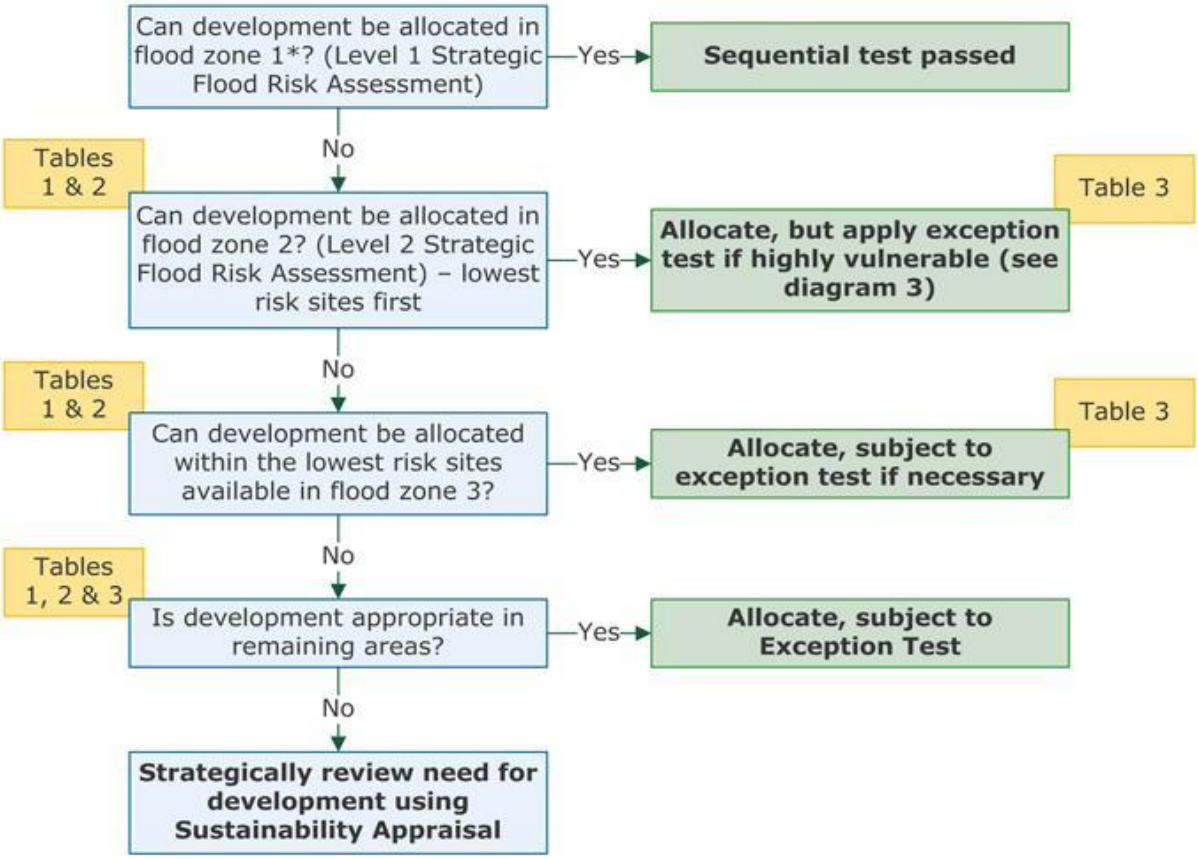

Figure 1: Application of the sequential test for Local Plan preparation *(Source NPPG)*

Table 1: Description of flood zones

Flood zone	Definition
Zone 1 Low Probability	Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map – all land outside Zones 2 and 3)
Zone 2 Medium probability	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or Land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding. (Land shown in light blue on the Flood Map)
Zone 3a High probability	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding. (Land shown in dark blue on the Flood Map)
Zone 3b Functional floodplain	This zone comprises land where water has to flow or be stored in times of flood. Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map.)

Table 2: Flood risk vulnerability classification

Flood risk vulnerability classification	Development description
Essential infrastructure	Essential transport infrastructure (including mass evacuation routes) that has to cross the area at risk. Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including electricity generating power stations and grid and primary substations; and water treatment works that need to remain operational in times of flood. Wind turbines.
Highly vulnerable	Police and ambulance stations; fire stations and command centres; telecommunications installations required to be operational during flooding. Emergency dispersal points. Basement dwellings. Caravans, mobile homes and park homes intended for permanent residential use. Installations requiring hazardous substances consent.
More vulnerable	Hospitals Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels. Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels. Non–residential uses for health services, nurseries and educational establishments. **Landfill and sites used for waste management facilities for hazardous waste.** Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.

Flood risk vulnerability classification	Development description
Less vulnerable	Police, ambulance and fire stations that are not required to be operational during flooding. Buildings used for shops; financial, professional and other services; restaurants, cafes and hot food takeaways; offices; general industry, storage and distribution; non-residential institutions not included in the 'More Vulnerable' class; and assembly and leisure. Land and buildings used for agriculture and forestry. **Waste treatment (except landfill and hazardous waste facilities).** **Minerals working and processing (except for sand and gravel working).** **Water treatment works which do not need to remain operational during times of flood.** **Sewage treatment works, if adequate measures to control pollution and manage sewage during flooding events are in place.**
Water-compatible development	Flood control infrastructure. Water transmission infrastructure and pumping stations. **Sewage transmission infrastructure and pumping stations.** **Sand and gravel working.** Docks, marinas and wharves. Navigation facilities. Ministry of Defence installations. Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location. Water-based recreation (excluding sleeping accommodation). Lifeguard and coastguard stations. Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms. Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan.

Note: Minerals and waste related development highlighted in bold for ease of reference.

Table 3: Flood risk vulnerability and flood zone compatibility

Flood zones	Flood risk vulnerability classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a	Exception Test required†	✗	Exception Test required	✓	✓
Zone 3b*	Exception Test required*	✗	✗	✗	✗ *

Key: ✓Development is appropriate. ✗Development should not be permitted.
† In Flood Zone 3a essential infrastructure should be designed and constructed to remain operational and safe in times of flood.
** In Flood Zone 3b (functional floodplain) essential infrastructure that has to be there and has passed the Exception Test, and water-compatible uses, should be designed and constructed to:*

- *remain operational and safe for users in times of flood;*
- *result in no net loss of floodplain storage;*
- *not impede water flows and not increase flood risk elsewhere.*

Application of the sequential test

28. The Sequential Test will be carried out as part of the site assessment process (Level 1 and 2) built into the plan preparation, as previously discussed. The results of which will help to determine those sites and/or locations to be carried forward as allocations within the MWLP (i.e. those that pass the sequential test). The most recent EA flood maps (made available to Cambridgeshire and Peterborough) will be applied in undertaking the assessment. This mapping should incorporate previous mapping undertaken as part of the SFRAs for Cambridgeshire and Peterborough however for completeness the SFRA mapping will also be referenced.

29. A template for reporting results of the assessment is set out in Appendix 2.

30. The location and extent of coverage of flood risk areas in relation to each site will be identified; this will include a brief description. The type of development proposed will also be identified. In determining whether sites are 'reasonably available' a holistic view of the overall planning acceptability, i.e. that the site would not result in adverse land use planning or sustainability impacts, will be applied.

31. The flood risk vulnerability of land uses will also be taken into account in determining suitability of the proposed development, summarised below:
    - Mineral sites
        - Sand and gravel working is classified as 'water compatible' development.
        - Other forms of mineral working (e.g. crushed rock) and processing (sand and gravel, crushed rock, etc.) is classified as 'less vulnerable' development.

- Waste sites
  - Waste treatment (except landfill and hazardous waste facilities) is classified as ‘less vulnerable’ development.
  - Landfill and hazardous waste management is classified as ‘more vulnerable’ development.

32. The flood risk areas and flood risk vulnerability will be used to determine the appropriateness of the development subject to the Sequential Test (and whether the Exception Test is required).

33. Where the proposed development is considered appropriate (as per the NPPG) a sequential approach should be taken to the location of any new development within any sites that include areas at risk of flooding (e.g. Flood zone 2 and/or 3), so that new development is located within the lowest flood risk areas of the site, where possible, for example built development or static plant will be directed to areas (on site) of lowest flood risk as appropriate. Other development requirements specific to flood zones are set out in the NPPG and are taken to be applicable to all sites.

34. Where necessary the Exception Test will be applied as per the NPPF and NPPG. The Exception Test will also need to be passed for any proposed site allocations for landfill and hazardous waste management sites located within Flood Zone (refer Tables 2 and 3 above).

Accounting for climate change

35. Flood risk vulnerability and flood zone ‘compatibility’ is set out in the NPPG (refer above tables). Climate change allowances to be taken into consideration through flood risk assessments are set out in Government guidance (NPPG - Flood risk assessments: climate change allowances, February 2016, updated 2017). Incorporating climate change allowances will help to minimise vulnerability and provide resilience to flooding and coastal change in the future, and this is because over time the impact of climate change may result in a site currently located within a lower risk zone (e.g. Zone 2) being re-classified as lying within a higher risk zone (e.g. Zone 3a). This in turn could have implications for the type of development that is appropriate according to its vulnerability to flooding.

36. The EA climate change allowances were recently updated, however the mapping has not been updated for all areas. The best available and up-to-date information and mapping (regarding flood risk and climate change allowances) will be utilised in assessments undertaken as part of the MWLP plan making process. Where up-to-date data and mapping is available the potential increase in flood risk will be applied to the proposed sites to determine if potential exists for any of the sites to be re-classified at a higher level and whether the proposed development would still be considered appropriate.

37. Where proposed allocations and/or locations are within areas where the existing SFRAs do not take account of the climate change allowances, and/or in the absence of updated climate change allowance mapping, the current flood

risk level will be taken into consideration with respect to potential future increases. A flat rate increase (by one level) in flood risk will be applied to determine whether the proposed development would still be considered appropriate if any of the sites and/or locations were to be re-classified at a higher level (e.g. the current zone may change to a higher risk zone: areas of Zone 1 adjoining Zone 2 increased to Zone 2; Zone 2 to Zone 3a; and Zone 3a to 3b). This applies a precautionary approach but also aligns with the evidence base being proportionate and that MWLPs are to utilise any existing SFRAs. This will be included in the final Sequential Test table published alongside the Proposed Submission Plan. In addition the climate change analysis outcomes for sites and/or locations for allocation in the MWLP will include a requirement to apply these new standards (including consideration of new allowances) as part of the site-specific flood risk assessment to accompany the respective future planning application(s).

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/sites/default/files/cambridgeshire_flood_and_water_spd_reduced_size_final_0.pdf

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

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_r9j68vcvIMOKCwzxODceuwCDjiI

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.scambs.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

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/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

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

Flood risk datasets and 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)

Appendix 2: Sequential test for potential site-specific allocations

Site / location reference	Land area (hectares)					Percentage of site identified as …				Description of site proximity to / coverage of flood zones 2 and 3	Description of site proximity to / coverage of surface water	Proposed development (e.g. *mineral for extraction (type), waste treatment / disposal*	Are there any other sites at lower flood risk that are reasonably available for the proposed development ?	Flood risk vulnerability classification	Sequential test passed?	Exception test required?	Taken forward through MWLP?	Site specific development requirements	Climate change sensitivity
	Total site area	Flood zone 1	Flood zone 2	Flood zone 3	Area susceptible to surface water flooding (less intermediate and more)	Flood zone 1	Flood zone 2	Flood zone 3	Area susceptible to surface water flooding (less intermediate and more)										