

**RESPONSE TO THE**

**FLOOD RISK ASSESSMENT AND SEQUENTIAL TEST**

**Submitted to support the application for the**

**PROPOSED MIXED USE DEVELOPMENT**

**ELLESMERE MARINA, ELLESMERE, SHROPSHIRE**

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## **1.0 Background**

- 1.1 The Flood Risk Assessment and Sequential Test under consideration have been prepared by others to accompany the application for outline planning permission to develop the Ellesmere Marina Project, in Ellesmere, Shropshire, with this report commissioned to respond to this Flood Risk Assessment and its accompanying documentation.
- 1.2 The Ellesmere Marina Project is collectively identified on the Shropshire Council's SAMDev site allocation process as ELL003 and proposes a mixed use development to incorporate a new marina, leisure spa, 120 bed hotel and restaurant/pub facilities within a site of approximately 30.75 hectare in area.
- 1.3 The land for this project is situated to the south west of Ellesmere fronting the Shropshire Union Canal to the south and bounded by the A495 from Ellesmere to Oswestry to the north and by Ellesmere town centre to the east.
- 1.4 Access to this proposed development has been identified from both the existing Ellesmere Wharf development and from the A495.
- 1.5 This proposal has been put forward into the SAMDev planning process to include significant residential accommodation and has lead to the exclusion of the other proposed residential development sites elsewhere in Ellesmere which had previously been promoted and preferred under the SAMDev initial allocation process.
- 1.6 This critical response to the Flood Risk Assessment accompanying the application has been commissioned by the applicants of two sites elsewhere in Ellesmere for potential residential development to discuss the flood risks involved in this Ellesmere Marina project and to identify the shortcomings and potential problems related to any such future development from a flood risk perspective and standpoint. It is not for any other planning purpose.

## **2.0 The Site**

- 2.1 The location of the Ellesmere Marina project, identified in the applicants' FRA as Appendix B, is clearly shown on the Environment Agency's flood map, appended to the FRA as Appendix C, to include significant areas within Flood Zones 2 and 3. These flood zones together extend through the length of the site and encompass the position of the proposed access off the A495 to the north.
- 2.2 The flood zones are centred around the Tetchill Brook, which extends along the length of this proposed development site, partly in open channel and partly in culvert, and joins with the Newnes Brook at the western extremity of the site, both water courses culverted for their further flow downstream in a westerly direction.
- 2.3 Tetchill Brook is an ordinary watercourse in terms of the Environment Agency definition, with Newnes Brook assuming a Main River status and therefore potentially with modelled flow characteristics and flood levels.
- 2.4 The flood risk areas do not extend alongside the canal, with the Flood Risk Assessment confirming the ground levels alongside the canal to be at a lower level than those within the adjacent areas of the proposal site, although the canal includes a freeboard of 300 mm to bank level.
- 2.5 The site topography falls gently in a south westerly direction across the site although locally down toward the Tetchill Brook and the canal bank.
- 2.6 At present the site is open land, predominantly grass land, with no impervious surfacing and according to FRA documentation, to consist of free draining soil material.
- 2.7 The site is bounded by the canal to the south and the sewage treatment works to the north, with access to the eastern portion gained through a current housing development.

### **3.0 The Proposals**

- 3.1 Briefly the mixed use proposals for this development include a large area of housing which is centred to the north of the Tetchill Brook and mainly located in Flood Zone 3, with the marina complex proposed centrally alongside the canal with the hotel and leisure facilities to the east and the garden centre to the west.
- 3.2 Sandwiched between the marina complex and the hotel appears to be a further area set aside for camping and caravans.
- 3.3 The proposals to effectively counter the flood zoning within the site and its limitation on the positioning and extent of the potential residential element of this development have been addressed by consideration of the boundaries of the flood zones and a hydraulic analysis and modelling of both watercourses by the applicants to provide a static estimate of the quantity of flood water which would be displaced at time of maximum flood prediction.
- 3.4 This figure has been estimated at 61,500 cubic feet within the Flood Risk Assessment accompanying this application.
- 3.5 It has been proposed to counter the problems of the positioning of residential development largely within Flood Zone 3 by a containment of the potential flood within an open channel corridor through the centre of these development proposals, centred around Tetchill Brook with the culverted portion of Tetchill Brook exposed and re-presented as an open water course, defined as daylighting.

- 3.6 The proposal land to either side of this corridor for flood collection would be raised in order to lift those elements of the land and the potential development above the level of flooding as calculated in their hydraulic modelling. The Flood Risk Assessment and Sequential Test accompanying the application seek to demonstrate that by such means they effectively overcome the flood zoning of this land and have therefore shown that sequentially there is no requirement to seek other alternative available sites elsewhere.
- 3.7 The application and Flood Risk Assessment also state that sequentially no other development site put forward as a part of the SAMDev planning proposal network or system can supply this mixed use of development with leisure and recreational uses alongside potential residential uses.

#### **4.0 National Planning Policy Framework**

- 4.1 The National Planning Policy Framework (known as the NPPF) is the successor to PPS25, the planning policy guidance for sustainable development throughout the United Kingdom.
- 4.2 The NPPF is accompanied by Technical Guidance to the National Planning Policy Framework, a working document published in March 2012, providing additional guidance to ensure the effective implementation of the planning policy set out in the NPPF on development in areas at risk of flooding and in relation to mineral extraction.
- 4.3 The NPPF sets out the procedure to be followed within applications for development in areas of flood risk and these are largely covered by the Sequential Test and the Exception Test which must be applied should any area of proposed development fall within Flood Zones 2 or 3 of the classifications demonstrated by the Environment Agency Flood Mapping Service.
- 4.4 The NPPF flood risk vulnerability proposed site use is further sub-divided with divisions between highly vulnerable, more vulnerable, less vulnerable and water compatible developments.
- 4.5 Table 2 of the Technical Guidance to the NPPF defines buildings used for dwelling houses and hotels as More Vulnerable, and would therefore not be compatible with development in Flood Zone 3.
- 4.6 Flood Zone 3 is divided into sub-zones 3a and 3b, Flood Zone 3b being the functional flood plane. Each of these flood zones is defined under Flood Risk Vulnerability and Flood Zone Compatibility, as set out in Table 3 of the Technical Guidance.
- 4.7 The NPPF Technical Guidance confirms the aim of the Sequential Test is to steer new development to areas with the lowest probability of flooding.

- 4.8 In general terms all forms of development are compatible with Flood Zone 1, all forms of development with the exception of highly vulnerable development are compatible with Flood Zone 2, but only water compatible and less vulnerable development are compatible with Flood Zone 3a. Essential infrastructure and more vulnerable development in Flood Zone 3a require the Exception Test to be applied and highly vulnerable development is not permitted, whilst in Flood Zone 3b the only development deemed appropriate is water compatible development, with an Exception Test required for essential infrastructure, whilst highly vulnerable, more vulnerable and less vulnerable development are not permitted.
- 4.9 The potential development site for the Ellesmere Marina project contains a substantial area within Flood Zone 3a, although the Environment Agency has confirmed there is no functional flood plain defined for this potential development land.
- 4.10 Much of this land within Flood Zone 3a, principally that to the north of Tetchill Brook has been allocated for residential dwelling development.
- 4.12 Table 3 of the NPPF Guidance confirms that if development is not appropriate and if there is no other suitable site available the Exception Test must be applied.
- 4.13 The NPPF Technical Guidance confirms the requirement to apply the Exception Test should flood risk vulnerability be confirmed in Table 3.
- 4.14 In paragraph 5 of the Technical Guidance it clearly states ‘Only where there are no reasonably available sites in Flood Zones 1 or 2 should the suitability of sites in Flood Zone 3 be considered, taking into account the flood risk vulnerability of land uses and applying the Exception Test if required’. The following sections in this critical report will demonstrate that suitable sites for the location of residential development within Ellesmere in Flood Zone 1 (not 2) are available within other SAMDev approved sites prior to the application for this Marina Development being accepted.

- 4.15 The NPPF does not justify the development of land within Flood Zone 3 for more vulnerable development on the basis that it can be used to enable other development of a lesser vulnerable use to be promoted on the same site in areas of a lower flood zone.



## **5.0 The Flood Risk Assessment**

- 5.1 The Flood Risk Assessment undertaken for this development proposal has been submitted as apart of the planning application and has followed the guidelines set out in the NPPF.
- 5.2 A part of this FRA considers the extent of potential flood and has calculated, in the absence of flood levels from the Environment Agency, the flow of Tetchill Brook and that of Newnes Brook to arrive at a figure of 61,500 cubic metres of potential flood water below a calculated flood level of 87.26 metres contained within a 1 in 100 year plus climate change design event. (See para 3.6 of the FRA)
- 5.3 Under the generic title 'Flood Risk Mitigation' the FRA seeks to justify the development with a proposal to daylight the existing culverted section of the Tetchill Brook. This opens the existing culverted section of the Tetchill Brook channel and seeks to provide a sufficient corridor area to contain existing flood volumes.
- 5.4 The calculated flood volume of 61,500 cubic metres is proposed for containment within this opened section of the Tetchill Brook although the same section in paragraphs 3.12 and 3.11 continues to state that finished floor level will be set a minimum of 600 mm above 100 year plus climate change flood level whilst the site will be sequentially arranged to ensure that higher vulnerability development, that must be the residential development, is located **outside** of the flood plain.
- 5.5 Clearly from the layout proposals attached to this same FRA this is not so, with the majority of the higher vulnerable development contained within the area of Flood Zone 3a.

- 5.6 The raising of the finished floor levels under normal circumstances above the 100 year plus climate change flood level follows EA guidelines for areas adjacent to Flood Zone 3 when the whole of the flood zone can be utilised to spread the effects of the flooding over a wider area, whereas these proposals to daylight and open the culverted section of the Tetchill Brook will enclose that flood volume and promote the possibility of an over topping of the sides of this open channel into the areas of residential development at times of intense flood situations when the concentrated volumes of water cannot escape further downstream due to the restricted nature of the culverted section of Newnes Brook/Tetchill Brook.
- 5.7 The FRA continues with the section on Sequential and Exception Tests which follow under greater examination, and were submitted following the FRA as separate documentation. However, the references to these within the FRA does, under the title of ‘Exception Test’ paragraph 5.5 state that ‘Table 3 of the NPPF Technical Guide identifies that a more vulnerable development within Flood Zone 3a is considered to be appropriate and needs to be considered under the Exception Test.’ **This is incorrect.** Table 3 states that more vulnerable development within Flood Zone 3a requires the Exception Test but is **not** considered appropriate, whereas for the same flood zoning only water compatible and less vulnerable development are considered appropriate, highly vulnerable development should not be permitted and essential infrastructure together with more vulnerable development requires the Exception Test. **This is a fundamental statement within the submitted FRA which is considered to be incorrect.**
- 5.8 Under the section entitled ‘Conclusions and Recommendations’, Section 6.0 within the submitted FRA, parts of the conclusion drawn within this FRA are also considered to be incorrect.
- 5.9 Under para 6.4 the proposed mitigation measures from the fluvial flood source identified as high risk confirm ‘All development will be sequentially located within Flood Zone 1’. This is an incorrect statement and does not reflect the proposals within the attached Flood Zone and Layout plans accompanying this FRA.

- 5.10 Under paragraph 6.5 of the conclusions it states the ‘conceptual water course corridor has been designed to demonstrate that the same flood storage can be provided as part of the proposed development ensuring that flooding is contained on site and does not pose a risk to the proposed development or up-stream/down stream existing developments.’ It continues to state that ‘floodplain extents will be limited to this set-aside corridor removing the development from flood risk and ensuring the more vulnerable residential development can be sited safely and appropriately on site and safe access/egress can be achieved within the site.’
- 5.11 For the reasons discussed earlier regarding the limitations of capacity of the daylighted open channel of the Tetchill Brook and the very real potential for the overtopping with no safety element to provide for a gradual increase in any flood risk volume, this statement is considered to be incorrect and the results of any such works are considered to be potentially unsafe.

## **The Sequential and Exception Tests as detailed in Appendix G**

### **6.0 The Sequential Test**

- 6.1 The Sequential Test as applied and as required following the completion of the Flood Risk Assessment for the Ellesmere Marina development proposal confirms that it complies with the NPPF as set out in paragraphs 100-102 of that document.
- 6.2 Paragraph 100 commences by stating ‘Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere.’ Paragraph 100 continues to state ‘Local Plans should apply a sequential, risk-based approach to the location of development to avoid where possible flood risk to people and property and manage any residual risk, taking account of the impacts of climate change, by applying the Sequential Test and if necessary, applying the Exception Test.’
- 6.3 Paragraph 101 of the NPPF states ‘The aim of the Sequential Test is to steer new development to areas with the lowest probability 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 probability of flooding.’
- 6.4 Paragraph 102 of the NPPF confirms that ‘If, following application of the Sequential Test it is not possible, consistent with wider sustainability objectives for the development to be located in zones with a lower probability of flooding, the Exception Test can be applied if appropriate.’
- 6.5 For the Exception Test to be passed paragraph 102 continues ‘it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk, informed by a Strategic Flood Risk Assessment where one has been prepared and a site specific Flood Risk Assessment must demonstrate that the development will be safe for its lifetime, taking into account the vulnerability of its users, without increasing flood risk elsewhere, and where possible will reduce flood risk overall.’

- 6.6 Both elements of the Exception Test will have to be passed for the development to be allocated or permitted.
- 6.7 Paragraph 103 of the NPPF continues by stating that local planning authorities should ‘only consider development appropriate in areas at risk of flooding where, informed by a site specific Flood Risk Assessment following the Sequential Test and if required the Exception Test, it can be demonstrated that within the site the most vulnerable development is located in areas of lowest flood risk unless there are overriding reasons to prefer a different location.
- 6.8 The Submitted Sequential Test** applied to this development seeks to justify this proposed development on the basis that it is split into two parts providing Leisure and Recreational Uses on the one part and Residential Uses on the other.
- 6.9 It states that the residential uses were included both to provide funding for the significant infrastructure costs associated with the link road necessary to support the new leisure/tourism uses and to provide a more sustainable location for new housing in the town as it states other sites on the northern edge of the town were not favoured by the local community.
- 6.10 This submitted Sequential Test continues to state in para 10 of this Test the need to establish if the leisure/tourism and residential uses associated with the project and supported by the local community could be provided on an alternative site.
- 6.11 The Sequential Test as applied to this application provides no analysis of the reasons how and why such a need has been established or how it has been considered but continues to its conclusion in stating that the specific factors to locate the proposed development are unique to the subject site and that there are no sites which provide all the key factors for this particular development proposal, that is the site area proximity to the canal network and to the town centre, its services and facilities, together with the continual flow of compatible uses from the town centre, suitable vehicular access and suitable pedestrian and cycle access.

- 6.12 The Sequential Test finally concludes that it has been found that there are no other alternative sites available which would be capable of providing the development proposed.
- 6.13 At no stage in the consideration of this Sequential Test has there been any reference to the requirements of the Sequential Test to steer new development to areas with the lowest probability of flooding and no mention in the conclusions of the potential for flood or the reasons behind the location of the major portion of the proposed residential development (more vulnerable development) in areas of high probability of flood risk (Flood Zone 3a).
- 6.14 It continues to justify the inclusion of highly vulnerable residential development in Flood Zone 3a as a part of these proposals on the basis that they are required to provide funding to support the leisure/tourism facilities and the construction of the link road through the site.
- 6.15 The site proposal takes no account of the alternative sites put forward for residential development elsewhere in Ellesmere, as initially approved and recommended under the SAMDev proposals, in particular these sites include those known as ELL004, the proposal for approximately 70 dwelling houses off Grange Road and the proposal to include sites ELL017a and ELL017b, the proposal off Elson Road, Ellesmere with a joint initial proposal for 88 dwelling houses, although subsequently increased with a planning application for a maximum of 130 dwelling houses.
- 6.16 It is essential and of utmost importance to state that the combined number of dwelling houses of these three sites together amounts to around 200 dwelling houses with all the proposed development within these sites entirely deliverable and contained within Flood Zone 1. No element of any portion of these development sites are contained within any areas of Flood Zone 2 or 3 with absolutely no element subjected to either a medium or high probability of the risk of flooding.

## **7.0 The Exception Test**

- 7.1 The Exception Test as applied to this development proposal seeks to justify this potential development on the basis that it provides facilities for the wider benefit of the community that these other sites put forward and initially approved under the SAMDev proposals can not.
- 7.2 The Exception Test applied to this development proposal lists, as justification a schedule of 11 benefits for providing wider sustainability to the community. There is no mention of the highly vulnerable development element of these proposals and, apart from paragraph 3 which refers to the mixed use development being compatible with the surrounding uses to revitalise the area, there is no reference to the residential dwellings for which the Exception Test must be passed.
- 7.3 Each of these sustainable benefits listed in paragraph 17 of the Sequential and Exception Test document is applicable to this development proposal without the inclusion of residential dwellings, and without the need to site them predominantly in Flood Zone 3a. The justification of the need to finance the leisure/recreational facilities through the construction of the residential facilities in an area defined as of high flood probability, i.e. flood zones 2 or 3, cannot be considered acceptable under any flood risk for more vulnerable construction.

**8.0 The Sequential and Exception Test Appendix G** continues to discuss briefly the alternative development sites put forward under the SAMDev proposal and include those two sites which have commissioned this critical response to the FRA for the Ellesmere Marina proposal.

- 8.1 These sites are discussed within Appendix G as Site 2 ‘Land South of the B5068’ identified as ELL017a/b in the SAMDev proposals, and as Site 4, ‘Land between Grange Road and Swan Hill’ identified as ELL004 under the same SAMDev process.
- 8.2 Several brief paragraphs are written about each proposal, drawing attention to the perceived disadvantages of those respective developments. These are discounted as follows:

**Site 2 – Land south of the B5068**

- 8.3 The site will be accessed through the existing residential development via Hawthorn Drive and Almond Drive, all of which meet current highway standards and were originally designed to provide such access to this land. Visibility onto the B5068 is excellent and the submitted Transport Assessment confirms full deliverability.
- 8.4 The second paragraph regarding a significant part of the area being prone to flooding from the Newnes Brook is completely untrue. The EA flood maps indicate no part of this proposed development site to be in Flood Zones 2 or 3, it being entirely contained within Flood Zone 1. This potential development site is therefore at a significantly lower risk of flood than the site for the Ellesmere Marina project.



- 8.5 The Highway Authority has agreed the narrowing of Trimpley Street does not constitute a constraint or problem to the access for this development site, with a development funded contribution agreed with the Highway Authority so they may undertake any improvement works in this vicinity they consider necessary to promote traffic flow.
- 8.6 Fundamentally this development land has no canal frontage, which could be seen as a positive factor in that it will provide dedicated residential development in an area which has easy walking facilities to the town centre, schools and existing residential development. This is not a limiting factor.

#### **Site 4 – Land between Grange Road and Swan Hill**

- 8.7 Similar comments apply to this potential development. The site is situated in Flood Zone 1 and therefore at significantly lower flood risk than the Ellesmere Marina Development.
- 8.8 The elevated situation is seen as a very positive aspect of these proposals and being well screened does not constitute a visual intrusion to or from Ellesmere as a town.
- 8.9 Again the site is within easy walking distance of the centre of Ellesmere and its facilities and once more would be a dedicated residential development rather than a mixed use development as proposed for Ellesmere Marina.

## **9.0 Conclusions and Summary**

- 9.1 The conclusions of this Critical Report on the Flood Risk Assessment and separately on Appendix G, the Sequential Test and Exception Test, accompanying the planning application for the proposed development for the Ellesmere Marina project have shown some fundamental points of contention in both the reasoning and the conclusions drawn.
- 9.2 The submitted FRA seeks to justify the inclusion of residential development, defined within the NPPF as ‘more vulnerable’ development, within areas of high flood risk, Flood Zone 3a. This fundamentally is against the principles of development as set out currently in the NPPF and previously in PPS25. As a part of the NPPF, it is a guiding principle that any such development should be steered away under the Sequential Test to areas of lesser flood risk.
- 9.3 This has not been demonstrated within these submitted proposals, with the Sequential Test followed by the Exception Test seeking to justify alternatives to cater for potential flood risk whilst continuing to locate proposed residential development within areas of Flood Zone 3a.
- 9.4 The method proposed for eliminating flood risk is to open the culverted section of the Tetchill Brook and to construct a controlled open channel to include a volume of flood water calculated at 61,500 cu metres. Whilst in theory this may be worthy of consideration, in practice there must be severe doubt about its safety at times of maximum flood, requiring only a small element of excess flood water to overtop this open channel and re-create the flood zone within the area of residential development.

- 9.5 Such overtopping could be due to a longer period of intense rainfall or indeed to a blockage within the downstream culvert of the Tetchill Brook and its confluence with the Newnes Brook in which the existing capacity is known and acknowledged to be restricted and overland flood paths are not available to dissipate any excess flood water due to the raised ground levels further downstream, as confirmed within the FRA.
- 9.6 Consequently it is considered such a proposal is fraught with potential safety issues and will not alleviate the potential dangers of constructing residential development within Flood Zone 3a, notwithstanding the efforts to justify this under the Sequential and Exception Tests.
- 9.7 The further justification of this proposed residential development on land at flood risk is given by the proposed wider benefits of a mixed use development. Such a proposal cannot ever justify the construction of 'more vulnerable' development within Flood Zone 3a, particularly with this finite flood capacity proposal. It is not understood why a stand alone commercial development cannot be proposed to include the recognised benefits of canal frontage with a marina, associated hotel complex, leisure and camping facilities as also proposed for this development site, constructed, as they have at least been in one other area of Shropshire with apparent commercial success. Such an enterprise would probably also not require separate access through Flood Zone 3a to the A495, and could all be constructed on the areas of land outside Flood Zone 3a on this development site.
- 9.8 Significant flood risk has been identified with this proposal which is considered sufficient in terms of those laid down under the NPPF, and those regarding potential flood risk and safety, to question the residential development portion of the Ellesmere Marina project and to suggest in the strongest possible terms that this element of these proposals is removed. This residential development within Flood Zone 3a cannot be considered justifiable on flood risk terms.

- 9.9 The final section of Appendix G setting out various opinions regarding the alternative sites within Ellesmere particularly those defined as Sites 2 & 4, are largely incorrect in their conclusions and again should not be considered as vehicles for justification of this Ellesmere Marina project.
- 9.10 On the basis of this Critical Report, its conclusions and summary, it is therefore recommended that, from a flood risk perspective, this development proposal for the Ellesmere Marina project is not considered satisfactory and cannot be considered safe from flood risk for the future.

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