Hart District Council

Strategic Flood Risk Assessment
Level 1

Addendum regarding Surface Water Indicative Flood Problem Areas
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Contents

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1. Introduction

1.1. This document has been prepared as an addendum to the Hart District Council Strategic Flood Risk Assessment Level 1 2016 (SFRA 2016).

1.2. The purpose of this document is to explain why the Surface Water Indicative Flood Problem Areas defined in the SFRA 2016 will no longer be based on the Flood Map for Surface Water 1 in 200 extent but rather the Updated Flood Map for Surface Water 1 in 1000 extent.

1.3. For further information relating to what an Indicative Flood Problem Area (IFPA) is, why these have been defined, and how they should be used, please see the SFRA 2016 documents.

2. Purpose and Context

2.1. Surface Water Indicative Flood Problem Areas are locations in Hart which may be prone to surface water flooding. These areas have been defined by Hart District Council as designated 'Indicative Flood Problem Areas', where development will need to consider mitigation measures to ensure buildings are not flooded and local flood risk is not increased.

2.2. The SFRA 2016 used the Flood Map for Surface Water (FMfSW) 1 in 200 flood extent to define the Surface Water Indicative Flood Problem Areas (IFPA). The intention was for these surface water IFPAs to be published on the Council's online mapping system[1] to allow developers to easily identify when their development falls in an IFPA. Unfortunately, data licensing issues mean the Council cannot publish the FMfSW extents on its interactive mapping system, but it has been informed, by the Environment Agency, that the Updated Flood Map for Surface Water (uFMfSW) extents could be used in this way. The uFMfSW extents are already available online as an interactive map[2].

2.3. The purpose of this addendum is to review the result from the 2016 SFRA, to determine whether the uFMfSW extents could be used as an appropriate alternative to the FMfSW model as a definition of the IFPAs.

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[1] http://maps.hart.gov.uk/mycouncil.aspx
[2] https://flood-warning-information.service.gov.uk/long-term-flood-risk/postcode

3. Methodology and Results

3.1. The 2016 SFRA undertook a validation exercise of the models by comparing historic flood records to each model's flood extent to determine which model most accurately represented surface water flooding in Hart. This looked at how well internal property flooding was predicted by each model by overlaying the historic records with each modelled extent. The number of historic records that fell within each modelled extent was recorded and used to assess how well each model predicted surface water flooding. The summary of the results can be seen in the tables below. The model extent with the best results is shown in bold.

3.2. The results shown below in table 1 and 2 are taken from the Hart District SFRA 2016 table 10.1 and 10.2 page 67.

Table 2 Performance of the FMfSW against historic flood records data

Modelled extent	Average % historic records predicted (all)	% of internal historic flooding predicted
1 in 30 deep	25%	32%
1 in 30	55%	43%
1 in 200 deep	54%	49%
1 in 200	**90%**	**65%**

Table 2 Performance of the uFMfSW against historic flood records data

Modelled extent	Average % historic records predicted (all)	% of internal historic flooding predicted
1 in 30	28%	14%
1 in 100	44%	15%
1 in 1000	**90%**	**64%**

4. Suitability of the Updated Flood Map for Surface Water

4.1.   Both models appear to underestimate the extent of flooding, although the overland flow routes are being correctly identified. The only extents that do not significantly underestimate the flooding are the uFMfSW 1 in 1000 extent (shown in bold in Table 2) and the FMfSW 1 in 200 extent (shown in bold in Table 1). The FMfSW 1 in 200 extent is shown to be one percent better at predicting surface water flooding in Hart than the uFMfSW 1 in 1000 extent.

4.2.   Given the licensing issues with the FMfSW and the fact that the uFMfSW is only 1% worse at picking up historic records of flooding than FMfSW 1 in 200 flood extent, the uFMfSW is deemed as a suitable alternative model for defining the Surface Water IFPAs. Using the uFMfSW has the added advantage of ensuring that the mapping of the IFPA is consistent with the Environment Agency's Long-Term Flood Risk mapping tool as the Flood Risk from Surface Water extents are also based on the uFMfSW.

5. Conclusion

5.1.   Given the performance difference between the uFMfSW and FMfSW is negligible, the practical advantages of being able to publish the Indicative Flood Problem Areas online, and the consistency with the Environment Agency's Long-Term Flood Risk mapping tool, the uFMfSW 1 in 1000 extent is deemed an appropriate alternative model extent for defining surface water Indicative Flood Problem Areas in Hart.