

Executive Summary

Capita Symonds has been commissioned to update a Strategic Flood Risk Assessment (SFRA) on behalf of Sefton Metropolitan Borough Council (Sefton MBC) in order to inform its Local Plan, and the development management process (including the content of site-specific Flood Risk Assessments prepared by developers). The commission builds on and updates the findings of the Level 1 SFRA (2009) using a wide range of information on flood risk that has been published since the publication of that document. This updated SFRA has been produced in line with guidance within the National Planning Policy Framework (NPPF) (March 2012) and the supporting Technical Guidance to the National Planning Policy Framework (March 2012), hereafter referred to as 'the Technical Guidance'.

The principal purpose of an SFRA is to refine the information available on the probability of flooding, taking into account other sources of flooding and the currently understood impacts of climate change into account. This SFRA presents additional information on the probability and consequences of flooding and, where the information is available, this SFRA takes the presence of flood defences into account and the effect that they have on river and tidal flooding by presenting information on the depth, velocity and time of inundation of flooding. In line with the NPPF, this SFRA takes a proportionate approach to this additional information, drawing mainly on existing evidence and studies (including those carried out by partners such as the Environment Agency).

The fundamental concepts that underpin an SFRA are incorporated into the NPPF and the Technical Guidance. The NPPF requires development to be directed away from areas at highest risk of flooding, but, where development is necessary, making it safe without increasing flood risk elsewhere. In their Local Plans, local authorities should apply a risk-based, sequential approach to the location of development through the application of a Sequential Test and, where applicable, an Exception Test, and taking account of climate change. This document facilitates the application of both the Sequential and the Exception Test at the potential sites being considered for allocation within the emerging Local Plan.

The underlying objective of the risk-based, sequential allocation of land is to reduce the exposure of new development to flooding and to reduce reliance on built flood defences. Within areas at risk from flooding, it is expected that development proposals will not increase flood risk and ideally, contribute to a reduction in the overall magnitude of the flood risk. SFRAs are therefore essential in enabling a strategic and proactive approach to be applied to flood risk management.

The SFRA also contributes to applying the sequential approach by providing information on the distribution of risk, which will also help to understand whether sites are developable and what flood risk management measures may be required to facilitate

their development.

The SFRA also forms an important part of the evidence to inform the development of Local Plan policies for managing flood risk. It will also help define the requirements of site-specific flood risk assessments (site-specific FRAs) prepared by developers, and inform the development management process. Recommendations are therefore made within the SFRA on potential planning policies and the approach to development management, based on the evidence collated throughout the development of the SFRA.

The SFRA is a live document that should be updated as new information and guidance becomes available. Its outcomes and conclusions may not be valid in the event of future changes to legislation, government policy or guidance on flood risk, or if the data on flood risk is updated or changes as a result of future flood risk management measures.

It is the responsibility of the user to ensure that they are using the best available information.

The principal source of flood risk across the borough of Sefton, based on the spatial extent of all flood risk datasets, is surface water flooding. However, parts of Sefton are also at risk from fluvial and tidal sources, from groundwater flooding and from failure of canal and reservoir infrastructure,

Surface water flooding affects significant areas of Sefton and, as a result of the low-lying topography of the borough, there are areas in which the extent of flooding is large and the number of properties affected is significant. This is compounded in some locations by the influence on flooding by infrastructure such as railway lines, roads and the Leeds and Liverpool Canal.

Sewer flooding is also considered to be a significant issue across the borough that is closely linked with surface water flooding. It is generally caused by sewer systems that have insufficient capacity to cope with severe rainfall events.

Fluvial (river) flood risk is notable in a number of areas, from both main rivers and ordinary watercourses. Based on the risk to people and property, areas around Formby, Thornton, parts of Maghull and the northern fringes of Aintree are the principal areas of river flood risk within Sefton. More rural areas at risk of fluvial flooding include areas to the east of Southport and Formby, around the River Alt from north of Ince Blundell (including North End) through to the western fringes of Maghull and north of Netherton and Aintree; and to the north and east of Maghull. A number of these river flood risk areas, particularly in Formby, Thornton and Maghull, heavily influence flood risk from other sources, such as surface water, hence the records of flooding in these areas may also be from those sources or a mixture of both. Climate change will increase the risk in all locations, and from many sources.

Tidal flooding – a risk mostly in northern Southport, between Formby and Hightown and

along a narrow coastal strip – is largely managed by the existing defences, which are generally in fair condition. There is potential for climate change to increase this risk of tidal flooding in the future. There is a potential risk of groundwater related flooding based on the nature of the drift and solid geology and from the areas of shallow or potentially shallow groundwater levels. However, the direct risk of flooding to people and property is considered relatively low. Groundwater is however expected to constrain drainage, influence surface water flood risk and in places influence fluvial flooding, such as the River Alt.

There are raised sections of the Leeds and Liverpool canal across southern Sefton which pose a potential risk to properties on the downstream (lower) side, in the event of failure of raised embankments and where culverts pass beneath the canal itself. There have been historical incidents. However, the risk is considered to be relatively low due to the ongoing management of the canal.

Similarly, there are areas within Sefton that are at risk from the failure of reservoirs. The reservoirs are all located outside of the borough and modelling indicates that the consequences of failure within Sefton are relatively minor, affecting properties in areas that are already at risk of fluvial flooding, such as Dover's Brook.

A number of locations appear to be at risk from a number of different sources and these 'hotspots' should be noted. Based on historical records, the Environment Agency's flood zone map, fluvial flood risk modelling, surface water and sewer flood risk modelling and consideration of the influences and effects of groundwater, canal flooding and reservoir flooding there are hotspots of flooding at the following locations:

- Along Whinney Brook, particularly at Hall Lane and at Fouracres (Maghull);
- Associated with Dover's Brook and ordinary watercourses in the vicinity of Sefton Lane (Western Maghull); and
- Eight Acre Lane Brook and along Hawksworth Drive (Formby).