Appendix D: Level 2 GeoPDF User Guide

Please tick the boxes next to the dataset titles in the map legend to display the data. If data does not display, it means it is not present in that particular area.

Legend	Description
Authority Information Wokingham Borough Council boundary	The boundary of the Wokingham Borough, the study area for this SFRA.
Level 2 SFRA Sites	The site boundary for the individual site/group of sites shown within the map.
Watercourses Main Rivers All Watercourses	Main Rivers – the Environment Agency (EA) statutory main rivers map detailing the watercourses which are designated a Main River by the EA. All Watercourses – the EA Detailed River Network representing the river network based on Ordnance Survey (OS) MasterMap for surface features and EA culvert surveys for underground features (where available).

Legend	Description
Flood Zones Indicative Flood Zone 3b Flood Zone 3b Flood Zone 3a Flood Zone 2	The Flood Zones are for use in development planning and flood risk assessments: **Flood Zone 3b** – Functional Floodplain: This zone comprises land where water must flow or be stored in times of flood. **Flood Zone 3a** – High probability: greater or equal to a 1% chance of river flooding in any given year (Excludes Flood Zone 3b, which is derived as part of the SFRA). **Flood Zone 2** – Medium probability: between a 1% and 0.1% chance of river flooding in any given year. Flood Zones 2 and 3a, as shown in the Appendix D mapping, show the same extent as the online Environment Agency's Flood Map for Planning (FMfP) (which incorporates latest modelled data) other than for the following watercourses, where additional detailed modelling was available that has not been incorporated into the FMfP and was used in preference: Blackwater (Flood Zone 3a only), River Loddon, Arborfield, and Emm Brook. Flood Zone 3b is identified as land which would flood with an annual probability of 1 in 30 years (3.3% AEP) where detailed hydraulic modelling exists. The following models have appropriate outputs which have been included: Kennet, Loddon, Thames (Hurley to Teddington), Thames (Pangbourne to Sonning), and Thames (Sonning to Hurley). Where detailed hydraulic modelling exists but the 3.3% AEP event is not available, the layer has been based on the larger, more conservative 1% AEP event outline. This is the case for the following models: Blackwater (2007), Blackwater (2009), Foudry Brook, and Emm Brook. Where no detailed hydraulic modelling exists, Indicative Flood Zone 3b should be used, which shows the same extent as Flood Zone 3a.
Fluvial climate change model data	Where hydraulic modelling with appropriate climate change uplifts was available the model flood depth, velocity and hazard outputs have been included within the mapping. The following outputs have been included: • Emm Brook - 1% AEP plus 25% CC (higher central)

Legend	Description
	• River Loddon - 1% AEP plus 46% CC (upper end) • River Thames - 1% AEP plus 70% CC (upper end) • Arborfield - 1% AEP plus 40% CC (upper end) The climate change extents shown are the higher central or upper end scenarios which represent a worst-case scenario. Where suitable model outputs were not available, an indicative 1% AEP plus climate change output has been included. This shows the same extent as Flood Zone 2.
Risk of Flooding from Surface Water Surface Water Extent 3.3% AEP 1% AEP 0.1% AEP	The EA's Risk of Flooding from Surface Water (RoFfSW) flood maps give an indication of the broad areas likely to be at risk of surface water flooding. This includes flooding that takes place from the surface runoff generated by rainwater. The data includes the extent, velocity, depth, and hazard mapping for the 3.3%, 1% and 0.1% AEP events. The extent of flooding for each of the events is shown in the mapping.
Surface Water Extent plus Climate Change 1% AEP plus 40% Climate Change	The RoFSW was uplifted to represent surface water climate change for 1% AEP plus 40% CC event. The depth, velocity and hazard outputs for this event are included within the mapping.

Legend	Description
Risk of Groundwater Flooding JBA Groundwater Emergence Map (5m Resolution) Less than 0.025m below surface Between 0.025-0.5m below surface Between 0.5-5m below surface At least 5m below surface No risk	JBA's Groundwater Flood emergence map shows the level of groundwater below the surface, at a resolution of 5m. Flood risk could increase when groundwater is already high or emerged, causing additional overland flow paths or areas of still ponding, which may occur at sites other than those shown in the emergence mapping.
Risk of Flooding from Reservoirs Wet Day Dry Day	The EA reservoir flood extents show the predicted flooding which would occur if a dam or reservoir fails. The EA provide two scenarios: **Dry Day** – the predicted flooding which would occur if the dam or reservoir fails when rivers are at normal levels. **Wet Day** – the predicted worsening of the flooding which would be expected if a river is already experiencing an extreme natural flood.
Defences	The EA Asset Information Management System (AIMS) spatial Flood Defence dataset, shows flood defences currently owned, managed, or inspected by the EA. A defence is any asset that provides flood defence or coastal protection functions. The main defences within Wokingham Borough are natural high ground.
Flood Mitigation	The EA issue flood warnings to designated Flood Warning Areas when a river level hits a certain threshold, heavy rainfall or high tides and strong winds are forecast. "Flooding is expected,

Legend	Description
Flood Alert Areas Flood Warning Areas	immediate action is required". Flood Alerts are issued when there is water out of bank for the first time anywhere in the catchment and when forecasts indicate flooding may be possible. "Flooding is possible, be prepared". Both datasets are a polygon GIS shapefile where the above are issued; they are not flood extents.
Flood History EA Historic Flood map	The EA Historic Flood Map shows areas of land that have been previously subject to fluvial flooding in the area. This includes flooding from rivers, the sea and groundwater springs but excludes surface water. If an area is not covered by the Historic Flood Map, it does not mean that it has never flooded, only that currently there are no records of flooding in this area from the EA records.