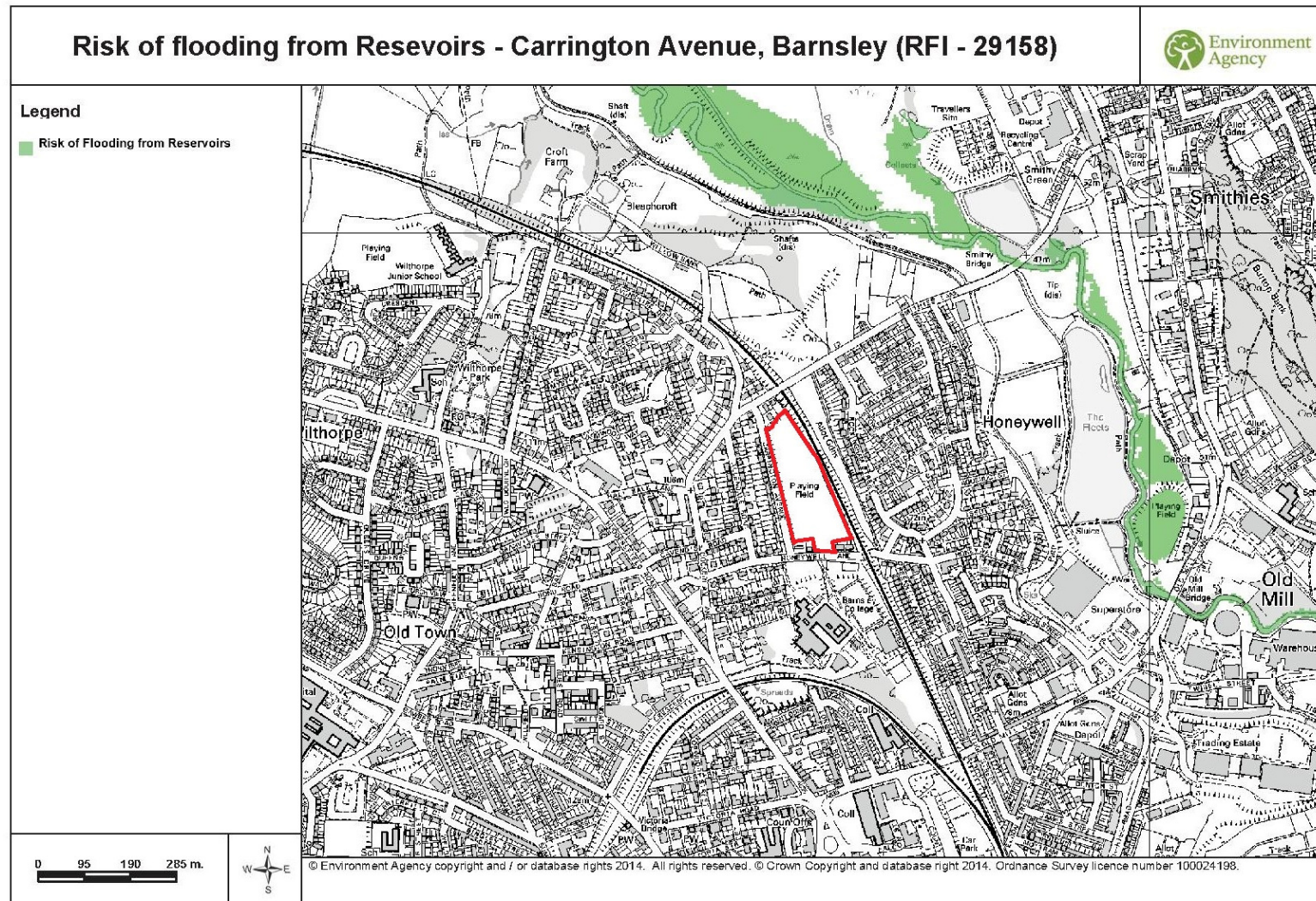


B.3 Reservoir Inundation Flood Map



Appendix C – Drainage Strategy

C.1 Existing Drainage Network

Appendix D – Correspondence

Appendix E – Drainage Strategy

E.1 Surface Water Runoff Methodology

Runoff from Impermeable Areas

The estimated runoff rate and volume from the proposed layout has been calculated using the Modified Rational (Wallingford) Method. This method allows estimation of the amount of runoff that is likely to be generated from an urban area. Rainfall depths for the various return periods were produced using the FEH CD-ROM DDF (Depth-duration-frequency) modelling function have been used to calculate rainfall intensities for specified return periods.

The Modified Rational method uses the following equation to calculate peak runoff rate from an area:

$$Q_o = 2.78 C_v CR i A$$

Where:

C_v = Volumetric Runoff Coefficient

CR = 1.3 (Routing Coefficient)

i = Rainfall Intensity (mm/h)

A = Area (ha)

2.78 = Coefficient which accounts for the differences in units used for the inputs and the outputs of the equation.

The variable C_v is a co-efficient that describes the proportion of rainfall appearing in the surface water drainage system. CR is a routing co-efficient added to the Rational Method to represent runoff characteristics of a particular site or area in a more accurate manner.

The following spreadsheets have been used to calculate runoff rates and volumes using the above methodologies, as reported in Section 6 of this FRA.

E.2 Surface Water Runoff Calculations

