



RANCE BOOTH SMITH ARCHITECTS

WIGFIELD FARM

BARNSLEY

FLOOD RISK ASSESSMENT

14051983/GL
May 2014

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1.0 DEVELOPMENT DESCRIPTION AND LOCATION

1.1 Type of development and location

- 1.1.1 Wigfield Farm site is located approximately 2.5km south of Barnsley Town Centre, South Yorkshire and is accessed off Haverlands Lane. The proposed development site is approximately 1.2 hectares and located adjacent to the existing site, directly to the west. Rectangular in plan, it is bounded by the Wigfield Farm site, agricultural land and Haverlands Lane with a public footpath running adjacent to the west boundary. Worsbrough Reservoir is located approximately 0.2km south of the development site.
- 1.1.2 Historical maps dating from 1855 indicate the presence of Wigfield Farm and confirm that to present day, the adjacent land has only been subjected to agricultural use.
- 1.1.3 In addition to the refurbishment of existing building structures on the Wigfield Farm site, the development will comprise the construction of an animal house, visitor centre, two new barns and a retail building.
- 1.1.4 Site address: Wigfield Farm, Haverlands Ln. Worsbrough, Barnsley, S. Yorks. S70 5NQ.
- 1.1.5 See Appendix 1 Site Plan

1.2 Vulnerability Classification

- 1.2.1 The natural existing ground levels local to the development area fall in a south-westerly direction away from the Wigfield Farm site. Worsbrough Reservoir TWL, (top water level), is situated approximately 10m below the average ground level of Wigfield Farm, thus placing the development area well above possible flood levels and at no risk.

2.0 DEFINITION OF FLOOD HAZARD

2.1 Sources of Flooding

- 2.1.1 The primary source of potential flooding to the Wigfield Farm site is from Worsbrough Reservoir and its tributaries, however given the location and topography level differences between the reservoir, its tributaries and the Wigfield Farm development site, this hazard can be dismissed for the main area of the site.
- 2.1.2 Flooding arising from surface water run-off directly from the north is unlikely given that this is agricultural land which appears to be essentially free draining.
- 2.1.3 There are no historical records of flood occurrences affecting the main area of the proposed development site although the extreme south western corner of the site is known to flood.

2.2 Existing Surface Water Drainage Arrangements

- 2.2.1 The existing surface water drainage to Wigfield Farm is via a surface water drainage system which appears to discharge off-site and into an adopted surface water drain which discharges into the reservoir to the south.

3.0 PROBABILITY

3.1 Flood Zone of site

- 3.1.1 The Environment Agency flood maps show that Wigfield Farm and the development site fall outside Flood Zone 3 and Flood Zone 2, which appropriate to a flood event of between 1:100 and 1:1000.
- 3.1.2 The Environment Agency flood maps show that the main area of the Wigfield Farm and the development site are not affected by either surface water flooding or reservoir flooding.
- 3.1.3 The extreme south western corner of the site is known to occasionally flood. This flooding is from the watercourse outwith the western boundary. The watercourse appears to have been culverted or piped and infilled at some point in the past. The old culvert passing below the road and railway line could not be found on site and its condition is unknown. Similarly, the old channel to the south of the railway line is no longer visible and the watercourse may now be culverted or piped. The flooding to the paddock in the south western corner of the site is undesirable but has no affect on the existing or proposed buildings or public areas on the site.

4.0 CLIMATE CHANGE

- 4.1 PPS25 advises that 1:100 flow rates be increased to take account of the possible affects of climate change by 10% to represent the period up to 2055 and 30% for the period up to 2115. The figures are based on increases in peak rainfall intensity. Given the nature of the ground, the topography of the area and the size of the proposed development, the effects of climate change are deemed to be negligible.

5.0 THE DEVELOPMENT PROPOSALS

- 5.1 Development proposals will comprise the construction of an animal house, visitor centre, two new barns and a retail building. The impermeable areas associated with the aforementioned, (i.e. total roof area), will amount to approximately 10% of the overall development area. The impermeable roof areas will be drained via a designed drainage system, to include on site attenuation if necessary and to discharge either off site or to soakaways contained on site. Approximately 90% of the development will consist of outdoor animal pens/enclosures and a picnic area, as such, these areas will remain permeable and free draining as is the existing condition.

6.0 FLOOD RISK MANAGEMENT ISSUES

- 6.1 The existing site is not protected with any flood defensive measures and it is not currently planned to furnish defences in the future.
- 6.2 Although not essential for the proposed site development, it would be prudent to determine ownership of the watercourse outwith the western boundary so that the localised flooding to the paddock can be addressed at some time in the future.

7.0 OFFSITE IMPACTS

- 7.1 Surface water running off the site will be no more than exists at present and this has had no impact on properties downstream of the site.
- 7.2 Foul water discharges will increase slightly but will be accommodated by the existing connection to an adopted combined sewer and will not pose a flood risk.

8.0 RESIDUAL RISKS

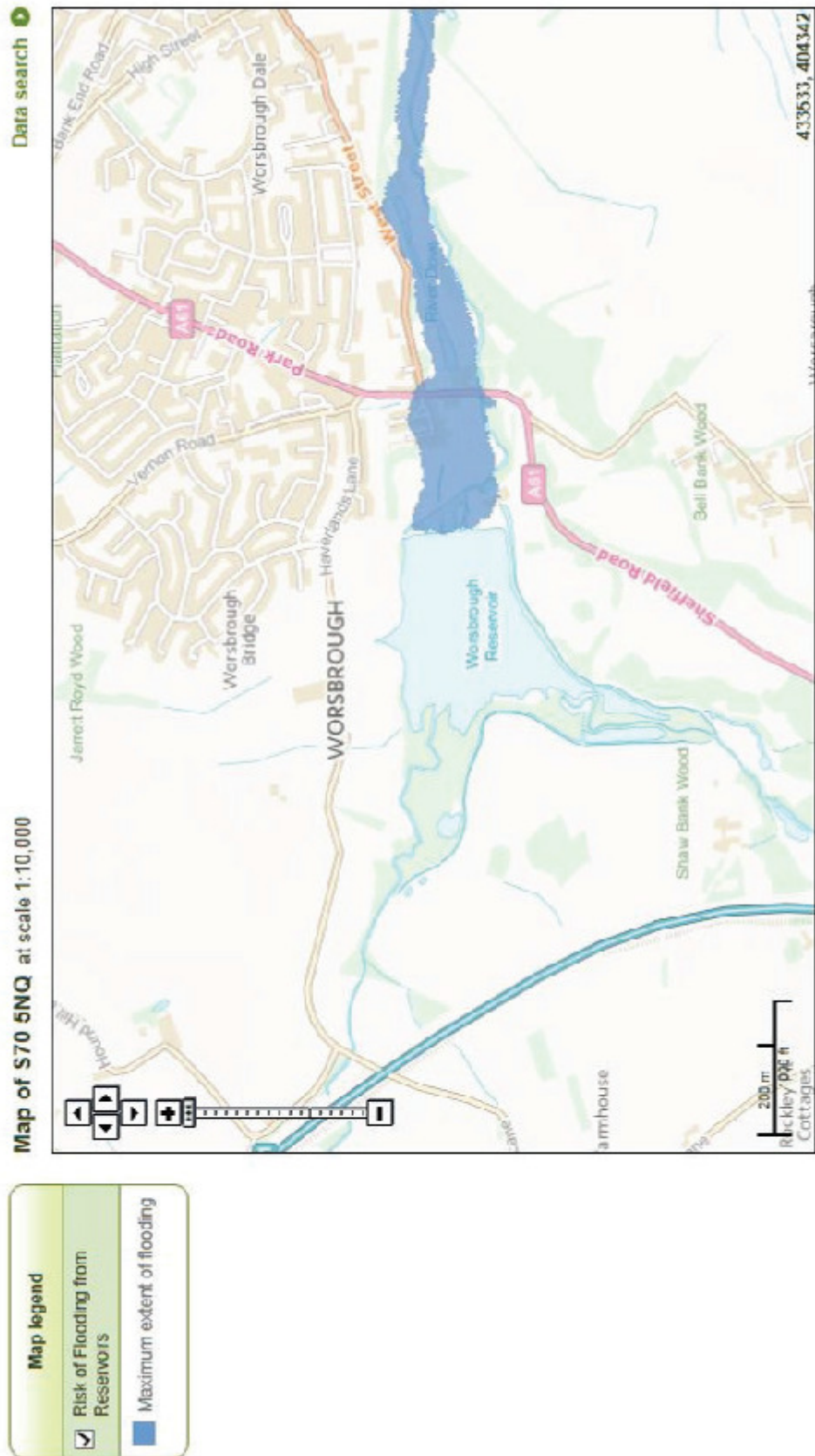
8.1 There are no residual risks associated with this development site.

A handwritten signature in black ink, appearing to read 'R I Whitlam', followed by a period.

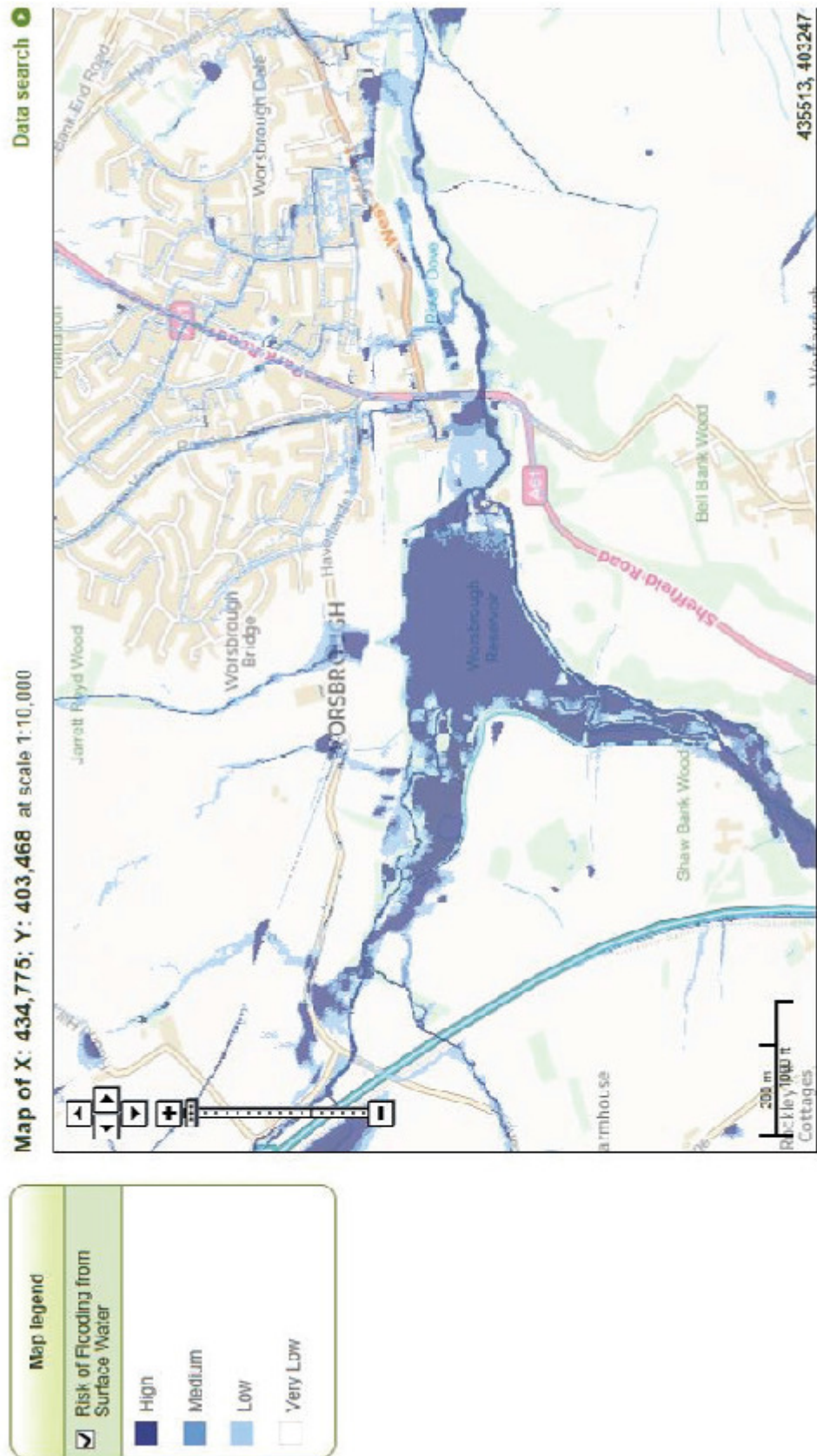
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Director



Appendix 2 - Environment Agency Flood Maps



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