Report No. **1048/69**

FLOOD RISK ASSESSMENT REPORT

AT

C A R R S L A N E
C U D W O R T H

ON BEHALF OF

B D W Y O R K S H I R E W E S T

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APPENDICES

Appendix A	Site Location Plan
Appendix B	Topographical Survey
Appendix C	Environment Agency Consultation
Appendix D	Water Authority Consultation
Appendix E	Not used
Appendix F	Proposed Development Layout
Appendix G	Indicative Surface Water Drainage Calculations

1.0 TERMS OF REFERENCE

1.1 BDW Yorkshire West is proposing to develop land at Carrs Lane, Cudworth for new residential dwellings. As part of the viability of the project, it was decided that a Flood Risk Assessment Report is required.

1.2 It is within the general development strategy of the country for development in areas where there is a risk of flooding to be assessed to avoid unnecessary increase in the requirement for flood defence. Under the National Planning Policy Framework (NPPF) and the new Planning Practice Guidance (PPG), consultation is required with the Environment Agency, Land Drainage Authority and Water Authority and a Flood Risk Assessment Report should be prepared considering the development proposals and make recommendations for any flood mitigation measures.

1.3 ARP Associates have been appointed by to carry out an assessment of the site, implement appropriate consultations and prepare a Flood Risk Assessment Report, in accordance with NPPF, to satisfy the requirements of the Planning Authority.

1.4 The walkover survey and consultations were carried out in August and September 2014.

1.5 This assessment has been prepared for the sole use and reliance of the Client and shall not be relied upon or transferred to any other parties without the written authorisation of ARP Associates. No responsibility will be accepted where this report is used, either in its entirety or in part, by any other party.

2.0 WALKOVER SURVEY

General

2.1 The site is an irregular shaped piece of land equating to an area of approximately 11.6ha. The site is situated on the southern edge of the Cudworth residential area and is centred on Ordnance Survey Grid Reference SE387 083.

2.2 A site location plan is presented in Appendix A.

Current Use

2.3 The site is presently open or arable land split into different fields by hedgerows, trees and shrubs.

Boundaries

2.4 The site generally abuts the rear gardens of residential dwellings to the northern and eastern boundaries, whilst the southern and western boundaries abut open agricultural fields. The boundaries are generally formed by typical hedgerows. However, the eastern part of the southern boundary abuts a Police Horse Farm, whilst the southern part of the eastern boundary abuts Carrs Lane.

Topography and Vegetation

2.5 The site slopes generally from north to south and west to east causing a low spot in the southeastern corner adjacent to Carrs Lane. However, on the far west of the site where Newland Avenue abuts the site boundary, the land "rolls over" and slopes steeply to the west towards a dismantled railway beyond the western boundary. A topographical survey is presented in Appendix B.

2.6 The vegetation across the site is either rough grass or arable farmed land, whilst the fields are partitioned by mature and semi-mature hedgerows, trees and bushes.

Drainage

2.7 There is no obvious positive drainage system on the site, although land drainage may well be present. Surface water run-off is likely to follow the natural slope of the site from north to south and also to the west and outfall into Small Bridge Dyke, which flows in a northwest to southeast direction and crosses under Carrs Lane approximately 160m from the site.,

2.8 The Dyke is 3.5m in width and has a minimum height of 2.2m at the bridge where this crosses Carrs Lane.

2.9 The watercourse outfalls into the River Dearne further to the south.

3.0 ENVIRONMENT AGENCY CONSULTATION

3.1 A consultation was requested from the Environment Agency and a copy of the response, reference RFI/2014/30305 dated 3rd September 2014, is presented in Appendix C for reference.

3.2 The site is shown to be in an area where flooding from rivers and the sea indicates the extent of a flood with a 0.1% (1 in a 1000) chance of happening each year. There is indication of flooding with a 1% (1 in 100) chance of happening each year adjacent to Small Bridge Dyke to the south of the site, but the flooding is shown to the south and does not encroach into the development area.

3.3 There is no known flood history for the site, although water causing flooding can come from different sources, such as rainwater, flowing over or accumulating on the ground, overflowing or backing up of sewers or drainage systems or from groundwater rising up from underground issues.

3.4 Therefore, whilst the Environment Agency can only supply flood risk data relating to the risk of flooding from rivers or sea, contact should be made from the Local Authorities and/or Water Companies to provide some knowledge of the risk to flooding from other sources.

3.5 There are no flood defences helping to reduce flood risk within the site area and there is no modelling information at this location.

4.0 YORKSHIRE WATER CONSULTATION

4.1 A consultation was requested from Yorkshire Water, who is the Water Authority for this area, and a copy of the response, under reference Q013976 dated 28th August 2014, is presented in Appendix D for reference purposes.

4.2 There is a 381mm diameter public combined sewer recorded crossing the site. No buildings or other obstructions are to be erected within 4m, (or 6m if the sewer is greater than 7m deep) nor trees planted within 5m of this public sewer. It is also not acceptable to raise or lower ground levels over the sewer and, if this is to be diverted, an application should be made in writing for this to be undertaken in accordance with Section 185 of the Water Industry Act 1991.

4.3 Foul water can discharge to the 381mm diameter public combined sewer crossing the site.

4.4 In respect of surface water, attention is drawn to Requirement H3 of the Building Regulations 2000 and sustainable drainage systems. This establishes a preferred hierarchy of surface water disposal. Consideration should firstly be given to discharge to soakaway, infiltration system and watercourse in that priority order.

4.5 As the proposal site is currently undeveloped, no surface water is known to have previously discharged to the public sewer network. As such, it is unlikely that the Local Public Sewer Network will have capacity to accept the discharge of surface water from the site. If sustainable drainage systems are not viable, it is advised to contact the Environment Agency/Land Drainage Authority with a view to establishing a suitable watercourse for discharge. It is understood that Small Bridge Dyke is located to the south of the site and this appears to be the obvious place for surface water disposal.

5.0 LAND DRAINAGE AUTHORITY CONSULTATION

5.1 A consultation was requested from Barnsley Metropolitan District Council, who is the Land Drainage Authority for this area. However, at the time of writing this report, the consultation has not been received.

5.2 It is anticipated, however, that the Authority will confirm that there is no known history of flooding and that the site falls within Flood Zone 1.

5.3 Surface water discharge should be restricted to the greenfield run off rate for a 1 in 1 year and this should not exceed 5l/s/ha.

5.4 Discharge will be allowed to Small Bridge Dyke watercourse subject to calculations and proof that there will be no increase in rate of discharge, which will cause flooding of downstream buildings or third party land.