

PHYSICAL CHARACTERISTICS REPORT FOR LAND AT HIGHER BROCKHOLES, PRESTON

Following the request for detailed information on the physical characteristics of soil at Higher Brockholes, members of the RPG visited the site during the summer of 1990. An Agricultural Land Classification Survey was undertaken and soils augered to 100 cms and soil pits dug to determine the physical characteristics.

Location, Altitude and Relief

The site at Higher Brockholes is three miles to the east of Preston, and is bordered by the River Ribble in the east and south, the M6 motorway to the west, and Boilton Wood to the north.

Altitude varies between 10 metres adjoining the River Ribble and 14 metres around Higher Brockholes. A series of river terraces occur in the east and south east of the site. Elsewhere, the land is very gently undulating.

Altitude and relief are not limiting in the classification of this site.

Climate and Rainfall

The main parameters used in the assessment of climatic limitations are Average Annual Rainfall (AAR) and Accumulated Temperature (ATO). For this site these figures vary between 950 mm and 955 mm (AAR) and 1419°C and 1424°C (ATO). This is borderline between grade 1 and grade 2. The field capacity days figure for the site is 227 days, which imposes a climatic limitation on the site as land with more than 225 capacity days can be no better than grade 2 quality. The mean last frost is in early May.

Geology and Soils

The area is underlain by Bunter Sandstone, with drift deposits of Alluvium and Sand and Gravel Terraces covering the site, with a small basin of peat and clay in the north-west of the site.

Over most of the site, soils are typically sandy Wick Series formed in terrace or alluvial deposits. Nearer to the River Ribble more freely draining Alun Series soils occur. A complex pattern of peat and alluvial soils occur in the north-west of the site.

Flood Risk

A limited amount of information is available on flooding, including information from the National Rivers Authority C60 monitoring borehole. Approximately 25% of the site may be affected by flooding of sufficient frequency and duration to limit this land to sub-grade 3a.

Land Use

The whole site supports permanent pasture, except for a small area of woodland in the north.

Agricultural Land Classification

The majority of the site is of a high quality.

Grade 2

This grade accounts for 23.6 and 23% of the site. It occurs in limited areas mainly in the south and east of the site. These soils are generally well-drained sandy loams or sandy silt loams overlying loamy sands, sometimes with sands or sand and gravel at depth. Occasional bands of clay loam occur in some profiles but these are rarely of sufficient thickness to constitute a slowly permeable layer and hence affect drainage.

Sub-grade 3a

This sub-grade accounts for 40.2 ha and 41% of the site. It is widespread on the edge of the site adjoining the River Ribble and on land adjoining the M6 motorway. Many of these soils are similar to the Grade 2 with sandy loams or sandy silt loams overlying loamy sands; however, the frequency and duration of flooding represents a limitation to their use and prevents a higher grading.

To the south of Higher Brockholes Farm, an area has been downgraded where heavier sandy clay loam and clay loam prevent water movement and aeration within the soil. Several smaller pockets of these soils also occur within the area mapped as Grade 2, but these are too small to be mapped separately at this scale.

Sub-grade 3b

This sub-grade accounts for 30.1 ha and 30% of the site. It is widespread in the centre of the site. Adjoining the M6 motorway the soils are typically medium clay loams overlying clays. Elsewhere sandy loams and sandy clay loams overlie clay loams and clays. The poor drainage is the main limitation to the use of this land.

Grade 4

This grade accounts for 6 ha and 6% of the site. In the area to the south of Boilton Wood, there is a complex arrangement of peat, alluvial and sandy soils. These soils are poorly drained and are typically sandy loams, sandy clay loams or sandy peats overlying variable thicknesses of peat, sand, silt and clay.

Grade 4 also occurs at Higher Brockholes Farm, where the buildings have been demolished and returned to an agricultural use. These soils are compacted and contain lumps of concrete and brick which would hinder any arable cropping.

Non-Agricultural

This grade accounts for 1 ha and 1% of the site and is comprised of a small area of open woodland.

Resource Planning Group
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