



November 2021

Peel L&P Holdings (UK) Ltd

Warrington South West Urban Extension

Predicted Agricultural Land Quality



1 Introduction

- 1.1 Reading Agricultural Consultants Ltd (RAC) is instructed by Peel L&P Holdings (UK) Limited to assess the likely Agricultural Land Classification (ALC) of land to the immediate south west of the settlement boundary of Warrington by means of a desktop appraisal of soil and site characteristics.
- 1.2 Guidance for assessing the quality of agricultural land in England and Wales is set out in the Ministry of Agriculture, Fisheries and Food (MAFF) revised guidelines and criteria for grading the quality of agricultural land (1988)¹, and summarised in Natural England's Technical Information Note 049².
- 1.3 Agricultural land in England and Wales is graded between 1 and 5, depending on the extent to which physical or chemical characteristics impose long-term limitations on agricultural use. The principal physical factors influencing grading are climate, site and soil which, together with interactions between them, form the basis for classifying land into one of the five grades.
- 1.4 Grade 1 land is excellent quality agricultural land with very minor or no limitations to agricultural use, and Grade 5 is very poor quality land, with severe limitations due to adverse soil, relief, climate or a combination of these. Grade 3 land is subdivided into Subgrade 3a (good quality land) and Subgrade 3b (moderate quality land). Land which is classified as Grades 1, 2 and 3a in the ALC system is defined as best and most versatile agricultural land.

2 Site and climatic conditions

General features, land form and drainage

- 2.1 The site comprises approximately 119ha of land to the immediate south west of the settlement boundary of Warrington. It is bound by the Manchester Ship Canal to the north and the West Coast Railway to the north west. To the south east the A56 Runcorn Road forms the boundary, with a plot of land to the south of the A56, immediately adjoining the Warrington settlement

¹ **MAFF (1988)**. *Agricultural Land Classification of England and Wales. Revised guidelines and criteria for grading the quality of agricultural land*. MAFF Publications.

² **Natural England (2012)**. *Technical Information Note 049 - Agricultural Land Classification: protecting the best and most versatile agricultural land*, Second Edition.

boundary, included. The Bridgewater Canal encloses the site at its southern boundary. At the eastern extent, the boundary follows Bellhouse Lane and Runcorn Road.

- 2.2 The site currently comprises a mix of agricultural land and associated buildings and property. Mill Lane runs through the site, providing access to a number of private properties and farm buildings. An area of industrial uses lies on the northern side of the Ship Canal, known as Warrington Waterfront. The route of the proposed Western Link Road lies at the eastern end of the site.
- 2.3 Most of the agricultural land on the site is in arable use. Topography at the site is gently sloping from around 25m above Ordnance Datum (AOD) in the east and south, to 10m AOD in the north-east.

Agro-climatic conditions

- 2.4 Agro-climatic data for the site have been interpolated from the Meteorological Office's standard 5km grid point data set at a representative altitude of 15m AOD, and are given in Table 1. Climate at the site is wet and moderately warm with moderate moisture deficits. The number of field capacity days is greater than is typical for lowland England and is unfavourable for providing opportunities for agricultural field work.

Table 1: Local agro-climatic conditions

Parameter	Value
Average Annual Rainfall	800mm
Accumulated Temperatures >0°C	1,438 day°
Field Capacity Days	189 days
Average Moisture Deficit, wheat	92mm
Average Moisture Deficit, potatoes	81mm

Soil parent material and soil type

- 2.5 The underlying geology mapped by the British Geological Survey³ across most the site is pebbly sandstone of the Helsby Sandstone Formation. In the south and north-east, the sandstone is of the Wilmslow Formation, which includes reddish brown, generally pebble-free sandstones.
- 2.6 Superficial deposits across most of the site comprise fine-grained sand of the Shirdley Hill Sand Formation. A small pocket of glaciofluvial sand and gravel overlies the bedrock in the north of the site, lying adjacent to Tidal Flat deposits of clay, silt and sand, associated with the River

³ **British Geological Survey (2021).** *Geology of Britain viewer*, <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

Mersey further north. In the north-east and south-west of the site are two small pockets of glacial which can include material ranging in size from clay to boulders.

- 2.7 The Soil Survey of England and Wales soil association mapping⁴ (1:250,000 scale) shows the Blackwood association across the site. Profiles within this association are characterised by deep sandy and loamy soils which are affected by groundwater. Where drainage is poor, soils tend to be waterlogged for long periods during winter and are commonly of Wetness Class (WC) III and IV. Where the regional water table has been lowered and soils are drained assessment of WC I or II may be recorded⁵.

3 Agricultural land quality

Existing data

- 3.1 Provisional ALC mapping shows the site to be mostly Grade 2 with undifferentiated Grade 3 mapped in the north. However, Natural England's TIN049 explains that:

"These maps are not sufficiently accurate for use in assessment of individual fields or development sites, and should not be used other than as general guidance. They show only five grades: their preparation preceded the subdivision of Grade 3 and the refinement of criteria, which occurred after 1976. They have not been updated and are out of print. A 1:250 000 scale map series based on the same information is available. These are more appropriate for the strategic use originally intended ..."

- 3.2 Detailed ALC survey data is not available for the site, although detailed data in the vicinity to the west and south-west shows agricultural land quality in the locality to range from Grades 1 to 4 on land that has also been mapped provisionally as Grade 2. The detailed reports are not however available from Natural England.
- 3.3 Soils characteristic of the Blackwood association that are likely to be found on the site, with coarse and sandy textures, may be limited to each of these grades according to the specific WC: profiles of WC I would be Grade 1; WC II would be Grade 2; WC III would be Subgrade 3a; WC IV would be Subgrade 3b; and WC V would be Grade 4, limited by wetness.

⁴ **Soil Survey of England and Wales (1984)**. *Soils of Midland and Western England* (1:250,000), Sheet 3

⁵ **Ragg et al. (1984)**. *Soils and Their Use in Midland and Western England*, Soil Survey of England and Wales, Bulletin 12. Harpenden

- 3.4 A small, unnamed watercourse runs through the site, north and south of Mill Lane, and connects with the Manchester Ship Canal to the north. Land adjacent to this watercourse north of Grange Green Manor is within Flood Zone 3. Aerial photography shows patchiness in crop establishment in this area, which is considered likely to be of Subgrade 3b, as is the permanent grassland to the west of Bellhouse Lane.
- 3.5 Across the remainder of the site, crop establishment is more uniform and the land is considered more likely to include best and most versatile land in Subgrade 3a or Grade 2. However, as there is a single soil association mapped, the likely distribution of these grades cannot be mapped without undertaking a detailed ALC survey.
- 3.6 Guidance in paragraph 175 of the National Planning Policy Framework is that in respect of plan-making, where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality. At the strategic level, Warrington is surrounded by Grade 2 land on the Provisional ALC plan, except for Grade 3 land mapped in the floodplain of the River Mersey which is clearly not available for development.
- 3.7 All of the land proposed for the Garden City Suburb to the south of the town is shown as Grade 2 on the Provisional ALC map. However, there have been some detailed ALC surveys within that site that cover nearly 300ha, and that classify the land as approximately 50% best and most versatile land in Grades 2 and 3a, and 50% lower quality land in Subgrade 3b.
- 3.8 Given the potential for a range of grades associated with the soil type found at the South West Urban Extension Site, and that other land to the south (and indeed surrounding) Warrington is also classified provisionally as Grade 2 but is a mix of best and most versatile and lower quality land on detailed examination, it is a reasonable expectation that a similar mix of grades will be found on the South West Urban Extension Site, and that any development around the town will involve the loss of a proportion of best and most versatile agricultural land.

