HyNet North West

ENVIRONMENTAL STATEMENT – (VOLUME III)

Appendix 11.4 Agricultural Land Classification and Soil Resources (Newbuild Carbon Dioxide Pipeline) Report

HyNet Carbon Dioxide Pipeline DCO

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulations 5(2)(a)

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APPENDIX 11-4 AGRICULTURAL LAND CLASSIFICATION AND SOIL RESOURCES (NEWBUILD CARBON DIOXIDE PIPELINE) REPORT

1.1.1. It should be noted that this technical appendix was produced during the development of the Preliminary Design of the DCO Proposed Development. Therefore, the design information presented herein is indicative, and may be different to the final Preliminary Design (including the pipeline alignments and other construction layers) which is described in **Chapter 3 – Description of the DCO Proposed Development (Volume II).** It should also be noted that the terminology may not align with that presented in the **Glossary (Document reference**: **D.1.7**).

1.1.2. However, this technical appendix remains applicable to informing the Environmental Impact Assessment and any associated limitation or assumptions are discussed in **Chapter 11- Land and Soils (Volume II)**.

READING AGRICULTURAL CONSULTANTS

August 2022

WSP UK Limited

HyNet Pipeline
Agricultural Land Classification and Soil Resources

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[redacted]

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1 Introduction

1.1 Reading Agricultural Consultants Ltd (RAC) is instructed by WSP UK Limited to investigate the Agricultural Land Classification (ALC) and soil resources of land that will be affected either temporarily or permanently by works associated with the HyNet pipeline. The data has been collected by means of a detailed survey of soil and site characteristics, undertaken by three surveyors.

1.2 Dr Stephen Heming is a soil scientist and FACTS qualified advisor with more than 30 years' experience of undertaking ALC surveys. Dr Heming is a Member of the Institute of Soil Science and fulfils the British Society of Soil Science (BSSS) criteria for Professional Competency in Soil Science[1].

1.3 Alex Mitchell has been an associate of RAC since 2017. For more than four years Alex has been independently undertaking and reporting ALC surveys. Alex also specialises in data handling, mapping and GIS. He is a full Member of the Institute of Soil Science and fulfils the BSSS criteria for Professional Competency in Soil Science.

1.4 Ruth Metcalfe has also worked with RAC since 2017 but has more than 30 years' prior and ongoing experience of soil survey with (RSK) ADAS. She is a full Member of the Institute of Soil Science and fulfils the BSSS criteria for Professional Competency in Soil Science.

1.5 The background data and report of the ALC findings were compiled by Sophie Webb. Sophie has been an associate of RAC since 2012 during which time she has specialised in ALC and soil surveys. She is a full Member of the Institute of Soil Science and fulfils the BSSS criteria for Professional Competency in Soil Science.

1.6 The report was checked and authorised by Alastair Field, who is a Director of RAC with more than 30 years' experience of consultancy in agriculture, rural land use and soil science. He is a Fellow of the British Institute of Agricultural Consultants, a Practitioner Member of the Institute of Environmental Management and Assessment and a Member of the Institute of Soil Science, and fulfils the BSSS criteria for Professional Competency in Soil Science.

[1] **BSSS (2018).** *Working With Soil – Professional Competency in Soil Science.* Available online:

1.7 The report has also been validated by the Soil Policy and Agricultural Land Use Planning Unit of the Welsh Government Department for Climate Change, with amendments made to data and report as appropriate following detailed comments received.

1.8 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[2], and summarised in Natural England's Technical Information Note 049[3] and the Welsh Government's Frequently Asked Questions[4].

1.9 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 conditions and soil which, together with interactions between them, form the basis for classifying land into one of the five grades.

1.10 Grade 1 land is excellent quality agricultural land with very minor or no limitations to agricultural use. Grade 2 is very good quality agricultural land, with minor limitations which affect crop yield, cultivations or harvesting. Grade 3 land has moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield, and is subdivided into Subgrade 3a (good quality land) and Subgrade 3b (moderate quality land). Grade 4 land is poor quality agricultural land with severe limitations which significantly restrict the range of crops and/or level of yields. Grade 5 is very poor quality land, with very severe limitations which restrict use to permanent pasture or rough grazing.

1.11 Land which is classified as Grades 1, 2 and 3a is defined in Annex 2 of the National Planning Policy Framework[5] and paragraph 3.58 of Planning Policy Wales[6] as the best and most versatile (BMV) agricultural land.

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

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

[4] **Welsh Government (2021).** *Agricultural Land Classification, Frequently Asked Questions.* https://gov.wales/sites/default/files/publications/2021-05/agricultural-land-classification-frequently-asked-questions.pdf

[5] **Ministry of Housing, Communities & Local Government (2021).** *National Planning Policy Framework.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf

[6] **Welsh Government (2021).** Planning Policy Wales, Edition 11, February 2021 https://gov.wales/sites/default/files/publications/2021-02/planning-policy-wales-edition-11_0.pdf

1.12 The pipeline traverses land in both England and Wales. As explained in Natural England's TIN049, the whole of England and Wales was mapped from reconnaissance field surveys in the late 1960s and early 1970s, to provide general strategic guidance on agricultural land quality for planners. This Provisional Series of maps was published on an Ordnance Survey base at a scale of One Inch to One Mile (1:63,360). The Provisional ALC map shows the agricultural land crossed by the pipeline in England to be primarily in undifferentiated Grade 3, with some Grade 4 associated with the valley of the River Gowy. However, 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 …"*

1.13 TIN049 goes on to explain that a definitive ALC grading should be obtained by undertaking a detailed survey according to the published guidelines, normally at an observation density of one boring per hectare.

1.14 Natural Resources Wales has published a Predictive ALC Map for Wales[7]. The map is designed on a 50m grid. Criteria including climate, slope, soil wetness, droughtiness and stone contents have been considered and used to determine the most likely limitation to agricultural land quality within each grid square. The map predicts a prevalence of Grade 2 between Chester and Shotton; a prevalence of Subgrade 3a between Shotton and Connah's Quay Road; and two large patches of Subgrade 3b between Connah's Quay Road and Flint.

1.15 Similarly, as explained by the Welsh Government's FAQs, the only way to accurately determine the agricultural grade of land is by a detailed field survey in accordance with the current ALC guidelines. This survey follows the established methodology and guidelines for carrying out ALC surveys.

[7] **Natural Resources Wales (2019)**. *Predictive Agricultural Land Classification (ALC) Map for Wales.* http://lle.gov.wales/map/alc2

2 Site and climatic conditions

General features, land form and drainage

2.1 The survey area comprises the agricultural land along the proposed route of the HyNet pipeline which is approximately 34km in length. The eastern end is east of Elton from where the proposed route runs southwards, crossing the M56 and M53 before tracking west. The proposed route runs around the northern and western peripheries of Chester where it crosses the border into Wales. The proposed route passes south of Shotton at Connah's Quay then briefly aligns with the A55 before bearing north, crossing the B5126 and continuing northward to Flint where it terminates.

2.2 Between Elton and the M53, most of the land is level to very gently sloping and low-lying at around 5m or 10m above Ordnance Datum (AOD). There are slight rises west of Junction 14 of the M56 and north-west of Picton where the altitude reaches 15m - 20m AOD. West of the M53 and continuing to Mollington, the proposed route traverses undulating valley sides which reach altitudes of around 35m AOD. West of Mollington is a plateau at around 30m AOD, falling gently down to 5m AOD north-west of Chester to the broad valley of the River Dee. Between Sandycroft and Aston is a uniform north-east-facing slope rising to about 45m AOD. The slopes become complex and moderately steep between a railway and the A494, reaching a plateau at 80-85m AOD around Shotton Lane and levelling out at 90m AOD between Stamford Way and the A55.

2.3 South of Northop Hall the proposed route traverses a south-facing valley side with altitudes between around 85m and 110m AOD. A hilltop at Galchog is at around 115m AOD. There is an overall downward slope to Flint to the north, although of variable steepness and complexity, to around 40m AOD at the western end of the proposed route.

2.4 Between Elton and Chester the drainage of the land is primarily via a network of ditches and brooks which drain into the mouth of the River Mersey. West of Chester, the slopes all ultimately direct water into the River Dee.

2.5 The Environment Agency maps the land in the valley of the River Gowy as being in Flood Zone 3. Land east of Elton and land aligned with a small watercourse north-west of Chester is classed as "benefitting from flood defences".

Agro-climatic conditions

2.6 Agro-climatic data for eight points along the proposed route have been interpolated from the Meteorological Office's standard 5km grid point data set at representative altitudes and are given in Table 1. The climate generally becomes cooler and wetter with distance west. The number of Field Capacity Days (FCD) is about average between Elton in the east and north of Chester, increasing westward where the regime becomes unfavourable for agricultural field work. There is no limitation to ALC caused by climate alone.

Table 1: Local agro-climatic conditions

Parameter	**Measurement**							
Location	Elton	Wervin	Mollington	Deeside House	Ob 192	Shotton Lane	Northop	Starkey Lane
Grid Ref	345144 374591	343000 372000	338195 371000	335000 367439	331190 366995	329450 367200	325520 368592	325325 370037
Altitude AOD	10m	15m	30m	5m	30m	80m	90m	85m
Average Annual Rainfall	691mm	678mm	694mm	707mm	741mm	782mm	793mm	788mm
Accumulated Temperatures >0°C	1,452 day°	1,448 day°	1,433 day°	1,463 day°	1,436 day°	1,380 day°	1,368 day°	1,373 day°
Field Capacity Days	155 days	152 days	156 days	158 days	171 days	181 days	188 days	187 days
Average Moisture Deficit, wheat	104mm	104mm	102mm	105mm	99mm	90mm	88mm	88mm
Average Moisture Deficit, potatoes	95mm	95mm	93mm	97mm	89mm	77mm	73mm	74mm
ALC grade due to climate	1	1	1	1	1	1	1	1

Soil parent material and soil type

2.7 The underlying geology is mapped by the British Geological Survey[8]. At the eastern end of the scheme the bedrock is pebbly sandstone of the Chester Formation. From north of Chester to the south side of the River Dee, red-brown to yellow sandstone of the Kinnerton Sandstone Formation is mapped. From Sandycroft to Flint the pattern is more complex, with various formations and outcrops of the Pennine Lower Coal Measures Formation and South Wales Lower Coal Measures Formation, which generally includes interbedded grey mudstone, siltstone and pale grey sandstone. Notable sandstone outcrops are mapped at Shotton, around Holywell Road and at Northop Hall.

[8] **British Geological Survey (2022).** *Geology of Britain*

2.8 Superficial deposits of glacial till overlie the bedrock across most of the proposed route and may include a mix of clay, sand, gravel and boulders. The valley of the River Dee is overlain by tidal flat deposits comprising mud and sand. North of Ewloe and at the western end of the proposed route, glaciofluvial sand and gravel deposits overlie the bedrock. Some glacial head deposits are also at the western end and can include poorly sorted rock debris and soil material derived from upslope sources.

2.9 The mapped soil information[9] produced by the Soil Survey of England and Wales shows eight soil associations across the survey area. The most prevalent soils belong to the Clifton and Salop associations. Each typically includes fine loamy upper horizons over fine loamy (Clifton) or clayey (Salop) slowly permeable subsoils. The soils experience seasonal waterlogging and are commonly in Wetness Class (WC) IV.

2.10 Alluvial soils of the Wisbech association are mapped across the broad valley of the River Dee, characterised by coarse silty soils which are calcareous and free of stones. The soils are waterlogged for long periods and are in WC IV.

2.11 North and north-west of Chester, coarse or fine loamy over fine loamy textures of the Salwick association are mapped. The soils are deep and reddish and suffer slight seasonal waterlogging, commonly in WC III.

2.12 At Elton and within the River Gowy valley, the Downholland 2 and Adventurers' 1 associations are mapped, each distinguished by the presence of peat. The Downholland 2 association also includes silty clay below the peat. Where drained, the soils can achieve WC I, however otherwise the drainage regime can vary to WC IV.

2.13 The least prevalent soils within the survey area belong to the Newport 1 association, mapped alongside the Shropshire Union Canal, and the Wick 1 association, mapped east of Ewloe and north of Northop. Both are characterised by coarse loamy to medium sandy textures and are well drained throughout, in WC I[10].

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

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

3 Agricultural land quality

Soil survey methods

3.1 In total, 247 soil profiles were examined by auger and seven soil pits were dug within the survey area. Observations were made at a density of approximately one observation per hectare in any areas that would be permanently sealed and one observation per 2 hectares in any areas that would be temporarily disturbed, with a contingency to increase sampling density if required to allow for soil variability. This approach and plans of the proposed borehole locations were agreed with Natural England and the Welsh Government prior to the commencement of surveys.

3.2 Within the Development Consent Order (DCO) boundary, 81.9ha of agricultural land could not be surveyed, primarily because access was not permitted by the relevant landowners. Small areas of unsurveyed land are a result of amendments to the DCO boundary made subsequent to the completion of the surveys.

3.3 The locations of observations are shown on Figure RAC/9188/1, and the grid references for each point given in Appendix 1. At each observation point the following characteristics were assessed for each soil horizon up to a maximum of 120cm or any impenetrable layer:

- soil texture;
- significant stoniness;
- colour (including localised mottling);
- consistency;
- structural condition;
- free carbonate; and
- depth.

3.4 Fifteen soil samples were submitted to a laboratory for analysis. Of the fifteen:

- six were analysed for pH, organic matter content, nutrient contents (P, K, Mg) and particle size distribution (to confirm hand-texturing in the field);
- six were analysed for pH, organic matter content and nutrient contents;
- two were analysed for organic matter content only; and
- one was analysed for texture confirmation only.

3.5 Results are presented in Appendix 2.

3.6 Soil Wetness Class (WC) was determined from the matrix colour, presence or absence of, and depth to, greyish and ochreous gley mottling, and slowly permeable subsoil layers at least 15cm thick, in relation to the number of FCD at the location.

3.7 Soil droughtiness was investigated by the calculation of moisture balance equations (given in Appendix 3). Crop-adjusted Available Profile Water (AP) is estimated from texture, stoniness and depth, and then compared to a calculated moisture deficit (MD) for the standard crops, wheat and potatoes. The MD is a function of potential evapotranspiration and rainfall. Grading of the land can be affected if the AP is insufficient to balance the MD and droughtiness occurs.

Agricultural land classification and site limitations

3.8 Assessment of land quality has been carried out according to the revised ALC guidelines[2]. Soil profiles have been described according to Hodgson[11] which is the recognised source for describing soil profiles and characteristics according to the revised ALC guidelines. Each of the eight soil associations mapped by the Soil Survey of England and Wales as being present along the proposed route has been identified in the detailed soil surveys and are described in turn below. Full pit descriptions and photographs are provided at Appendix 4.

Clifton and Salop Associations

3.9 These associations are present throughout the survey area and interspersed. The Clifton association topsoil is most commonly sandy clay loam, with some sandy silt loam and medium clay loam present. The average depth is 35cm. The colour is very dark brown to brown (including but not limited to 7.5YR2.5/2, 7.5YR4/4, 7.5YR4/3 and 10YR3/3 in the Munsell soil colour charts[12]). The topsoil is very slightly stony at up to around 5% by volume, and is non-calcareous.

3.10 The upper subsoil is similarly most often dark brown or brown (including 7.5YR3/2, 10YR3/3, 7.5YR4/2, 10YR5/3) sandy clay loam. Occasionally the upper subsoil is reddish brown (5YR5/3). There are few to no stones and no notable carbonate content. The upper subsoil often contains common or many ochreous mottles which are indicative of intermittent wetness. Depending upon the matrix colour, some upper subsoils are gleyed.

[11] **Hodgson, J. M. (Ed.) (1997).** *Soil survey field handbook.* Soil Survey Technical Monograph No. 5, Silsoe.

[12] **Munsell Color (2009).** *Munsell Soil Color Book*. Grand Rapids, MI, USA

3.11 The soil textures become heavier and redder with depth, commonly passing to heavy clay loam and clay which is reddish brown, yellowish red or reddish yellow (5YR3/4, 5YR4/3, 5YR5/4, 5YR4/6, 5YR6/6, 7.5YR6/6). The lower subsoils are slightly stony, mottled and slowly permeable. In rare instances there is a deep lower subsoil of greenish grey (7.5GY6/1) clay which is also gleyed and slowly permeable.

3.12 Typical Salop association profiles found in the west of scheme include medium clay loam topsoil of 29cm average depth. The colour is very dark greyish brown or dark greyish brown (10YR3/2 or 10YR4/2). The topsoil contains very few stones and is commonly mottled although not gleyed. The upper subsoil is heavy clay loam or clay which is grey or light brownish grey (10YR5/1, 10YR6/1 or 10YR6/2) and includes many or very many ochreous mottles. The structure is mostly poor resulting in poor permeability. Lower subsoil is reddish brown (5YR5/3) clay or heavy clay loam which is similarly gleyed and slowly permeable.

3.13 Profiles in both associations are in WC III or IV depending on the depth to the slowly permeable layer. Profiles in WC III with sandy clay loam, medium clay loam or sandy silt loam topsoil are limited by wetness to Subgrade 3a whilst those in WC IV are limited by wetness to Subgrade 3b.

Wisbech Association

3.14 A swathe of Wisbech soils is present in the valley of the River Dee. The topsoil is predominantly silt loam, with instances of medium silty clay loam and fine sandy loams. Most of the topsoil is very dark brown (7.5YR2.5/2 or 7.5YR2.5/3) or dark brown (7.5YR3/2 or 7.5YR3/3), contains no stone and is non-calcareous. The average depth is 35cm.

3.15 The upper subsoil is similarly stoneless, non-calcareous silt loam or fine sand which is of variable shades of brown (7.5YR4/2, 7.5YR4/3, 7.5YR4/4, 7.5YR5/2, 7.5YR5/3 and 7.5YR5/4), very dark brown or occasionally more greyish (e.g. 7.5YR3/1). On the south side of the River Dee, the upper subsoil commonly displays ochreous mottling and most is gleyed.

3.16 Lower subsoils are similar in texture or are heavier, including some clay and silty clay, and either continue to be brown or alternatively become more grey with depth (including 7.5YR5/1, 10YR5/1 and 10YR5/2).

3.17 Although in the river valley, Natural Resources Wales primarily maps the area north of the B5129 as being at low risk of flooding from rivers and the sea[13]. On the north side of the River Dee,

[13] **Natural Resources Wales (2022).** *Flood Risk Assessment Wales Map*, available online:

there is an absence of gleying and the profiles are permeable, in WC I. There is little to no limitation to the agricultural use of these soils, which are mostly classified as Grade 1. Between the River Dee and the B5129, most of the profiles are gleyed but are permeable and are in WC II. With silt loam topsoil there is a slight wetness and workability limitation to Grade 2. From the B5129 to south of Sandycroft, coinciding with an area mapped as being at medium to high flood risk from rivers, the presence of gleying and slowly permeable clay and silty clay subsoil horizons places the profiles in WC III or IV. Those in WC III are limited by wetness to Subgrade 3a and those in WC IV are limited further to Subgrade 3b.

Salwick Association

3.18 Soil corresponding with the typical description of a Salwick profile has been identified north of Chester. The topsoil is medium sandy silt loam of 35cm depth. It is dark brown (7.5YR3/3) and very slightly stony (around 3% stone by volume). The upper subsoil comprises brown (7.5YR4/3) sandy clay loam which is stoneless and contains ochreous mottles.

3.19 A lower subsoil of dark reddish brown (5YR3/4) clay extends to depth. The clay is mottled. While there is not considered to be a gleyed horizon within 80cm depth, the lower subsoil is slowly permeable. The profile is assessed as being in WC III which, with sandy silt loam topsoil, results in a wetness and workability limitation to Grade 2.

Downholland 2 and Adventurers' 1 Associations

3.20 At the eastern end of the scheme at Elton, soils characteristic of the Downholland 2 association are confirmed to be present. The topsoil is heavy silty clay loam or clay with high organic matter content, measured at 9% in one sample submitted to the laboratory. The topsoil is fairly shallow at an average depth of 23cm and is very dark brown, very dark greyish brown or grey (10YR2/2, 10YR3/2 or N5). There is no stone and no notable carbonate content. Common or many ochreous mottles result in most of the topsoils being considered gleyed.

3.21 Most of the upper subsoil horizons are clay or silty clay which is greenish grey or grey (10Y6/1 or N6). The upper subsoil is stoneless and distinctly mottled. North of Hapsford Lane, the upper subsoil commonly has poor structure and is slowly permeable, whereas south of Hapsford Lane the upper subsoil has moderate structure but was found to be moist with groundwater.

3.22 Most of the profiles overlie peaty loam which is present from depths between 45cm and 75cm below ground surface. Where there is a slowly permeable layer in the upper subsoil, the profiles are assessed as WC IV and limited to Subgrade 3b by wetness, and south of Hapsford Lane

where the subsoil was moist when surveyed in April 2022, the profiles are assumed to be near-permanently wet and are assessed as WC V, limited to Grade 4.

3.23 Peat profiles characteristic of the Adventurers' 1 association were also identified during the detailed surveys. In the area within which the association is mapped, there is an organic heavy silty clay loam topsoil which is mostly very dark greyish brown (10YR3/2) and of an average depth of 26cm. The topsoil directly overlies very dark grey (10YR3/1) or very dark brown (10YR2/2) peaty loam. Laboratory determination of the organic matter content produced measurements of 16.4% in a topsoil sample and 31.5% in a subsoil sample. The profiles are inherently permeable, however permanently high groundwater levels puts them in WC V or VI, resulting in wetness limitations to Grades 4 and 5 respectively.

3.24 Further west, another two distinctly organic profiles were found. The topsoil is very dark brown (10YR2/2) organic heavy silty clay loam or dark grey (10YR4/1) organic heavy clay loam. The average topsoil depth is 26cm and the stone content is low at around 4% by volume.

3.25 Upper subsoil layers comprise clay or loamy clay which is grey or greyish brown (10YR5/1, 10YR5/2 or N6). The subsoil is mottled, gleyed and slowly permeable from depths of 30 or 35cm. Beneath the clay in one profile is a moderately stony layer, estimated at 30% stone, below which is another horizon of slowly permeable clay. The soil in this location (91n) was waterlogged to the surface at the time of survey, resulting in an assessment as WC V and overall wetness limitation to Grade 4. In the other profile (91s) is an organic sandy loam lower subsoil extending from 48cm to depth. The presence of groundwater at 50cm below surface and the slowly permeable clay result in the assessment as WC IV with a wetness and groundwater limitation to Subgrade 3b. There was evidence to suggest that the land had been previously disturbed, potentially by the installation of a pipeline.

Newport 1 and Wick 1 Associations

3.26 Soils belonging to the Wick 1 association are identified north-east of Ewloe. The topsoil comprises loamy medium sand or medium sandy loam of 27cm depth. The topsoil is slightly stony and very dark greyish brown (10YR3/2). Upper and lower subsoil is loamy medium sand which is brown (10YR4/3) below the topsoil, transitioning through dark yellowish brown (10YR4/4) to yellowish brown (10YR5/4) with depth. The stone content is up to around 10% by volume. From depths of 80 and 90cm the lower subsoil merges to slightly stony, yellowish brown (10YR5/4) medium sand.

3.27 The profiles are permeable throughout and affected most by droughtiness. Due to difference in the water holding capacity of the different topsoil textures, where the topsoil is sandy loam the limitation is to Grade 2 and where the topsoil is loamy sand the limitation is to Subgrade 3a.

3.28 Other similar sandy profiles are present within the bend at Chorlton Lane where the Newport 1 association is mapped, and include sandy loam or sandy clay loam upper horizons over medium sand, however the sand is pebbly and red or pink rather than yellowish. These profiles are limited by droughtiness to Subgrade 3a. Sandy profiles north-west of Old Aston Lane are moderately stony and show evidence of having been previously disturbed and are not in agricultural use, or are otherwise are affected by gradient.

3.29 The areas of each ALC grade within the survey area are given in Table 2 and their distribution is shown in Figure RAC/9188/2.

Table 2: Agricultural land classification of the Survey Area

Grade	Description	Hectares	%
Grade 1	Excellent quality	50.5	7
Grade 2	Very good quality	73.1	10
Subgrade 3a	Good quality	214.5	29
Subgrade 3b	Moderate quality	120.5	16
Grade 4	Poor quality	20.8	3
Grade 5	Very poor quality	5.1	1
Non-agricultural		139.1	19
Not surveyed		114.0	15
Total		737.6	100

3.30 The areas of each ALC grade within the DCO boundary are given in Table 3, with the distribution also shown in Figure RAC/9188/2.

Table 3: Agricultural land classification of the DCO Area

Grade	Description	Hectares	%
Grade 1	Excellent quality	47.4	9
Grade 2	Very good quality	61.4	11
Subgrade 3a	Good quality	169.2	31
Subgrade 3b	Moderate quality	93.1	17
Grade 4	Poor quality	16.3	3
Grade 5	Very poor quality	5.1	1
Non-agricultural		65.6	12
Not surveyed		81.9	16
Total		540.0	100

3.31 The Predictive ALC grade in Wales or Provisional ALC grade in England for unsurveyed land in the DCO boundary is also shown on Figure RAC/9188/2 and given in Table 4. As the Provisional ALC does not differentiate between the subgrades of Grade 3, the assumption is made that the area of unsurveyed Provisional Grade 3 land is divided evenly between the two subgrades.

Table 4: Agricultural land classification of the DCO Area (including predicted or provisional grades for unsurveyed areas)

Grade	Description	Hectares	%
Grade 1	Excellent quality	47.4	9
Grade 2 (includes Predictive ALC)	Very good quality	62.2	12
Subgrade 3a (includes Predictive and Provisional ALC)	Good quality	230.3	42
Subgrade 3b (includes Predictive and Provisional ALC)	Moderate quality	113.1	21
Grade 4	Poor quality	16.3	3
Grade 5	Very poor quality	5.1	1
Non-agricultural		65.6	12
Total		540.0	100

Appendix 1: Observation Point Grid References

BH/PIT	Pit	X	Y
1	n	346813	376121
2	n	346836	375922
3/P	y	346924	376033
4	n	346945	375818
5	n	346899	375581
6	n	346767	375541
7	n	346750	375400
8	n	345999	374819
9	n	345952	374953
10	n	345839	374932
11	n	345874	374731
12	n	345787	374550
13	n	345701	374370
14	n	345540	374338
15	n	345637	374482
16	n	345719	374640
17	n	345671	374774
18	n	345567	374588
19	n	345504	374435
20/P	y	345402	374222
21	n	345302	374382
22	n	345174	374377
23/P	y	345156	374500
24	n	345375	374495
25	n	345320	374605
26	n	345198	374640
27	n	345528	374733
28	n	345637	374896
29	n	345467	374874
30	n	345392	374695
31	n	345339	374816
32	n	345196	374800
33	n	345048	374760
34	n	345039	374565
35	n	344945	374464
36	n	344969	374662
37	n	344883	374573
38	n	344743	374494
39	n	344852	374673
40	n	344849	374800
41	n	344723	374731
42	n	344693	374617
43	n	344471	374716
44	n	344560	374606
45	n	344594	374416
46	n	344481	374500
47	n	344490	374243
48	n	344492	374040
49	n	344545	373931
50	n	344538	373765
51	n	344541	373602
52	n	344653	373623
53	n	344752	373510

BH/PIT	Pit	X	Y
54	n	344878	373413
55	n	344699	373368
56	n	344550	373333
57	n	344366	373169
58	n	344325	373010
59	n	344204	373025
60	n	344089	373056
61	n	344146	372907
62	n	343938	372834
63	n	343754	372755
64	n	343991	372965
65	n	343807	372887
66	n	343622	372794
67	n	343572	372884
68	n	343522	372694
69	n	343450	372509
70	n	343278	372418
71	n	343164	372453
72	n	343251	372301
73	n	343135	372343
74	n	343143	372231
75	n	343070	372183
76	n	342965	372135
77	n	342875	371943
78/P	y	342774	371788
79	n	342745	371567
80	n	343278	371485
81/P	y	343145	371388
82	n	342948	371305
83	n	342721	371401
84	n	342674	371257
85	n	342492	371255
86	n	342311	371260
87	n	342123	371278
88	n	341925	371309
89/P	y	341751	371363
90	n	341643	371336
91	n	341545	371403
92	n	341446	371473
93	n	341279	371407
94	n	341085	371325
95	n	340884	371288
96	n	340735	371250
97	n	340590	371216
98	n	340430	371192
99	n	340293	371166
100	n	340147	371184
101	n	340013	371118
102	n	339884	371053
103	n	339735	371026
104	n	339516	370924
105	n	339333	370982
106	n	339226	371095
107	n	339135	371222
108	n	338938	371226
109	n	338925	371124

BH/PIT	Pit	X	Y
110	n	338781	371116
111	n	338595	371062
112	n	338474	370977
113	n	338382	370897
114	n	338273	370756
115	n	338314	370577
116	n	338144	370400
117	n	338187	370268
118	n	338008	370152
119	n	338131	370094
120	n	338161	369979
121	n	338037	369911
122	n	337976	369992
123	n	337918	369821
124	n	338036	369804
125	n	338022	369701
126	n	337861	369675
127	n	337751	369759
128	n	337772	369887
129	n	337650	369823
130	n	337607	369684
131	n	337648	369558
132	n	337487	369524
133	n	337287	369508
134	n	337005	369482
135	n	336697	369377
136	n	336596	369187
137	n	336516	369042
138	n	336316	368891
139	n	336155	368801
140	n	335968	368760
141	n	335821	368628
142	n	335907	368874
143	n	335817	368756
144	n	335675	368597
145	n	335636	368407
146	n	335531	368236
147	n	335426	368066
148	n	335356	367953
149	n	335251	367783
150	n	335146	367613
151	n	335012	367531
152	n	335025	367389
153	n	334901	367329
154	n	334900	367182
155	n	335343	366637
156	n	335118	366775
157	n	334944	366874
158	n	334781	366967
159	n	334671	366916
160	n	334669	366801
161	n	334539	366732
162	n	334521	366594
163	n	334390	366477
164	n	334284	366393
165	n	334170	366341

BH/PIT	Pit	X	Y
166	n	333995	366355
167	n	333808	366247
168	n	333791	366387
169	n	333624	366198
170	n	333533	366307
171	n	333383	366445
172	n	333265	366572
173	n	333157	366710
174	n	333026	366861
175	n	332856	367045
176	n	332715	367035
177	n	332612	366883
178	n	332587	367080
179	n	332464	367042
180	n	332586	367204
181	n	332731	367224
182	n	332435	367504
183	n	332230	367541
184	n	332069	367422
185	n	331955	367476
186	n	331836	367356
187	n	331725	367389
188	n	331602	367321
189	n	331498	367274
190	n	331384	367303
191	n	331313	367186
192	n	331176	366995
193	n	331057	366834
194	n	330873	366844
195	n	330719	366897
196	n	330561	366867
197	n	330444	366905
198	n	330182	366921
200	n	329914	366793
202	n	330020	366906
203	n	330125	367026
204/P	y	330130	367229
205	n	330227	367404
206	n	330101	367391
207	n	329976	367396
208	n	329962	367663
209	n	329860	367579
210	n	329678	367554
211	n	329776	367436
212	n	329677	367368
213	n	329908	367156
214	n	329803	367123
215	n	329843	367001
216	n	329720	366967
217	n	329726	367059
218	n	329703	367252
219	n	329688	367137
220	n	329550	367106
221	n	329585	366959
222	n	329540	367432
223	n	329489	367337

BH/PIT	Pit	X	Y
224	n	329498	367226
225	n	329341	367328
226	n	329434	367132
227	n	329323	367087
228	n	329301	367228
229	n	329148	367123
230	n	329223	366946
231	n	329072	366946
232	n	328965	367060
233	n	328930	366929
234	n	328878	366815
235	n	328835	366676
236	n	328805	366538
237	n	328684	366431
238	n	328549	366512
239	n	328399	366645
240	n	328207	366628
241	n	328129	366736
242	n	328241	366783
243	n	328046	366873
244	n	327929	366879
245	n	327909	367019
246	n	327769	367000
247	n	328019	367076
248	n	328079	367155
249	n	327902	367153
250	n	327953	367248
251	n	327952	367365
252	n	327691	367095
253	n	327703	367272
254	n	327520	367140
255	n	327503	367258
256	n	327414	367353
257	n	327193	367375
258	n	327029	367412
259	n	326791	367565
260	n	326635	367598
261	n	326506	367799
262	n	326420	367671
263	n	326206	367672
264	n	325997	367703
265	n	326068	367910
266	n	325949	367863
267	n	325861	367786
268	n	325740	367965
269	n	325571	368104
270	n	325719	368185
271	n	325651	368317
272	n	325672	368464
273	n	325586	368585
274	n	325491	368705
275	n	325402	368852
276	n	325378	369030
277	n	325561	369120
278	n	325506	369279
279	n	325458	369170

BH/PIT	Pit	X	Y
280	n	325329	369178
281	n	325338	369284
282	n	325368	369408
283	n	325233	369450
284	n	325256	369609
285	n	325306	369753
286	n	325257	369883
287	n	325289	370054
288	n	325167	370261
289	n	325058	370430
290	n	324981	370572
291	n	325135	370726
292	n	325160	370898
293	n	325305	370960
294	n	325295	371088
295	n	322601	371914
296	n	322551	372009
297	n	321759	372458
298	n	321701	372540
299	n	317485	373178
300	n	317423	373262
301	n	314893	374485
302	n	314829	374622
303	n	311682	384000
304	n	311564	383996
305	n	311620	384079
306	n	311481	384052
307	n	311537	384135
308	n	311903	384257
309	n	311820	384312
310/P	y	311774	384239
311	n	311725	384151
312	n	311642	384206
313	n	311691	384294
314	n	311752	384382
315	n	311669	384438
316	n	311613	384355
317/P	y	311573	384255
318	n	311414	384246
319/P	y	311331	384262
320	n	311297	384356
321	n	311408	384377
322	n	311510	384390
323	n	311584	384437
324	n	311446	384476
325	n	311349	384456
326	n	311251	384436
327	n	311230	384534
328	n	311321	384577
329/P	y	311426	384574
330	n	311406	384672
331	n	311308	384652
332	n	311210	384632
199	n	330092	366867
201	n	329935	366880

Appendix 2: Laboratory Data

Determinand	2-3	23	44-46	77-78	89	151	242	Units
Sand 2.00-0.063 mm	17	57	61	56	59	68	39	% w/w
Silt 0.063-0.002 mm	37	21	19	25	23	20	39	% w/w
Clay <0.002 mm	46	22	20	19	18	12	22	% w/w
Texture	Clay	Sandy Clay Loam	Sandy Clay Loam	Sandy Clay Loam	Sandy Clay Loam/Sandy Loam	Sandy Loam	Medium Clay Loam	

Determinand	2-3	20	23	44-46	51-52	54-55	59	64	68 sub	68-69	77-78	80-81	89	242	Units
Soil pH	6.6	5.9	7.1	6.1	5.7	5.7	8.2	-	-	5.1	6.7	5.9	6.6	6.7	
Phosphorus (P)	11.8	46.6	36.0	34.0	35.8	36.4	47.0	-	-	8.6	8.8	12.4	18.4	26.8	mg/l (av)
Potassium (K)	113	75.3	197	108	54.4	23.4	221	-	-	176	61.7	146	113	75.8	mg/l (av)
Magnesium (Mg)	492	164	134	109	72.2	59.3	56.3	-	-	229	66.4	165	99.9	220	mg/l (av)
Organic Matter	9.0	5.5	5.3	5.7	4.6	4.4	6.1	16.4	31.5	14.4	3.1	5.5	4.4	5.5	

Determinand	2-3	20	23	44-46	51-52	54-55	59	68-69	77-78	80-81	89	242	Units
Phosphorus (P)	1	4	3	3	3	3	4	1	0	1	2	3	ADAS Index
Potassium (K)	1	1	2+	1	0	0	2+	2-	1	2-	1	1	ADAS Index
Magnesium (Mg)	6	3	3	3	2	2	2	4	2	3	2	4	ADAS Index

Appendix 3: Soil Profile Summaries and Droughtiness Calculations

Wetness / workability limitations are determined according to the methodology given in Appendix 3 of the ALC guidelines, MAFF 1988

Droughtiness calculations are made according to the methodology given in Appendix 4 of the ALC guidelines, MAFF 1988.

Grades are shown for drought, wetness and any other soil or site factors which are relevant. The overall Grade is set by the most limiting factor and shown on the right.

345144
374591

Stone types		
%	TAv	EAv
hard	1	0.5
sandst	4	3
hard	various	

Climate Data	
MDwheat	104
MDpotato	95
FCD	155
AAR	691

Wetness Class Guidelines	*II*	*III*	*IV*	*V*
SPL within 80cm, gleying within 40cm	> 70cm	42-70 cm	< 42 cm	
SPL within 80cm, gleying at 40-70cm	> 54 cm	< 54 cm		
No SPL but gleying within 40cm	coarse subsoil	*I*	other cases	*II*

Maximum depth of auger penetration is underlined

Climate
1452 D°
Limitation
Grade 1
10 m

Site No.		Depth cm		Texture	$CaCO_3$	Colour	Mottle colour	abund-ance	stone% hard	stone% sandst	Struct-ure	APwheat mm	AP potato mm	Gley	SPL	WC	Wetness grade WE	Final Grade	Limiting Factor(s)
1	T	0	21	hZCL	n	2.5Y4/2	Fe	com			-	40	40	y	n	*III*	3b	**3b**	GW FL
		21	35	mZCL		2.5Y5/2	Fe	com			m/poor	20	20	y	n	*(GW)*			
		35	80	ZL		2.5Y5/2	Mn	many			m/poor	45	63	y	n				
		80	120	ZC		N6/1	Fe	many			poor	28	0	y	y				
						moist					Total	**133**	**123**		GW.Groundwater			50 cm	3b
						50cm					MB	29	28		FL.Flood risk			Def need	3b
									Droughtiness grade (DR)			2	1		Ley - better drained				
2	T	0	10	ohZCL	n	10YR2/2			0	0	-	28	28	n	n	*IV*	3b	**3b**	WE FL
	T	10	25	C		10Y5/1	Fe	com	0	0		26	26	y	n				
		25	50	C		N6/1	FeMn	many	0	0	poor	33	33	y	y				
		50	75	ZC			OM	many	0	0		20	30	y	n				
		75	120	PL		5YR2/2			0	0		81	0	y	n				
											Total	**187**	**116**		GW.Groundwater			75cm	3b
						compact					MB	83	21		FL.Flood risk			Def need	3b
						25cm			**Droughtiness grade (DR)**			1	1		Ley - better drained				
3	T	0	20	oZC	n	10YR3/2			0	0	-	46	46	n	n	*IV*	3b	**3b**	WE GW
pit		20	60	C		N6/1-7/1	FeMn	many	0	0	poor	46	52	y	y				
		60	120	PL		5YR2/2			0	0		108	27	y	n				
											Total	**200**	**125**		GW.Groundwater			50 cm	3b

						compact						MB	96	30		FL.Flood risk				3b
						25cm			**Droughtiness grade (DR)**				1	1		Ley - some wet spots				
4	T	0	5	ohZCL	n	10YR2/2			0	0	-	14	14	n	n	*IV*	3b	**3b**	WE GW	
	T	5	25	C		N5/1	Fe	com	0	0		34	34	y	n			or 4		
		25	33	C		N6/1	FeMn	many	0	0	m/poor	12	12	y	n					
		33	70	C		N6/1	OM	many	0	0	poor	36	48	y	y					
		70	120	C		7.5Y5/1	Fe	many	0	0		40	0	y	y					
											Total	**136**	**108**		GW.Groundwater			50 cm	3b	
						compact					MB	32	13		FL.Flood risk			Def need	3a	
						25cm			**Droughtiness grade (DR)**				1	1		Grass - some wet spots				
5	T	0	25	C	n	N5/1	Fe	many			-	43	43	y	n	*V*	4	**4**	GW	
		25	48	ZC		10Y6/1	OMMn	many c			moist	35	35	y	n	(GW)				
		48	120	PL		5YR2/2	grey	many				131	59	y	n					
											Total	**208**	**136**		GW.Groundwater			45 cm	4	
						oZC					MB	104	41		FL.Flood risk			EA Fz3	3a	
						0-5 cm			**Droughtiness grade (DR)**				1	1		Grass with some rushes				
6	T	0	25	C	n	N5/1	Fe	com	0	0	-	43	43	y	n	*V*	4	**4**	GW	
		25	45	ZC		10Y6/1	OMMn	many c	0	0	moist	30	30	y	n	(GW)				
		45	80	PL		5YR2/2	grey	many	0	0	moist	68	68	y	n					
		80	120	PL		5YR2/2			0	0		72	0	y	n					
											Total	**212**	**140**		GW.Groundwater			30cm	4	
						Peat &					MB	108	45		FL.Flood risk			EA Fz3	3a	
						mineral			**Droughtiness grade (DR)**				1	1		Ley - nearby ditch has water at 30cm				
7	T	0	22	hZCL	n	2.5Y4/2	Fe	com	0	0	-	42	42	y	n	*V*	4	**4**	GW	
		22	55	ZC		10Y6/1	Fe	many c	0	0	moist	46	50	y	n	(GW)				
		55	80	PL		5YR2/2	grey	many	0	0		45	41	y	n					
		80	120	PL		5YR2/2			0	0	sat	72	0	y	n					
											Total	**205**	**132**		GW.Groundwater			80cm	4	
						Peat &					MB	101	37		FL.Flood risk			EA Fz3	3a	
						mineral			**Droughtiness grade (DR)**				1	1		Ley - shallow surface ditch drained				
8	T	0	39	mCL		10YR3/2			2	0	-	69	69	n	n	*III*	3a	**3a**	WE	

		39	50	SCL	5YR5/3	och	com	0	0		17	17	y	n					
		50	80	C	5YR4/3	och	com	0	0	poor	21	26	y	y					
		80	120	C	5YR4/4			0	0	poor	28	0		y					
										Total	**134**	**111**							
										MB	30	16							
										Droughtiness grade (DR)	1	1				post cereal crop			
9	T	0	36	mCL	10YR2/2			2	0		64	64	n	n	*III*	3a	**3a**	WE	
		36	70	SCL	10YR5/3	och	many	0	0		41	51	y	n					
		70	100	C	5YR4/3	och	many	0	0	poor	21	0	y	y					
		100	120	C				0	0	poor	14	0		y					
										Total	**140**	**115**							
										MB	36	20							
										Droughtiness grade (DR)	1	1							
10	T	0	35	mCL	10YR2/2			2	0	-	62	62	n	n	*III*	3a	**3a**	WE	
		35	48	SCL	10YR5/3	och	many	0	0		20	20	y	n					
		48	90	C	5YR4/3	och	many	0	0	poor	31	29	y	y					
		90	120	C	5YR4/3			0	0	poor	21	0		y					
										Total	**133**	**110**							
										MB	29	15							
										Droughtiness grade (DR)	2	1							
11	T	0	35	SCL	10YR2/2			2	0		58	58	n	n	*III*	3a	**3a**	WE	
		35	39	hCL	10YR5/3	och	many	0	0		6	6	y	n					
		39	50	SCL	5YR5/4	och	many	0	0		17	17	y	n					
		50	90	C	5YR4/3	och	many	0	0	poor	28	26	y	y					
		90	120	C	5YR4/3			0	0	poor	21	0		y					
										Total	**130**	**107**							
										MB	26	12							
										Droughtiness grade (DR)	2	1			post maize				
12	T	0	35	SCL	10YR3/3			2	0	-	58	58	n	n	*II*	2	**2**	WE	
		35	40	SCL	10YR3/3	och	com	0	0		8	8	n	n					
		40	93	SCL	10YR5/2	och	many	0	0		58	45	y	n					
		93	95	C	5YR4/3			0	0	poor	1	0	n	y					

		95	120	C	5YR4/3			0	0	poor	18	0	n	y					
										Total	**143**	**111**							
										MB	39	16				post maize			
										Droughtiness grade (DR)	1	1							
13	T	0	35	mSZL	10YR2/2			2	0		65	65	n	n	*IV*	3a	**3a**	WE	
		35	40	SCL	7.5YR4/2	och	many	0	0		8	8	y	n					
		40	50	C	7.5YR5/3	och	many	0	0	poor	13	13	y	y					
		50	90	C	5YR3/4	och	many	0	0	poor	28	26	y	y					
		90	100	fS	5YR4/6			0	0		12	0	n	n					
		100	120	fS	5YR4/6			0	0		24	0	n	n					
										Total	**150**	**112**							
										MB	46	17				cereal			
										Droughtiness grade (DR)	1	1							
14	T	0	30	SCL	7.5YR2.5/2			3	0		49	49	n	n	*I*	1	**1**	N/A	
		30	75	SCL	7.5YR3/2			0	0		55	60	n	n					
		75	80	SCL	7.5YR3/2	och	com	0	0		5	0	n	n					
		80	120	C	5YR4/3			0	0	poor	28	0	n	y					
										Total	**137**	**109**							
										MB	33	14							
										Droughtiness grade (DR)	1	1				cereal			
15	T	0	38	SCL	10YR3/3			3	0	-	63	63	n	n	*III*	3a	**3a**	WE	
		38	48	SCL	10YR5/3	och	many	0	0		15	15	y	n					
		48	70	C	5YR5/3	och	many	0	0	poor	17	29	y	y					
		70	90	C	5YR5/3	och	many	0	0	poor	14	0	y	y					
		90	120	C	5YR4/3			0	0	poor	21	0		y					
										Total	**129**	**106**							
										MB	25	11							
										Droughtiness grade (DR)	2	1				cereal crop			
16	T	0	35	mCL	7.5YR2.5/3			5	0		60	60	n	n	*III*	3a	**3a**	WE	
		35	55	SCL	7.5YR4/2	och	com	0	0		28	30	y	n					
		55	80	C	5YR4/3	och	many	0	0	poor	18	20	y	y					
		80	120	C	5YR4/3			0	0	poor	28	0		y					

										Total	**133**	**109**						
										MB	29	14						
								Droughtiness grade (DR)			2	1				cereal crop		
17	T	0	38	mCL	10YR3/3			5	0	-	65	65	n	n	*III*	3a	**3a**	WE
		38	48	hCL	7.5YR5/3	och	many	0	0		16	16	y	n				
		48	90	C	5YR4/3	och	many	0	0	poor	31	29	y	y				
		90	120	C	5YR4/3			0	0	poor	21	0		y				
										Total	**133**	**110**						
										MB	29	15						
								Droughtiness grade (DR)			2	1				cereal crop		
18	T	0	38	mCL	7.5YR3/2			5	0		65	65	n	n	*IV*	3b	**3b**	WE
		38	70	C	7.5YR4/2	och	com	0	0	poor	30	42	y	y				
		70	90	C	5YR4/3	och	many	0	0	poor	14	0	y	y				
		90	120	C				0	0	poor	21	0		y				
										Total	**130**	**107**						
										MB	26	12						
								Droughtiness grade (DR)			2	1				cereal crop		
19	T	0	35	mCL	10YR3/2			3	0	-	61	61	n	n	*III*	3a	**3a**	WE
		35	40	mCL	10YR3/4			0	0		8	8	n	n				
		40	55	SCL	7.5YR4/2	och	many	0	0	poor	17	20	y	y				
		55	90	C	5YR3/4	och	many	0	0	poor	25	20	y	y				
		90	120	C				0	0	poor	24	0		y				
										Total	**135**	**108**						
										MB	31	13						
								Droughtiness grade (DR)			1	1				cereal crop		
20	T	0	25	mCL	7.5YR4/2			2	0	-	44	44	n	n	*IV*	3b	**3b**	WE
pit		25	40	hZCL	7.5YR7/3	grey	many	2	0	good	31	31	y	n				
		40	100	C	5YR5-4/6	greyMn	many	5	0	poor	46	37	y	y				
		100	120	C				5	0	poor	13	0	y	y				
										Total	**134**	**112**		GR.Gradient			1 o	N
										MB	30	17						

								Droughtiness grade(DR)			1	1		Grass ley					
21	T	0	37	CL	7.5YR4/3			4	0	-	64	64	n	n	*II*	2	**2**	WE	DR
		37	68	LmS	10YR7/4			5	0		21	27	n	n					
		68	90	C	5YR4/6	greyMn	com	5	0	poor	15	2	y	y					
		90	120	C	7.5GY6/1	red	many	5	0	poor	20	0	y	y					
										Total	**120**	**93**		GR.Gradient			footslope		
					cloddy					MB	16	-2							
								Droughtiness grade(DR)			2	2		Wheat					
22	T	0	35	SCL	7.5YR4/2			3	0	-	58	58	n	n	*III*	3a	**3a**	WE	
		35	45	SCL	7.5YR4/1	Mn	com	5	0		14	14	(y)	n					
		45	57	SC	7.5YR6/6	greyMn	com	10	0		13	16	n	n					
		57	120	C	5YR4/6	greyMn	many	5	0	poor	37	6	y	y					
										Total	**122**	**95**		GR.Gradient			2 o	S	
										MB	18	0							
								Droughtiness grade(DR)			2	2		Wheat					
23	T	0	32	SCL	7.5YR4/3			3	0	-	53	53	n	n	*III*	3a	**3a**	WE	
pit		32	40	SCL	7.5YR5/2	Mn	com	5	0	good	14	14	y	n					
		40	57	SCL	7.5YR5/2	Fe	com	20	0		18	21	y	n					
		57	80	C	5YR4/6	greyMn	many	5	0	poor	15	16	y	y					
		80	120	C	7.5GY6/1	red	many	5	0	poor	27	0	y	y					
										Total	**127**	**104**							
										MB	23	9							
								Droughtiness grade(DR)			2	2		Wheat					
24	T	0	37	mCL	10YR3/2			5	0		63	63	n	n	*IV*	3b	**3b**	WE	
		37	90	C	5YR4/3	och	many	0	0	poor	45	43	y	y					
		90	120	C	5YR4/3			0	0	poor	21	0		y					
										Total	**129**	**106**							
										MB	25	11							
								Droughtiness grade (DR)			2	1				cereal crop			
25	T	0	36	mCL	10YR3/3			5	0	-	62	62	n	n	*IV*	3b	**3b**	WE	
		36	70	C	10YR5/3	och	com	0	0	poor	32	44	y	y					

		70	90	C	5YR3/4	och	com	0	0	poor	14	0	y	y					
		90	120	C				0	0	poor	21	0		y					
										Total	**129**	**106**							
										MB	25	11							
										Droughtiness grade (DR)	2	1				cereal crop			
26	T	0	36	SCL	10YR3/2			6	0		58	58	n	n	*IV*	3b	**3b**	WE	
		36	55	C	5YR5/3	och	many	0	0	poor	22	25	y	y					
		55	90	C	5YR3/4	och	many	0	0	poor	25	20	y	y					
		90	120	C				0	0	poor	21	0		y					
										Total	**125**	**102**							
										MB	21	7							
										Droughtiness grade (DR)	2	2				cereal crop			
27	T	0	35	SCL	10YR3/3			2	0	-	58	58	n	n	*IV*	3b	**3b**	WE	
		35	42	SCL	10YR5/3	och	many	0	0		11	11	y	n					
		42	70	C	5YR5/3	och	many	0	0	poor	24	36	y	y					
		70	90	C	5YR3/3	och	many	0	0	poor	14	0	y	y					
		90	120	C				0	0	poor	21	0		y					
										Total	**128**	**105**							
										MB	24	10				grass			
										Droughtiness grade (DR)	2	1							
28	T	0	25	mSZL	7.5YR2.5/3			2	0		47	47	n	n	*III*	2	**2**	WE	
		25	35	mSZL	7.5YR2.5/3	och	com	0	0		17	17	n	n					
		35	43	hCL	5YR4/2	och	many	0	0		13	13	y	n					
		43	90	C	5YR5/2	och	many	0	0	poor	37	35	y	y					
		90	120	C				0	0	poor	21	0		y					
										Total	**134**	**111**							
										MB	30	16							
										Droughtiness grade (DR)	1	1				grass			
29	T	0	38	mCL	10YR3/3			2	0	-	67	67	n	n	*III*	3a	**3a**	WE	
		38	58	SCL	10YR4/2	och	many	0	0		26	30	y	n					
		58	90	C	5YR3/4	och	many	0	0	poor	22	16	y	y					
		90	120	C	5YR3/4			0	0	poor	21	0		y					

										Total	**136**	**113**						
										MB	32	18						
									Droughtiness grade (DR)		1	1				grass		
30	T	0	35	mCL	7.5YR3/2			2	0		62	62	n	n	*III*	3a	**3a**	WE
		35	45	SCL	7.5YR4/3	och	many	0	0		15	15	n	n				
		45	100	C	2.5YR2.5/3	och	many	0	0	poor	42	33	y	y				
		100	120	C				0	0	poor	14	0	y	y				
										Total	**132**	**109**						
										MB	28	14						
									Droughtiness grade (DR)		2	1						
31	T	0	20	mCL	10YR3/3			2	0	-	35	35	n	n	*IV*	3b	**3b**	WE
		20	35	mCL	10YR3/3	och	many	0	0		24	24	n	n				
		35	38	hCL	10YR3/3	och	many	0	0		5	5	n	n				
		38	70	C	5YR5/3	och	many	0	0	poor	30	42	y	y				
		70	90	C	5YR5/3	och	many	0	0	poor	14	0	y	y				
		90	120	C				0	0	poor	21	0	y	y				
										Total	**129**	**106**						
										MB	25	11				grass		
									Droughtiness grade (DR)		2	1						
32	T	0	32	SCL	7.5YR4/3			4	0	-	52	52	n	n	*III*	3a	**3a**	WE
		32	45	SL	7.5YR4/2	Mn	few	8	0	good	20	20	n	n				
		45	51	mCL		FeMn	many	5	0		9	9	y	n				
		51	80	C	5YR6/6	grey	many	5	0	poor	19	24	y	y				
		80	100	C	7.5GY6/1	red	many	5	0	poor	13	0	y	y				
		100	120	C				5	0	poor	13	0	y	y				
						grey				Total	**127**	**105**						
						10YR5/2				MB	23	10						
									Droughtiness grade(DR)		2	1		Paddock				
33	T	0	33	mSZL	7.5YR2.5/3			2	0		61	61	n	n	*IV*	3a	**3a**	WE
		33	40	SCL	7.5YR3/3	och	com	0	0		11	11	n	n				
		40	90	C	5YR3/4	och	many	0	0	poor	41	39	(y)	y				
		90	120	C				0	0	poor	21	0		y				

											Total	**134**	**111**						
											MB	30	16						
										Droughtiness grade (DR)		1	1				grass		
34	T	0	40	mSZL	7.5YR3/3			2	0			74	74	n	n	*III*	2	**2**	WE
		40	48	SCL	7.5YR5/3	och	com	0	0			12	12	y	n				
		48	100	C	2.5YR2.5/4	och	com	0	0	poor		38	29	n	y				
		100	120	C				0	0	poor		14	0	n	y				
											Total	**138**	**115**						
											MB	34	20						
										Droughtiness grade (DR)		1	1				cereal crop		
35	T	0	40	mSL	10YR3/3			3	0	-		66	66	n	n	*I*	1	**1**	N/A
		40	100	fS	10YR5/3	och	few	0	0			74	42	n	n				
		100	120	fS				0	0			24	0	n	n				
											Total	**164**	**108**						
											MB	60	13						
										Droughtiness grade (DR)		1	1				cereal crop		
36	T	0	40	mSZL	7.5YR2.5/3			5	0			72	72	n	n	*III*	2	**2**	WE
		40	43	SCL	7.5YR4/3	och	com	0	0			5	5	n	n				
		43	90	C	5YR4/6	Mn	com	0	0	poor		37	35	n	y				
		90	120	C				0	0	poor		21	0		y				
											Total	**135**	**112**						
											MB	31	17						
										Droughtiness grade (DR)		1	1						
37	T	0	43	mSZL	7.5YR3/4			5	0	-		78	78	n	n	*II*	1	**1**	N/A
		43	60	SCL	7.5YR5/3	och	many	0	0			21	26	y	n				
		60	100	C	5YR4/3	och	many	0	0	poor		28	13	y	y				
		100	120	C				0	0	poor		14	0		y				
											Total	**140**	**116**						
											MB	36	21						
										Droughtiness grade (DR)		1	1			cereal crop			
38	T	0	38	mSZL	7.5YR3/2			5	0			69	69	n	n	*IV*	3a	**3a**	WE
		38	70	C	5YR5/3	och	many	0	0	poor		30	42	y	y				

		70	100	C	5YR5/4	och	many	0	0	poor	21	0	y	y					
		100	120	C				0	0	poor	14	0		y					
										Total	**133**	**110**							
										MB	29	15							
										Droughtiness grade (DR)	2	1				cereal crop			
39	T	0	40	mSZL	7.5YR3/3			3	0	-	74	74	n	n	*II*	1	**1**	N/A	
		40	60	SCL	7.5YR3/4	och	few	10	0		23	27	n	n					
		60	120	C				0	0	poor	42	13	y	y					
										Total	**138**	**114**							
										MB	34	19							
										Droughtiness grade (DR)	1	1				cereal crop			
40	T	0	40	mSZL	7.5YR2.5/2			5	0		72	72	n	n	*III*	2	**2**	WE	
		40	55	SCL	5YR5/3	och	many	0	0		20	23	y	n					
		55	70	C	5YR5/4	och	many	0	0	poor	11	20	y	y					
		70	80	C	5YR4/4	och	many	0	0	poor	7	0	y	y					
		80	120	C				0	0	poor	28	0		y					
											138	**114**							
										Total	**121**	**98**							
										MB	17	3							
										Droughtiness grade (DR)	2	2				cereal crop			
41	T	0	40	SCL	10YR2/2			5	0	-	65	65	n	n	*I*	1	**2**	DR	
		40	50	SCL	10YR5/2	och	com	0	0		15	15	y	n					
		50	100	mS	10YR5/2	och	few	0	0		25	14	n	n					
		100	120	mS				0	0		10	0	n	n					
										Total	**115**	**94**							
										MB	11	-1							
										Droughtiness grade (DR)	2	2			cereal crop				
42	T	0	38	SCL	7.5YR3/3			5	0		61	61	n	n	*IV*	3b	**3b**	WE	
		38	70	SCL	5YR5/3	och	com	0	0	poor	32	42	y	y					
		70	90	C	5YR4/3	och	com	0	0	poor	14	0	n	y					
		90	120	C				0	0	poor	21	0		y					
										Total	**128**	**103**							

											MB	24	8							
								Droughtiness grade (DR)			2	2					cereal crop			
43	T	0	28	SCL		7.5YR4/2			6	0	-	45	45	n	n	///	3a	**3a**	WE	
		28	46	SCL		7.5YR5/4	Fe	com	8	0		25	25	n	n					
		46	85	hCL		5YR5/4	Mn	many	5	0	m/poor	34	32	y	y					
		85	100	C		5YR5/3	Mngrey	many	5	0	poor	10	0	y	y					
		100	120	C					5	0	vdense	15	0	y	y					
						or SCL					Total	**129**	**102**		GR.Gradient			2 o	E	
											MB	25	7							
								Droughtiness grade(DR)			2	2			Ley					
44	T	0	27	SCL		7.5YR4/2			5	0	-	44	44	n	n	//	1	**2**	DR WE	
		27	45	SCL		7.5YR5/3	Fe	com f	8	0	m/poor	23	23	y	n					
		45	78	SL		5YR5/4	Mn	many	8	0		35	35	y	n					
		78	105	C	n	5YR4/6	MnGre	many	5	0	poor	18	0	y	y					
		105	120	C					5	0	poor	10	0	y	y					
						10Y7/1					Total	**130**	**102**		GR.Gradient			1 o	E	
						mottles					MB	26	7		GW.Groundwater			poss.	2	
						in clay					**Droughtiness grade(DR)**	2	2		Ley, footslope					
45	T	0	27	mCL		7.5YR4/3			4	0	-	47	47	n	n	//	2	**2**	WE DR	
		27	40	mCL		7.5YR5/3	Fe	com f	6	0		20	20	y	n					
		40	74	SCL		10YR6/2	Fe	com f	10	0		35	41	y	n					
		74	85	SC		7.5YR6/8	grey	many	5	0	poor	8	0	y	y					
		85	100	C	n	5YR5/3	Mn	many	5	0	poor	10	0	y	y					
		100	120	C					5	0	poor	13	0	y	y					
											Total	**133**	**107**							
											MB	29	12							
								Droughtiness grade(DR)			2	1			Ley, footslope					
46	T	0	27	SCL		7.5YR4/3			4	0	-	44	44	n	n	//	1	**2**	DR WE	
		27	40	SL		7.5YR5/4	Fe	few	8	0		18	18	n	n					
		40	75	SL		10YR6/2	Fe	com f	5	0		40	43	y	n					
		75	105	hCL		5YR5/4	Mn	many	6	0	poor	20	0	y	y					
		105	120	C	n	5YR4/4			5	0	poor	10	0	y	y					

										Total	**133**	**105**		GR.Gradient			1 o	E	
										MB	29	10							
								Droughtiness grade(DR)			2	1		Ley					
47	T	0	27	SCL	7.5YR5/3	Fe	com	4	0	-	44	44	n	n	*III*	3a	**3a**	WE	
		27	45	SCL	10YR6/2	Fe	com	5	0		26	26	y	n					
		45	70	SC/SCL	5YR6/2	MnFe	many	10	0	poor	20	30	y	y					
		70	120	SCL	5YR5/4	Mn	many	5	0	m/poor	43	0	y	y					
										Total	**133**	**99**							
										MB	29	4							
								Droughtiness grade(DR)			2	2		Ley, poached					
48	T	0	27	SCL	7.5YR5/3			5	0	-	44	44	n	n	*III*	3a	**3a**	WE	
		27	45	SCL	7.5YR5/2	Fe	com	15	0		23	23	y	n					
		45	65	SC	10YR6/2	FeMn	many	5	0	m/poor	20	27	y	(y)					
		65	100	C	5YR5/4	Mn	com	5	0	poor	23	6	y	y					
		100	120	C				5	0	poor	13	0	y	y					
					or SCL					Total	**123**	**100**							
										MB	19	5							
								Droughtiness grade(DR)			2	2		Ley, some poaching					
49	T	0	27	SCL	7.5YR4/3			5	0	-	44	44	n	n	*IV*	3b	**3b**	WE	
		27	45	SC	7.5YR5/2	Mn	many	8	0	m/poor	23	23	y	n					
		45	95	C	5YR5/4	Mngrey	many	5	0	poor	38	33	y	y					
		95	120	C				5	0	poor	13	0	y	y					
										Total	**118**	**100**							
										MB	14	5							
								Droughtiness grade(DR)			2	2		Poached, shallow ditch N, wet by pond S					
50	T	0	29	SL	10YR4/2			2	0	-	48	48	n	n	*III*	2	**2**	WE	DR
		29	51	SL/SCL	10YR5/3	FeMn	many	8	0		30	33	y	n					
		51	60	C	7.5YR6/8	Mngrey	many	5	0	poor	6	11	y	y					
		60	80	C	5YR4/4	Mn	com	5	0	poor	13	12	y	y					
		80	120	C	n 5YR4/4	MnGre	many	5	0	poor	27	0	y	y					
					Green					Total	**125**	**104**		GR.Gradient			1 o	W	

					mottles						MB	21	9							
					10Y7/1			**Droughtiness grade(DR)**				2	2		Horse paddock					
51	T	0	28	SL	10YR4/2			4	0	-	46	46	n	n	*IV*	3a	**3a**	WE		
		28	40	SL/SCL	10YR5/3	FeMn	many	5	0		17	18	y	n						
		40	50	C	7.5YR6/8	grey	many	5	0	poor	12	12	y	y						
		50	80	C	5YR5/4	Mn	com	5	0	poor	20	25	y	y						
		80	120	C	5YR4/4	MnGre	many	5	0	poor	27	0	y	y						
					Green					Total	**122**	**101**		GR.Gradient			1 o	SW		
					mottles						MB	18	6							
					10Y7/1			**Droughtiness grade(DR)**				2	2		Grass, worn out ley					
52	T	0	28	SL	10YR4/2			4	0	-	46	46	n	n	*IV*	3a	**3a**	WE		
		28	40	SL/SCL	10YR7/3	Fe	many	5	0		17	18	y	n						
		40	55	C	5YR5/4	Mn	com	5	0	poor	16	19	n	y						
		55	65	SL	5YR5/4			5	0		10	14	n	n						
		65	95	C	5YR4/4	MnGre	many	5	0	poor	20	6	y	y						
		95	120	C				5	0	poor	17	0	y	y						
					Green					Total	**126**	**103**		GR.Gradient			2 o	S		
					mottles						MB	22	8							
					10Y7/1			**Droughtiness grade(DR)**				2	2		Grass, worn out ley					

343000
372000

Stone types		
%	TAv	EAv
hard	1	0.5
sandst	4	3
hard	various	

Climate Data	
MDwheat	104
MDpotato	95
FCD	152
AAR	678

Wetness Class Guidelines	*II*	*III*	*IV*	*V*
SPL within 80cm, gleying within 40cm	> 69cm	41-69 cm	< 41 cm	
SPL within 80cm, gleying at 40-70cm	> 53 cm	< 53 cm		
No SPL but gleying within 40cm	coarse subsoil	*I*	other cases	*II*

Maximum depth of auger penetration is underlined

Climate
1452 D°
Limitation
Grade 1
15 m

Site No.		Depth cm		Texture	$CaCO_3$	Colour	Mottle colour	abund-ance	stone% hard	stone% sandst	Struct-ure	APwheat mm	AP potato mm	Gley	SPL	WC	Wetness grade WE	Final Grade	Limiting Factor(s)
53	T	0	28	oSCL		7.5YR3/2			4	0	-	75	75	n	n	*III*	3a	**3a**	WE
		28	43	SCL		7.5YR5/3	Fe	many	5	0		21	21	y	n				

		43	55	hCL	7.5YR6/8	Mngrey	many	3	0	m/poor	14	17	y	(y)							
		55	75	C	7.5YR6/8	Mngrey	many	0	0	poor	14	20	y	y							
		75	120	C	5YR4/4	MnGre	many	0	0	poor	32	0	y	y							
					Green					Total	**156**	**133**									
					mottles					MB	52	38									
					10Y7/1				**Droughtiness grade(DR)**		1	1		Horse paddock poached, footslope.							
54	T	0	36	SL	10YR3/2			4	0	-	59	59	n	n	*I*	1	**3a**	DR			
		36	70	LS	10YR4/2	Fe	com	5	0		23	29	y	n							
		70	120	LS	10YR5/2	Mn	many	15	0		26	0	y	n							
										Total	**108**	**88**		GR.Gradient			1 o	W			
										MB	4	-7									
									Droughtiness grade(DR)		3a	2		Rough grass, point moved (not in horse paddock)							
55	T	0	35	SL	10YR3/2			4	0	-	57	57	n	n	*I*	1	**3a**	DR			
		35	70	mS	10YR6/4			5	0		20	23	n	n							
		70	120	LS	7.5YR4/4	Mn	many	5	0		29	0	n	n							
										Total	**105**	**81**		GR.Gradient			2o	W			
										MB	1	-14									
									Droughtiness grade(DR)		3a	3a		Rough grass, mid slope							
56	T	0	28	SCL	7.5YR4/2			5	0	-	45	45	n	n	*II*	1	**2**	WE			
		28	40	SL	7.5YR4/3			5	0	good	19	19	n	n			or 1				
		40	80	SL-	7.5YR5/3	Fe	com	5	0		46	43	y	n							
		80	120	CL/C	7.5YR6/8	Mngrey	many	0	0	poor	28	0	y	y							
										Total	**139**	**108**		GR.Gradient			2o	W			
										MB	35	13									
									Droughtiness grade(DR)		1	1		Rough grass, footslope							
57	T	0	28	SL	10YR4/2			4	0	-	46	46	n	n	*III*	2	**2**	WE-GW			
		28	45	SL	10YR4/2	Fe	com	5	0	good	28	28	y	n	(GW)						
		45	120	oLS	10YR2/1			5	0		118	55	y	n							
										Total	**191**	**128**		GR.Gradient			1o	NW			
					wet					MB	87	33		GW.Groundwater			45cm	2			
					45cm				**Droughtiness grade(DR)**		1	1		W or S wheat							

58	T	0	38	SL	mod	7.5YR3/2			4	0	-	62	62	n	n	*I*	1	**2**	DR
		38	70	SL	n	7.5YR4/3			5	0		38	46	n	n				
		70	105	mS		10YR6/2	Mn	com	5	0		17	0	y	n				
		105	120	mS					5	0	poor	7	0	y	n				
											Total	**124**	**107**						
											MB	20	12						
									Droughtiness grade(DR)			2	1		Maize stubble. Treated with lime cake.				
59	T	0	38	SL	mod	7.5YR3/2			4	0	-	62	62	n	n	*I*	1	**2**	DR
		38	70	SL	n	7.5YR4/3			5	0		38	46	n	n				
		70	110	LS		10YR7/2	Mn	com	5	0		23	0	y	n				
		110	120	mS					5	0	poor	5	0	y	n				
											Total	**128**	**108**						
											MB	24	13						
									Droughtiness grade(DR)			2	1		Maize stubble. Treated with lime cake.				
60	T	0	38	SL	mod	7.5YR3/2			4	0	-	62	62	n	n	*II*	1	**2**	DR
		38	80	LmS	n	7.5YR5/3	FeMn	com	5	0		27	28	y	n				
		80	105	SC		5YR4/6	Mn	many	0	0	poor	20	0	y	y				
		105	120	LS					5	0		9	0	y	n				
											Total	**118**	**90**						
											MB	14	-5						
									Droughtiness grade(DR)			2	2		Maize stubble. Treated with lime cake.				
61	T	0	40	SL	mod	7.5YR4/2			6	0	-	64	64	n	n	*I*	1	**1**	
		40	65	SL	n	7.5YR5/3	Mn	few	5	0		30	36	y	n				
		65	95	SL		7.5YR5/2	Mn	com	5	0		31	7	y	n				
		95	120	SCL		10YR7/2	Fe	many	5	0	poor	19	0	y	y				
											Total	**145**	**107**		GR.Gradient			1 o	SW
											MB	41	12						
									Droughtiness grade(DR)			1	1		Maize stubble. Treated with lime cake.				
62	T	0	30	ohZCL	n	10YR3/2			0	0		27	27	n	n	*VI*	5	**5**	GW
		29	120	PL		10YR2/2			0	0		153	81	n	n	(GW)			
											Total	**262**	**190**		FL. Flood Risk			EA Fz3	3a

											MB	158	95		GW.Groundwater			0 cm	5
									Droughtiness grade(DR)			1	1		Reeds, assumed as 64. Inaccessible.					
63	T	0	10	PL	n	10YR2/2	Fe	com	0	0	-	27	27	y	n	*V*	4	**4**	GW	
	T	10	23	ohZCL		N6/0	Fe	com	0	0		36	36	y	n	(GW)				
		23	40	PL		10YR2/2	Fe	many	0	0		46	46	y	n					
		40	120	PL		10YR2/2			0	0		153	81	y	n					
											Total	**262**	**190**		FL. Flood Risk			EA Fz3	3a
											MB	158	95		GW.Groundwater			40 cm	4
									Droughtiness grade(DR)			1	1		Grass (rough weedy)					
64	T	0	30	ohZCL	n	10YR3/2			0	0		27	27	n	n	*VI*	5	**5**	GW	
		29	120	PL		10YR2/2			0	0		153	81	n	n	(GW)				
											Total	**262**	**190**		FL. Flood Risk				
											MB	158	95		GW.Groundwater			0 cm	5
									Droughtiness grade(DR)			1	1		Reeds, 10cm of water on surface					
65	T	0	29	ohZCL	n	10YR3/2			0	0	-	27	27	n	n	*VI*	5	**5**	GW	
		29	120	PL		10YR2/2			0	0		153	81	n	n	(GW)				
											Total	**262**	**190**		FL. Flood Risk			EA Fz3	3a
											MB	158	95		GW.Groundwater			20 cm	5
									Droughtiness grade(DR)			1	1		Reeds					
66	T	0	28	ohZCL	n	2.5Y5/1	Fe	com	0	0	-	78	78	y	n	*V*	4	**4**	GW	
		28	35	PL		10YR3/1	FeGrey	com	0	0		19	19	y	n	(GW)				
		35	120	PL		10YR3/1	FeGrey	com	0	0		167	95	y	n					
											Total	**264**	**192**		FL. Flood Risk			EA Fz3	3a
											MB	160	97		GW.Groundwater			35 cm	4
									Droughtiness grade(DR)			1	1		Grass (improved).					
67	T	0	28	oCL	slight	7.5YR2/2			25		-	60	60	n	n	*II*	1	**3a**	MR	
		28	40	CL/C		10YR5/2	Fe	com	25			15	15	(y)	n					
		40	75	PL		10YR3/1			0			72	81	(y)	n					
		75	120	hZCL		10YR7/2	Fe	com	0		m/poor	36	0	y	n					
											Total	**182**	**155**		MR.Micro-relief			uneven	3a
						Various					MB	78	60					boulders	

						stones					**Droughtiness grade(DR)**		1	1		Grass. Raised area, disturbed land.				
68	T	0	25	ohZCL	n	2.5Y5/1	Fe	com	0	0	-	70	70	y	n	*V*	4	**4**	GW	
		25	40	PL		10YR3/1	FeGrey	com	0	0		41	41	y	n	(GW)				
		40	120	PL	n	10YR3/1	FeGrey	com	0	0		153	81	y	n					
						10YR5/2					Total	**264**	**192**		FL. Flood Risk			EA Fz3	3a	
						mineral					MB	160	97		GW.Groundwater			40 cm	4	
						layers					**Droughtiness grade(DR)**		1	1		Grass (improved). H_2S at 40cm				
69	T	0	15	ohZCL	n	2.5Y5/1	Fe	com	0	0	-	42	42	y	n	*V*	4	**4**	GW	
		15	28	C		N6/0	Fe	many	0	0	poor	17	17	y	n	(GW)				
		28	120	PL	n	10YR3/1	FeGrey	com	0	0	sat	185	113	y	n					
											Total	**244**	**172**		FL. Flood Risk			EA Fz3	3a	
											MB	140	77		GW.Groundwater			40 cm	4	
											Droughtiness grade(DR)		1	1		Grass (improved). Wet topsoil in lower patches				
70	T	0	28	SCL		7.5YR4/3			6	0	-	45	45	n	n	*III*	3a	**3a**	WE	
		28	40	SCL		7.5YR5/3	Mn	com	8	0	good	21	21	y	n	*or II*				
		40	68	SCL		7.5YR6/3	Mn	com	8	0		31	39	y	n					
		68	80	C		5YR4/4	Mngrey	many	5	0	poor	8	2	y	y					
		80	120	C		5YR4/4	Mngrey	many	5	0	poor	27	0	y	y					
											Total	**131**	**107**		GR.Gradient			1 o	E	
											MB	27	12							
											Droughtiness grade(DR)		2	1		Arable spring crop. Footslope.				
71	T	0	28	SCL		7.5YR4/4			4	0	-	46	46	n	n	*II*	2	**2**	WE DR	
		28	40	SCL		7.5YR7/6	Mn		8	0	good	21	21	n	n					
		40	65	SCL		7.5YR6/3	Mn	com	12	0		27	33	y	n					
		65	80	C		5YR4/4	Mngrey	many	5	0	poor	10	6	y	y					
		80	120	C		5YR4/4	Mngrey	many	5	0	poor	27	0	y	y					
											Total	**130**	**106**		GR.Gradient			2 o	SE	
											MB	26	11							
											Droughtiness grade(DR)		2	1		Arable spring crop				
73	T	0	30	mCL		7.5YR4/3			4	0	-	52	52	n	n	*III*	3a	**3a**	WE	
		30	48	hCL		7.5YR5/3	Fe	com f	5	0		27	27	y	n					

		48	55	C		7.5YR6/8	grey	many	5	0	poor	6	9	y	y					
		55	80	C	slight	5YR5/4	MnGre	many	5	0	poor	17	19	y	y					
		80	120	C	mod	5YR4/4	MnGre	many	5	0	poor	27	0	y	y					
											Total	**129**	**107**							
							Gre =				MB	25	12							
							Green		**Droughtiness grade(DR)**			2	1		Arable spring crop					
74	T	0	28	CL		7.5YR4/2			4	0	-	48	48	n	n	///	3b	**3b**	WE	
		28	42	hCL		7.5YR5/3	Fe	com	5	0		21	21	y	n					
		42	80	C/CL	slight	5YR5/3	Mn	many	5	0	poor	30	33	y	y					
		80	120	C/CL	slight	5YR4/4	Mngrey	many	5	0	poor	27	0	y	y					
											Total	**126**	**103**		GR.Gradient			2 o	SE	
											MB	22	8							
									Droughtiness grade(DR)			2	2		Arable spring crop, footslope (wetter)					
75	T	0	28	CL		5YR4/4			4	0	-	48	48	n	n	///	3a	**3a**	WE	
		28	42	hCL		5YR5/4			8	0		21	21	n	n					
		42	55	C	slight	5YR5/4	Mn	com	10	0	poor	13	15	n	y					
		55	120	C/CL	mod	5YR4/4	Mngrey	many	10	0	m/poor	50	20	y	y					
											Total	**132**	**104**		GR.Gradient			1 o	SE	
						Dry LSS					MB	28	9							
									Droughtiness grade(DR)			2	2		Arable spring crop					
76	T	0	28	SCL		7.5YR4/3			4	0	-	46	46	n	n	///	3a	**3a**	WE	
		28	42	SCL		5YR5/3			8	0	good	25	25	n	n					
		42	55	C	n	5YR4/4	Mngrey	many	5	0	poor	13	16	y	y					
		55	120	C/CL	n	5YR4/4	Mngrey	com	5	0	poor	43	18	n	y					
											Total	**127**	**104**							
						Dry LSS					MB	23	9							
									Droughtiness grade(DR)			2	2		Arable spring crop					
77	T	0	28	SCL		7.5YR4/3			8	0	-	44	44	n	n	///	3a	**3a**	WE	
		28	40	SCL		7.5YR6/3	Mn	com	10	0	good	21	21	y	n					
		40	65	hCL	n	5YR5/4	Mngrey	many	20	0	poor	25	33	y	y					
		65	120	C	slight	5YR5/4	Mn	com	5	0	poor	37	6	y	y					

											Total	**127**	**103**							
					Dry LSS						MB	23	8							
								Droughtiness grade(DR)				2	2		Arable spring crop					
78	T	0	28	SCL		7.5YR4/3			4	0	-	46	46	n	n	*III*	3a	**3a**		WE
pit		28	40	SCL		7.5YR5/3	Mn	com	10	0	good	21	21	y	n					
		40	50	C	slight	5YR5/4	Mngrey	many	8	0	m/poor	13	13	y	n					
		50	70	C	slight	5YR5/4	Mngrey	many	5	0	poor	13	25	y	y					
		70	120	C	mod	5YR4/4	MnGre	many	5	0	poor	33	0	y	y					
											Total	**127**	**105**		GR.Gradient			2 o		E
						Mottled					MB	23	10							
						35cm				**Droughtiness grade(DR)**		2	2		Arable spring crop. Borderline WC IV and 3b					
79	T	0	28	SCL		7.5YR5/3			4	0	-	46	46	n	n	*III*	3a	**3a**		WE MR
		28	40	SCL		7.5YR5/2	Fe	com	10	0		16	16	y	n					
		40	56	SZL		7.5YR6/2	FeMn	com	15	0		20	23	y	n					
		56	70	C	slight	5YR5/4	Mngrey	many	5	0	poor	9	17	y	y					
		70	120	C/CL	slight	5YR4/4	MnGre	many	5	0	poor	33	0	y	y					
											Total	**125**	**103**							
											MB	21	8		MR.Micro-relief			R & F		3a
										Droughtiness grade(DR)		2	2		Improved grass. Ridge and furrow					
80	T	0	23	SCL		7.5YR5/2	Fe	com	4	0	-	38	38	y	n	*IV*	3b	**3b**		WE
		23	40	CL		7.5YR6/2	Mn	many	10	0	m/poor	22	22	y	n					
		40	80	C	n	5YR4/4	Mngrey	com	5	0	poor	32	37	y	y					
		80	120	C					5	0	poor	27	0	y	y					
						Mottled					Total	**118**	**96**							
						15cm					MB	14	1		MR.Micro-relief			R & F		3a
										Droughtiness grade(DR)		2	2		Improved grass. Very poached. Difficult to drain ?					
81	T	0	23	SCL		7.5YR4/2			4	0	-	38	38	n	n	*IV*	3b	**3b**		WE
pit		23	45	SL		7.5YR5/2	FeMn	com	10	0	good	34	34	y	n	*or III*				
		45	60	hCL		5YR5/4	Mn	many	8	0	poor	12	17	y	y					
		60	100	C	n	5YR4/4	Mngrey	com	5	0	poor	27	12	y	y					
		100	120	C					5	0	poor	13	0	y	y					

					Mottled						Total	**124**	**101**							
					15cm						MB	20	6		MR.Micro-relief			R & F	3a	
								Droughtiness grade(DR)				2	2		Improved grass. Poached. Difficult to drain ?					
82	T	0	20	CL		7.5YR4/2			4	0	-	35	35	n	n	*III*	3a	**3a**	WE	MR
		20	45	SL/SCL		10Y6/1	FeMn	com	10	0	good	41	41	y	n					
		45	57	hCL		10Y6/1	Mn	many	10	0	m/poor	12	15	y	n					
		57	80	C	n	5YR5/4	Mngrey	many	5	0	poor	15	16	y	y					
		80	120	C/CL					5	0	poor	27	0	y	y					
											Total	**129**	**107**							
											MB	25	12		MR.Micro-relief			R & F	3a	
								Droughtiness grade(DR)				2	1		Improved grass. Somewhat poached. Ridge and furrow					
83	T	0	23	hCL		7.5YR4/3			8	0	-	38	38	n	n	*III*	3b	**3b**	WE	GW
		23	33	C		7.5YR5/2	Fe	com	0	0	poor	13	13	y	n	(IV)				
		33	65	hCL	slight	5YR5/1	Fe	com	10	0	m/poor	33	41	y	n					
		65	120	CL	slight	2.5YR4/1	Mn	many	5	0	poor	37	6	y	y					
											Total	**121**	**98**		GW.Groundwater				3b	
											MB	17	3		MR.Micro-relief			R & F	3a	
								Droughtiness grade(DR)				2	2		Improved grass. Wet patches nearby. Disturbed ?					
84	T	0	29	SCL		7.5YR5/3			4	0	-	47	50	n	n	*III*	3b	**3b**	WE	
		29	42	hCL		7.5YR5/2	Fe	com	5	0		20	20	y	n	*or IV*				
		42	52	hCL		7.5YR6/2	FeMn	com	5	0	poor	10	11	y	y					
		52	80	C	n	5YR5/4	Mngrey	many	5	0	poor	19	22	y	y					
		80	120	C		5YR4/4	MnGre	many	5	0	poor	27	0	y	y					
											Total	**123**	**104**							
											MB	19	9		MR.Micro-relief			R & F	3a	
								Droughtiness grade(DR)				2	2		Improved grass. Ridge and furrow. Near pond.					
85	T	0	24	SCL		7.5YR4/2			4	0	-	39	39	n	n	*III*	3a	**3a**	WE	
		24	35	SCL		10YR5/2	Fe	com	10	0		15	15	y	n					
		35	50	hSCL		2.5Y7/4	Fe	many	10	0		20	20	y	n					
		50	65	SC		7.5YR6/6	Grey	pred	5	0	m/poor	13	20	y	n					
		65	120	C	n	5YR4/4	Mngrey	com	5	0	poor	37	6	y	y					

											Total	**124**	**101**								
						Mottled					MB	20	6								
						15cm			**Droughtiness grade(DR)**			2	2		Improved ley.						
86	T	0	24	hZCL		7.5YR4/2			4	0	-	44	44	n	n	*III*	3b	**3b**	WE		
		24	42	hCL		10YR5/2	Fe	com f	10	0		26	26	y	n						
		42	50	C		10YR7/1	Fe	many	5	0	poor	10	10	y	y						
		50	80	C	n	5YR5/4	Mngrey	many	5	0	poor	20	25	y	y						
		80	120	C					0	0	poor	28	0	y	y						
											Total	**128**	**105**								
											MB	24	10		MR.Micro-relief			R & F	3a		
									Droughtiness grade(DR)			2	2		Horse paddock.						
87	T	0	25	SCL		7.5YR4/2			4	0	-	41	41	n	n	*IV*	3b	**3b**	WE		
		25	40	SCL		10YR5/2	Fe	com	10	0		20	20	y	n	*or III*					
		40	45	C		7.5YR6/6	Grey	pred	5	0	m/poor	7	7	y	(y)						
		45	120	C	n	5YR5/4	Mngrey	many	5	0	poor	53	31	y	y						
											Total	**121**	**99**								
							Grey				MB	17	4								
							10YR5/2		**Droughtiness grade(DR)**			2	2		Willow coppice						
88	T	0	26	mCL		7.5YR4/3			6	0	-	44	44	n	n	*II*	2	**2**	WE		
		26	50	CL		7.5YR5/3	Fe	com	8	0		36	36	y	n						
		50	90	CL		7.5YR5/4	Fe	com	8	0		37	30	y	n						
		90	120	SL					10	0	poor	22	0	y	n						
											Total	**138**	**109**		GR.Gradient			2-3o	W		
											MB	34	14								
									Droughtiness grade(DR)			1	1		Set aside field. Valley						
89	T	0	29	SL+		10YR4/2			6	0	-	47	47	n	n	*II*	1	**1**	none		
pit		29	45	SCL		10YR5/3	Fe	few	8	0	good	28	28	n	n						
		45	95	SCL		10YR6/2	Mn	many	10	0		48	34	y	n						
		95	120	SL		10YR6/3	FeMn	com	10	0	poor	18	0	y	n						
											Total	**140**	**109**		GR.Gradient			2 o	W		
						Mottled					MB	36	14								

					15cm			**Droughtiness grade(DR)**			1	1		Maize field. Footslope.					
90	T	0	15	hZCL	10YR4/2			0	0	-	29	29	n	n	*III*	3b	**3b**	WE	
		15	45	ZC	10YR5/2	Fe	many	0	0		45	45	y	n					
		45	75	C	10YR6/2	FeMn	com	0	0	poor	24	33	y	y					
		75	120	hZCL				0	0	poor	27	0	y	y					
										Total	**124**	**106**							
						Grey				MB	20	11		FL.Flood Risk			EA none		
						10YR5/2		**Droughtiness grade(DR)**			2	1		Rough grass. Profile not wet.					
91n	T	0	30	ohZCL	10YR2/2			4	0	-	81	81	n	n	*V*	4	**4**	WE-GW	
		30	40	C	N6/0	Fe	many	0	0	poor	13	13	y	y	(GW)				
		40	80	CL				30	0		33	35	y	n					
		80	120	C/CL				10	0	poor	25	0	y	n					
										Total	**152**	**128**		GW.Groundwater			0 cm	4	
										MB	48	33							
								Droughtiness grade(DR)			1	1		Horse paddock. Wet area. Disturbed. Pipelines ?					
91s	T	0	22	ohCL	10YR4/1			4	0	-	59	59	n	n	*IV*	3b	**3b**	WE GW	
		22	35	LC	10YR5/1	Fe	com	5	0		20	20	y	n					
		35	48	C	10YR5/2	Fe	many	5	0	poor	16	16	y	y					
		48	120	oSL	10YR3/2			10	0		105	46	y	n					
										Total	**200**	**141**		GW.Groundwater			50 cm	3b	
										MB	96	46							
								Droughtiness grade(DR)			1	1		.					
92	T	0	36	SL	5YR4/4			10	0	-	55	55	n	n	*I*	1	**3a**	DR	
		36	50	SL/SCL	2.5YR5/8			10	0	good	23	23	n	n					
		50	55	mS	2.5YR5/8			25	0		2	3	n	n					
		55	120	mS				50	0		18	6	n	n					
					pebbly					Total	**98**	**87**		GR.Gradient			2 o	SE	
										MB	-6	-8							
								Droughtiness grade(DR)			3a	2		Maize stubble. Chester Sandstone (eroded)					
93	T	0	35	SCL	7.5YR4/4			8	0	-	55	55	n	n	*I*	1	**3a**	DR	
		35	55	SCL	7.5YR5/4	Fe	few	10	0	good	32	34	n	n					

		55	60	mS	5YR7/3			15	0		2	3	n	n							
		60	120	mS				50			17	4	n	n							
										Total	**106**	**96**		GR.Gradient			2-3 o		SE	
										MB	2	1								
										Droughtiness grade(DR)	3a	2		Maize stubble. Deeper over Chester Sandstone.						
94	T	0	35	SCL	7.5YR4/3			8	0	-	55	55	n	n	*II*	2	**2**		DR WE		
		35	50	SCL	7.5YR5/3	Fe	com	25	0	good	22	22	y	n							
		50	75	SL	5YR4/4			15	0		24	26	n	n							
		75	120	mS				50	0		12	0	n	n							
										Total	**113**	**103**		GR.Gradient			1 o		SE	
										MB	9	8								
										Droughtiness grade(DR)	2	2		Maize stubble. Deeper over Chester Sandstone.						

Stone types		
%	TAv	Eav
hard	1	0.5
.		

hard pebble

Climate Data	
MDwheat	102
MDpotato	93
FCD	156

Wetness Class Guidelines	*II*	*III*	*IV*	*V*
SPL within 80cm, gleying within 40cm	>70cm	42-70cm	<42cm	
SPL within 80cm, gleying at 40-70cm	>54cm	<54cm		
No SPL but gleying within 40cm	coarse subsoil	*I*	other cases	*II*

Maximum depth of auger penetration is underlined

Site No.		Depth cm		Texture	$CaCO_3$	Colour	Mottle colour	abund-ance	stone% hard	stone% .	Struct-ure	APwheat mm	AP potato mm	Gley	SPL	WC	Wetness grade WE	Final Grade	Limiting Factor(s)
95	T	0	30	mSZL		7.5YR3/2			2	0	-	56	56	n	n	*II*	1	**1**	N/A
		30	40	mSZL		7.5YR3/2	och	few	0	0		17	17	n	n				
		40	68	SCL		5YR4/3	och	many	0	0		33	42	y	n				
		68	85	C		5YR3/4	och	many	0	0	poor	12	3	y	y				
		85	120	C					0	0	poor	25	0		y				
											Total	**142**	**117**				cereal stubble		
											MB	40	24						
											Droughtiness grade (DR)	1	1						
96	T	0	39	mZCL		7.5YR3/3			2	0		73	73	n	n	*II*	2	**2**	WE
		39	60	hCL		5YR4/3	Mn	com	0	0		28	34	n	n				

		60	120	C				0	0	poor	42	13		y					
										Total	**142**	**119**							
										MB	40	26					grass-horses		
										Droughtiness grade (DR)	1	1							
97	T	0	33	mCL	7.5YR3/3			0	0	-	59	59	n	n	*III*	3a	**3a**	WE	
		33	60	C	5YR4/3	Mn	many	0	0	poor	29	35	n	y					
		60	120	C				0	0	poor	42	13		y					
										Total	**130**	**108**				grass-poached;horses			
										MB	28	15							
										Droughtiness grade (DR)	2	1							
98	T	0	20	mCL	7.5YR2.5/2			2	0		35	35	n	n	*IV*	3b	**3b**	WE	
		20	33	hCL	7.5YR2.5/2	och	com	0	0		21	21	n	n					
		33	60	C	5YR4/3	och	many	0	0	poor	29	35	y	y					
		60	120	C				0	0	poor	42	13	y	y					
										Total	**127**	**104**				grass- poached; horses			
										MB	25	11							
										Droughtiness grade (DR)	2	1							
99	T	0	38	SCL	7.5YR2.5/3			0	0	-	65	65	n	n	*II*	2	**2**	WE	
		38	55	SCL	5YR4/4	och	com	0	0		23	26	n	n					
		55	80	C	2.5YR2.5/4	Mn	com	0	0	poor	18	20	n	y					
		80	120	C				0	0	poor	28	0	y	y					
										Total	**133**	**110**							
										MB	31	17							
										Droughtiness grade (DR)	1	1							
100	T	0	33	hCL	7.5YR3/2			2	0		58	58	n	n	*IV*	3b	**3b**	WE	
		33	50	C	10YR4/2	och	com	5	0	poor	21	21	y	y					
		50	120	C				0	0	poor	49	26	y	y					
										Total	**128**	**105**							
										MB	26	12				grass disturbed?			
										Droughtiness grade (DR)	2	1							
101	T	0	40	mCL	7.5YR3/3			0	0		72	72	n	n	*II*	2	**2**	WE	
		40	55	hCL	5YR4/3	Mn	few	0	0		21	24	n	n					

		55	80	C	5YR4/4	och	com	0	0	poor	18	20	n	y					
		80	120	C				0	0	poor	28	0	y	y					
										Total	**138**	**116**							
										MB	36	23							
										Droughtiness grade (DR)	1	1			grass				
102	T	0	35	mCL	7.5YR2.5/3			0	0	-	54	54	n	n	*III*	3a	**3a**	WE	
		35	45	hCL	5YR4/3	Mn	com	0	0		16	16	n	n					
		45	90	C	5YR4/3	Fe	com	0	0	poor	14	14	n	y					
		90	120	C				0	0	poor	42	13	n	y					
										Total	**126**	**97**							
										MB	24	4			grass; augered to 50cm stone dry				
										Droughtiness grade (DR)	2	2							
103	T	0	30	mCL	7.5YR3/3			0	0		54	54	n	n	*III*	3a	**3a**	WE	
		30	40	mCL	7.5YR4/3			0	0		16	16	n	n					
		40	50	SCL	5YR3/4			5	0		14	14	n	n					
		50	120	C				0	0	poor	49	26	n	y					
										Total	**133**	**110**							
										MB	31	17							
										Droughtiness grade (DR)	1	1				grass			
104	T	0	35	hCL	10YR3/3			0	0	-	63	63	n	n	*IV*	3b	**3b**	WE	
		35	90	C	5YR3/3	Fe	many	0	0	poor	48	46	(y)	y					
		90	120	C				0	0	poor	21	0	n	y					
										Total	**132**	**109**							
										MB	30	16				grass			
										Droughtiness grade (DR)	1	1							
105	T	0	35	mCL	7.5YR3/3			2	0		62	62	n	n	*III*	3a	**3a**	WE	
		35	68	SCL	7.5YR3/4	och	many	0	0		42	53	(y)	n					
		68	80	C	5YR4/4	och	many	0	0	poor	8	3	(y)	y					
		80	120	C				0	0	poor	28	0	y	y					
										Total	**140**	**117**							
										MB	38	24							
										Droughtiness grade (DR)	1	1				grass; augered to 80cm			

106	T	0	25	mCL	7.5YR2.5/3			3	0	-	44	44	n	n	*IV*	3b	**3b**	WE
		25	28	C	7.5YR3/4			5	0	poor	4	4	n	n				
		28	120	C				15	0	poor	67	46	y	y				
										Total	**114**	**94**				coal fragments at 28cm ; grass		
										MB	12	1						
									Droughtiness grade (DR)		2	0						
107	T	0	36	mCL	10YR3/3			5	0		62	62	n	n	*III*	3a	**3a**	WE
		36	48	hCL	7.5YR4/2	och	com	0	0		19	19	y	n				
		48	70	C	5YR3/4	och	com	0	0	poor	17	29	n	y				
		70	120	C				0	0	poor	35	0	y	y				
										Total	**132**	**109**						
										MB	30	16						
									Droughtiness grade (DR)		1	1						
108	T	0	35	mSZL	7.5YR3/3			3	0	-	52	52	n	n	*III*	2	**2**	WE
		35	43	SCL	7.5YR4/3	och	com	0	0		16	16	n	n				
		43	80	C	5YR3/4	och	com	0	0	poor	36	48	n	y				
		80	120	C	5YR3/3			0	0	poor	14	0	y	y				
										Total	**139**	**116**						
										MB	37	23						
									Droughtiness grade (DR)		1	1		grass				
109	T	0	30	mCL	7.5YR3/4			0	0		54	54	n	n	*III*	3a	**3a**	WE
		30	40	mCL	7.5YR2.5/3			0	0		16	16	n	n				
		40	55	hCL	5YR5/3	och	many	0	0		21	24	y	n				
		55	85	C	5YR4/4	Mn	com	0	0	poor	21	20	n	y				
		85	120	C				0	0	poor	25	0	y	y				
										Total	**136**	**114**						
										MB	34	21						
									Droughtiness grade (DR)		1	1		grass				
110	T	0	35	mCL	7.5YR3/3			0	0	-	63	63	n	n	*III*	3a	**3a**	WE
		35	40	hCL	7.5YR4/2	och	many	0	0		8	8	y	n				
		40	58	hCL	5YR4/3	och	many	0	0		24	29	y	n				

		58	90	C	5YR4/3	och	many	0	0	poor	22	16	(y)	y					
		90	120	C				0	0	poor	21	0	y	y					
										Total	**138**	**115**							
										MB	36	22							
										Droughtiness grade (DR)	1	1			grass				
111	T	0	30	hCL	7.5YR4/2			2	0	-	53	53	n	n	*IV*	3b	**3b**	WE	
		30	42	hCL	7.5YR4/2	och	com	0	0		19	19	y	n					
		42	80	C	7.5YR5/2	och	many	0	0	poor	31	36	y	y					
		90	120	C				0	0	poor	21	0		y					
										Total	**125**	**109**							
										MB	23	16							
										Droughtiness grade (DR)	2	1			grass				
112	T	0	20	mZCL	7.5YR3/3			2	0		47	47	n	n	*III*	3a	**3a**	WE	
		20	30	mZCL	7.5YR3/3	och	few	0	0		17	17	n	n					
		35	42	mZCL	7.5YR3/3	och	com	0	0		13	13	n	n					
		42	90	C	5YR5/2	och	many	0	0	poor	37	35	y	y					
		90	120	C				0	0	poor	21	0		y					
										Total	**134**	**111**							
										MB	32	18							
										Droughtiness grade (DR)	1	1			grass				
113	T	0	33	mSZL	10YR3/2			2	0	-	61	61	n	n	*III*	3a	**3a**	WE	
		33	40	hCL	7.5YR4/2	och	many	0	0		11	11	y	n					
		40	70	SCL	7.5YR5/2	och	many	0	0		29	39	y	n					
		70	80	C	7.5YR5/2	och	many	0	0	poor	7	0	y	y					
		80	120	C				0	0	poor	28	0		y					
										Total	**137**	**112**							
										MB	35	19				post maize			
										Droughtiness grade (DR)	1	1							
114	T	0	30	mCL	10YR3/3			2	0		53	53	n	n	*IV*	3b	**3b**	WE	
		30	40	hCL	7.5YR4/2	och	many	0	0		16	16	y	n					
		40	48	C	10YR4/1	och	many	0	0	poor	10	10	y	y					
		48	75	C	10YR5/3	och	many	0	0	poor	20	29	y	y					

		75	90	C	5YR4/4	och	many	0	0	poor	11	0	y	y					
		100	120	C				0	0	poor	14	**108**	y	y					
										Total	**124**	**109**							
										MB	22	16							
										Droughtiness grade (DR)	2	1				post maize			
115	T	0	38	mSL	7.5YR3/3			2	0	-	63	63	n	n	*III*	2	**2**	WE	
		38	48	SCL	7.5YR4/3			0	0		15	15	n	n					
		48	90	C	5YR4/3	Mn	com	0	0	poor	31	29	n	y					
		90	120	C				0	0	poor	21	0	y	y					
										Total	**130**	**107**							
										MB	28	14							
										Droughtiness grade (DR)	2	1				grass			
116	T	0	30	mCL	7.5YR3/3			2	0		53	53	n	n	*III*	3a	**3a**	WE	
		30	38	SCL	7.5YR3/3	och	com	0	0		12	12	n	n					
		38	48	SCL	5YR4/4	och	many	0	0		15	15	y	n					
		48	90	C	5YR3/4	och	many	0	0	poor	31	29	y	y					
		90	120	C				0	0	poor	21	0		y					
										Total	**132**	**109**							
										MB	30	16							
										Droughtiness grade (DR)	1	1			grass				
118	T	0	35	mSZL	7.5YR3/3			2	0		65	65	n	n	*III*	2	**2**	WE	
		35	60	SCL	5YR4/2	och	com	0	0		33	38	y	n					
		60	90	C	7.5YR5/2	och	many	0	0	poor	21	13	y	y					
		90	120	C				0	0	poor	21	0	y	y					
										Total	**140**	**116**							
										MB	38	23							
										Droughtiness grade (DR)	1	1							
119	T	0	35	hCL	7.5YR3/3			3	0	-	61	61	n	n	*II*	3a	**3a**	WE	
		35	40	SCL	7.5YR4/3	och	many	0	0		8	8	(y)	n					
		40	65	SCL	7.5YR5/2	och	many	0	0		30	38	y	n					
		65	90	C	5YR4/4	Mn	com	0	0	poor	18	7	n	y					

		90	120	C				0	0	poor	21	0		y					
										Total	**137**	**113**							
										MB	35	20							
									Droughtiness grade (DR)		1	0			cereal crop				
120	T	0	38	SCL	7.5YR3/3			5			61	61			*III*	3a	**3a**	We	
		38	45	hCL	5YR4/3	och	com				11	11	y						
		45	60	C	5YR4/4	och	com			poor	14	20	y	y					
		60	90	C	2.5YR3/4	och	com			poor	21	13	y	y					
		90	120	C						poor	21	0							
										Total	**128**	**105**							
										MB	26	12							
									Droughtiness grade (DR)		2	1			cereal crop				
121	T	0	30	mCL	7.5YR3/3			3	0	-	52	52	n	n	*II*	2	**2**	WE	
		30	40	mCL	7.5YR3/3	och	com	0	0		16	16	n	n					
		40	70	hCL	7.5YR3/3	och	com	0	0		36	48	n	n					
		70	90	C	5YR3/3			0	0	poor	14	0	n	y					
		90	120	C				0	0	poor	21	0		y					
										Total	**139**	**116**							
										MB	37	23							
									Droughtiness grade (DR)		1	1			cereal crop				
122	T	0	35	mSZL	7.5YR3/3			5	0		63	63	n	n	*III*	2	**2**	WE	
		35	48	SCL	10YR5/3	och	many	0	0		20	20	y	n					
		48	70	C	5YR4/4	och	com	0	0	poor	17	29	n	y					
		70	120	C				0	0	poor	35	0	y	y					
										Total	**134**	**111**							
										MB	32	18							
									Droughtiness grade (DR)		1	1			cereal crop				
123	T	0	30	SCL	7.5YR3/3			0	0	-	51	51	n	n	*III*	3a	**3a**	WE	
		30	43	SCL	5YR4/2			0	0		20	20	n	n					
		43	90	C	5YR4/4	och	many	0	0	poor	37	35	y	y					
		90	120	C				0	0	poor	21	0	y	y					
										Total	**129**	**106**							

										MB	27	13						
										Droughtiness grade (DR)	2	1				grass		
124	T	0	20	SCL	7.5YR3/3			5	0		32	32	n	n	*III*	3a	**3a**	WE
		20	35	SCL	7.5YR3/3	och	many	0	0		23	23	n	n				
		35	48	SCL	7.5YR4/2	och	many	0	0		20	20	y	n				
		48	70	C	5YR4/3	och	many	0	0	poor	17	29	y	y				
		70	80	SCL	5YR4/4			0	0		10	0	n	n				
		80	100	mS	5YR4/4			0	0		10	0	n	n				
		100	120	mS				0	0		10	0	n	n				
										Total	**121**	**103**						
										MB	19	10						
										Droughtiness grade (DR)	2	1			grass			
125	T	0	20	mCL	7.5YR3/3			0	0	-	36	36	n	n	*III*	3a	**3a**	WE
		20	38	mCL	7.5YR3/3	och	com	0	0		29	29	n	n				
		38	70	C	5YR4/4	Mn	com	0	0	poor	30	42	n	y				
		70	120	C				0	0	poor	35	0		y				
										Total	**129**	**106**						
										MB	27	13						
										Droughtiness grade (DR)	2	1			grass			
126	T	0	33	hCL	10YR3/3			2	0	-	58	58	n	n	*IV*	3b	**3b**	WE
		33	38	hCL	10YR3/3	och	many	0	0		8	8	(y)	n				
		38	60	C	5YR3/3	Mn	many	0	0	poor	23	29	n	y				
		60	120	C				0	0	poor	42	13		y				
										Total	**131**	**108**						
										MB	29	15			grass			
										Droughtiness grade (DR)	2	1						
127	T	0	30	hCL	7.5YR4/2			2	0		53	53	n	n	*III*	3b	**3b**	WE
		39	50	hCL	7.5YR4/2	och	many	2	0		17	17	y	n				
		50	120	C				0	0	poor	49	26		y				
										Total	**119**	**96**						
										MB	17	3						
										Droughtiness grade (DR)	2	2				grass		

128	T	0	33	hCL	10YR3/3			0	0	-	59	59	n	n	*IV*	3b	**3b**	WE
		33	38	hCL	10YR3/3	och	many	0	0		8	8	(y)	n				
		38	60	C	5YR3/3	Mn	com	0	0	poor	23	29	n	y				
		60	120	C				0	0	poor	42	13	y	y				
										Total	**132**	**109**						
										MB	30	16				cereal stubble		
										Droughtiness grade (DR)	1	1						
129	T	0	30	mSZL	7.5YR3/3			0	0		57	57	n	n	*III*	2	**2**	WE
		30	40	mSZL	7.5YR3/3			0	0		17	17	n	n				
		40	49	SCL	10YR5/3	och	com	0	0		14	14	y	n				
		49	75	C	5YR3/4	och	com	0	0	poor	19	27	n	y				
		75	80	C	5YR3/4	och	com	0	0	poor	4	0	n	y				
		80	120	C				0	0	poor	28	0		y				
										Total	**138**	**115**						
										MB	36	22						
										Droughtiness grade (DR)	1	1			cereal crop			
130	T	0	30	mCL	7.5YR3/3			0	0		54	54	n	n	*III*	3a	**3a**	WE
		30	43	mCL	7.5YR3/4			0	0		21	21	n	n				
		43	90	C	5YR4/4	och	com	0	0	poor	37	35	n	y				
		90	120	C	5YR3/4			0	0	poor	21	0		y				
										Total	**133**	**110**						
										MB	31	17						
										Droughtiness grade (DR)	1	1			cereal crop			
131	T	0	35	mCL	10YR4/2			2	0		62	62	n	n	*III*	3a	**3a**	WE
		35	48	hCL	7.5YR4/2	och	many	0	0		21	21	y	n				
		48	75	C	10YR5/3	och	many	0	0	poor	20	29	y	y				
		75	80	C	5YR3/4			0	0	poor	4	0	y	y				
		80	120	C				0	0	poor	28	0	y	y				
										Total	**134**	**111**						
										MB	32	18						
										Droughtiness grade (DR)	1	1				grass		

132	T	0	35	mCL	7.5YR4/2			0		-	63	63	n	n	*III*	3a	**3a**	WE
		35	48	SCL	5YR5/3	och	com	0	0		20	20	y	n				
		48	80	C	5YR4/3	Mn	com	0	0	poor	24	29	n	y				
		80	120	C				0	0	poor	28	0	y	y				
										Total	**134**	**111**						
										MB	32	18				grass		
										Droughtiness grade (DR)	1	1						
133	T	0	40	mZCL	7.5YR3/2			2	0		74	74	n	n	*III*	3a	**3a**	WE
		40	45	mZCL	7.5YR4/2	och	com	5	0		8	8	y	n				
		45	120	C				0	0	poor	56	33	y	y				
										Total	**138**	**115**						
										MB	36	22						
										Droughtiness grade (DR)	1	1				grass		
134	T	0	30	mCL	7.5YR4/3			0	0		54	54	n	n	*II*	2	**2**	WE
		30	45	mCL	7.5YR4/2			0	0		24	24	n	n				
		45	68	SCL	7.5YR5/3	och	com	0	0		26	35	y	n				
		68	80	C	5YR3/4			0	0	poor	8	3	n	y				
		68	120	C				0	0	poor	36	0	y	y				
										Total	**148**	**115**						
										MB	46	22				grass		
										Droughtiness grade (DR)	1	1						
135	T	0	38	mCL	7.5YR2.5/3			6	0	-	64	64	n	n	*III*	3a	**3a**	WE
		38	53	hCL	7.5YR5/3	och	many	0	0		22	24	y	n				
		53	70	C	5YR4/4			0	0	poor	12	22	n	y				
		70	120	C				0	0	poor	35	0		y				
										Total	**133**	**110**						
										MB	31	17				cereal crop		
										Droughtiness grade (DR)	1	0						
136	T	0	35	mCL	10YR3/3			5	0		62	62	n	n	*II*	2	**2**	WE
		35	75	hCL	7.5YR4/2	och	com	0	0		19	19	y	n				
		75	120	C	5YR3/4	och	com	0	0	poor	17	29	n	y				

											Total	**132**	**109**						
											MB	30	16						
									Droughtiness grade (DR)		1	1							
137	T	0	38	mSZL	7.5YR2.5/2			3	0	-	70	70	n	n	*III*	2	**2**	WE	
		38	58	hCL	7.5YR5/3	och	com	0	0		27	32	y	n					
		58	70	C	5YR4/3	och	com	0	0	poor	8	16	n	y					
		70	120	C	5YR4/3			0	0	poor	35	0	y	y					
											Total	**141**	**118**						
											MB	39	25						
									Droughtiness grade (DR)		1	1				cereal crop			

Stone types		
%	TAv	EAv
hard	1	0.5
.		

hard pebble

Climate Data	
MDwheat	105
MDpotato	97
FCD	158

Wetness Class Guidelines	*II*	*III*	*IV*	*V*
SPL within 80cm, gleying within 40cm	>71cm	43-71cm	<43cm	
SPL within 80cm, gleying at 40-70cm	>56cm	<56cm		
No SPL but gleying within 40cm	coarse subsoil	*I*	other cases	*II*

Maximum depth of auger penetration is underlined

Site No.		Depth cm		Texture	$CaCO_3$	Colour	Mottle colour	abund-ance	stone% hard	stone% .	Struct-ure	APwheat mm	AP potato mm	Gley	SPL	WC	Wetness grade WE	Final Grade	Limitin Factor
138	T	0	38	ZL		7.5YR2.5/3			0	0	-	87	87	n	n	*I*	1	**1**	N/A
		38	55	ZL		7.5YR3/1			0	0		33	37	n	n				
		55	100	fSL		7.5YR5/4			0	0		59	27	n	n				
		100	120	fSL					0	0		26	0	n	n				
											Total	**205**	**152**						
											MB	100	55			cereal stubble; soil moist 80cm+			
									Droughtiness grade (DR)			1	1						
139	T	0	43	LfS		7.5YR2.5/2			0	0		77	77	n	n	*I*	1	**2**	TX
		43	70	fS		7.5YR5/4			0	0		34	38	n	n				
		70	120	fS					0	0		60	0	n	n				
											Total	**171**	**115**						
											MB	66	18						

						Droughtiness grade (DR)			1	1				fallow after carrots			
140	T	0	35	ZL	7.5YR2.5/3	0	0	-	81	81	n	n	/	1	**1**	N/A	
		33	43	fSL	7.5YR2.5/3	0	0		18	18	n	n					
		43	80	fS	7.5YR5/3	0	0		46	38	n	n					
		80	120	fS		0	0		48	0	n	n					
								Total	**192**	**136**							
								MB	87	39				cereal crop			
						Droughtiness grade (DR)			1	1							
141	T	0	45	fSL	7.5YR2.5/3	0	0		81	81	n	n	/	1	**1**	N/A	
		45	80	fS	7.5YR3/3	0	0		43	35	n	n					
		80	120	fS		0	0		48	0	n	n					
								Total	**172**	**116**							
								MB	67	19							
						Droughtiness grade (DR)			1	1				grass			
142	T	0	43	LfS	7.5YR2.5/2	0	0	-	77	77	n	n	/	1	**2**	TX	
		43	80	fS	7.5YR5/4	0	0		46	38	n	n					
		80	120	fS		0	0		48	0	n	n					
								Total	**171**	**115**							
								MB	66	18				cereal crop; moist 70cm+			
						Droughtiness grade (DR)			1	1							
143	T	0	43	fSL	7.5YR2.5/3	0	0		77	77	n	n	/	1	**1**	N/A	
		43	80	fS	7.5YR5/3	0	0		46	38	n	n					
		80	120	fS		0	0		48	0	n	n					
								Total	**171**	**115**							
								MB	66	18							
						Droughtiness grade (DR)			1	1				cereal crop; relic mottles fine 43cm+			
144	T	0	39	ZL	7.5YR2.5/2	0	0		90	90	n	n	/	1	**1**	N/A	
		39	80	fS	7.5YR5/3	0	0		51	43	n	n					
		80	120	fS		0	0		48	0	n	n					
								Total	**189**	**133**							
								MB	84	36				grass			
						Droughtiness grade (DR)			1	1							

145	T	0	30	ZL	7.5YR2.5/3			0	0	-	69	69	n	n	*I*	1	**1**	N/A
		30	43	ZL	7.5YR5/3			0	0		29	29	n	n				
		43	80	fS	7.5YR5/4			0	0		46	38	n	n				
		80	120	fS				0	0		48	0	n	n				
										Total	**191**	**135**						
															field part ploughed			
										MB	86	38						
									Droughtiness grade (DR)		1	1						
146	T	0	30	ZL	7.5YR2.5/2			0	0		69	69	n	n	*I*	1	**1**	N/A
		30	43	ZL	7.5YR2.5/2			0	0		29	29	n	n				
		43	80	fS	7.5YR5/4			0	0		46	38	n	n				
		80	120	fS	7.5YR5/4			0	0		48	0	n	n				
										Total	**191**	**135**						
										MB	86	38						
									Droughtiness grade (DR)		1	1			field part ploughed			
147	T	0	40	fSL	7.5YR2.5/3			0	0	-	72	72	n	n	*I*	1	**1**	N/A
		38	58	fS	7.5YR5/3			0	0		26	28	n	n				
		58	70	fS	7.5YR5/3			0	0		14	17	n	n				
		70	120	fS	7.5YR5/3			0	0		60	0	n	n				
										Total	**173**	**117**						
										MB	68	20						
									Droughtiness grade (DR)		1	1			field part ploughed			
148	T	0	30	ZL	7.5YR2.5/2			0	0	-	69	69	n	n	*I*	1	**1**	N/A
		30	43	ZL	7.5YR2.5/3	Mn	com	0	0		29	29	n	n				
		43	100	fS	7.5YR5/3			0	0		70	38	n	n				
		100	120	fS	7.5YR5/3			0	0		24	0	n	n				
										Total	**191**	**135**						
										MB	86	38						
									Droughtiness grade (DR)		1	1			cereal crop			
149	T	0	30	ZL	7.5YR2.5/2			0	0	-	69	69	n	n	*I*	1	**1**	N/A
		30	43	ZL	7.5YR2.5/3	Mn	com	0	0		29	29	n	n				
		43	100	fS	7.5YR5/3			0	0		70	38	n	n				

		100	120	fS	7.5YR5/3			0	0		24	0	n	n					
										Total	**191**	**135**							
										MB	86	38							
										Droughtiness grade (DR)	1	1							
150	T	0	30	mZCL	7.5YR4/3			0	0	-	57	57	n	n	*I*	1	**1**	N/A	
		30	43	mZCL	7.5YR4/3			0	0		22	22	n	n					
		43	100	fS	7.5YR5/3	och	few	0	0		70	38	n	n					
		100	120	fS	7.5YR5/3			0	0		24	0	n	n					
										Total	**173**	**117**							
										MB	68	20							
										Droughtiness grade (DR)	1	1							
151	T	0	30	fSL	10YR4/3			0	0	-	54	54	n	n	*I*	1	**1**	N/A	
		30	48	fSL	7.5YR4/4			0	0		32	32	n	n					
		48	100	fSL	10YR4/3			0	0		69	40	n	n					
		100	120	fS				0	0		24	0	n	n					
										Total	**179**	**126**							
										MB	74	29							
										Droughtiness grade (DR)	1	1	1	1	fallow after osr				
152	T	0	30	fSL	7.5YR3/3			0	0	-	54	54	n	n	*I*	1	**1**	N/A	
		30	40	fSL	7.5YR4/4			0	0		18	18	n	n					
		48	110	fSL	7.5YR4/3			0	0		82	40	n	n					
		110	120	fS				0	0		12	0	n	n					
										Total	**166**	**112**							
										MB	61	15							
										Droughtiness grade (DR)	1	1	1	1	fallow after osr				
153	T	0	40	fSL	7.5YR4/4			0	0		72	72	n	n	*I*	1	**1**	N/A	
		40	110	fSL	7.5YR5/4			0	0		96	54	n	n					
		110	120	fS				0	0		12	0	n	n					
										Total	**180**	**126**							
										MB	75	29							
										Droughtiness grade (DR)	1	1	1	1	fallow after osr				
154	T	0	30	fSL	7.5YR4/4			0	0	-	54	54	n	n	*I*	1	**1**	N/A	

		30	45	fSL	7.5YR4/4			0	0		27	27	n	n						
		45	110	fS	7.5YR5/4			0	0		79	35	n	n						
		110	120	fS				0	0		12	0	n	n						
										Total	**172**	**116**								
										MB	67	19								
								Droughtiness grade (DR)			1	1	1	1	fallow after osr					
156	T	0	35	mZCL	7.5YR4/1			0	0	-	67	67	n	n	*III*	3a	**3a**	WE		
		35	45	mZCL	7.5YR4/1	och	com	0	0		17	17	y	n						
		45	50	C	7.5YR4/2	och	many	0	0	poor	7	7	y	y						
		50	80	C	10YR5/1	och	many	0	0	poor	21	26	y	y						
		80	120	C				0	0	poor	28	0								
										Total	**139**	**116**								
										MB	34	19			post maize					
								Droughtiness grade (DR)			1	1								
157	T	0	40	mZCL	7.5YR4/2			0	0		76	76	n	n	*III*	3a	**3a**	WE		
		40	45	mZCL	7.5YR4/2	och	com	0	0		9	9	y	n						
		45	50	ZC	7.5YR4/2	och	com	0	0	poor	6	6	y	y						
		50	80	ZC	5YR5/2	och	many	0	0	poor	21	24	y	y						
		80	120	ZC				0	0	poor	28	0		y						
										Total	**140**	**115**								
										MB	35	18								
								Droughtiness grade (DR)			1	1			post maize					
158	T	0	35	ZL	7.5YR3/3			0	0	-	81	81	n	n	*I*	1	**1**	N/A		
		35	45	ZL	7.5YR4/3	och	com	0	0		22	22	n	n						
		45	80	ZL	7.5YR5/3	och	com	0	0		53	55	y	n						
		80	120	ZL				0	0		56	0	n	n						
										Total	**212**	**158**								
										MB	107	61			grass					
								Droughtiness grade (DR)			1	1								
159	T	0	35	mSZL	7.5YR3/3			0	0		67	67	n	n	*II*	1	**1**	N/A		
		35	48	fS	7.5YR4/2	och	com	0	0		18	18	y	n						
		48	80	ZL	7.5YR4/2	och	com	0	0		46	48	y	n						

		80	120	ZL				0	0		56	0	n	n						
										Total	**187**	**133**								
										MB	82	36				grass ley				
									Droughtiness grade (DR)		1	1								
160	T	0	35	ZL	7.5YR3/3			0	0		81	81	n	n	*//*		2	**2**	WE	
		35	48	ZL	10YR4/2	och	com	0	0		29	29	y	n						
		48	80	hZCL	7.5YR5/2	och	many	0	0		**33**	37	y	n						
		80	120	C				0	0	poor	28	0		y						
										Total	**170**	**147**								
										MB	65	50				grass ley				
									Droughtiness grade (DR)		1	1								
161	T	0	38	ZL	7.5YR4/1			0	0		87	87	n	n	*//*		2	**2**	WE	
		38	45	mZCL	7.5YR4/2	och	com	0	0		12	12	y	n						
		45	55	ZC	7.5YR5/1	och	com	0	0	poor	10	12	y	n						
		55	80	fS	10YR5/3	och	com	0	0		30	21	y	n						
		80	120	fS				0	0		48	0	n	n						
										Total	**187**	**132**								
										MB	82	35				post maize				
									Droughtiness grade (DR)		1	1								
162	T	0	38	ZL	7.5YR3/2			0	0		87	87	n	n	*//*		1	**1**	N/A	
		38	50	ZL	10YR5/1	och	com	0	0		26	26	y	n						
		50	90	fS	10YR5/2	och	com	0	0		48	28	y	n						
		90	120	fS				0	0		36	0	n	n						
										Total	**198**	**142**								
										MB	93	45				post maize				
									Droughtiness grade (DR)		1	1								
163	T	0	38	ZL	7.5YR3/2			0	0		87	87	n	n	*//*		2	**2**	WE	
		38	40	ZL	7.5YR5/2	och	few	0	0		4	4	n	n						
		40	58	ZL	7.5YR5/2	och	com	0	0		33	40	y	n						
		58	90	ZC	10YR4/2	och	com	0	0	poor	22	14	y	y						
		90	120	ZC				0	0	poor	21	0		y						

											Total	**168**	**146**							
											MB	63	49					grass		
									Droughtiness grade (DR)			1	1							
164	T	0	38	ZL	7.5YR3/2			0	0			87	87	n		*I*		1	**1**	N/A
		38	100	fS	5YR5/2	och	few	0	0			77	45	n	n					
		100	120	fS				0	0			24	0	n	n					
											Total	**188**	**132**							
											MB	83	35					post maize		
									Droughtiness grade (DR)			1	1							
165	T	0	40	ZL	7.5YR3/2			0	0			92	92	n	n	*I*		1	**1**	N/A
		40	45	ZL	7.5YR3/1			0	0			11	11	n	n					
		45	78	fS	5YR4/2			0	0			41	35	n	n					
		78	90	C	7.5YR5/1			0	0		poor	8	0	n	y					
		90	120	C				0	0		poor	21	0	n	y					
											Total	**173**	**138**							
											MB	68	41					grass dairy cows		
									Droughtiness grade (DR)			1	1							
166	T	0	35	ZL	7.5YR3/2			0	0			81	81	n	n	*III*		3a	**3a**	WE
		35	48	fS	7.5YR5/3	och	com	0	0			18	18	y	n					
		48	80	ZC	10YR5/1	och	com	0	0		poor	23	26	y	y					
		80	120	ZC				0	0		poor	28	0		y					
											Total	**150**	**125**							
											MB	45	28					grass		
									Droughtiness grade (DR)			1	1							
167	T	0	40	mZCL	10YR4/2	och	com	0	0			76	76	y	n	*IV*		3b	**3b**	WE
		40	70	ZC	10YR5/1	och	many	0	0		poor	26	36	y	y					
		70	90	ZL	10YR5/2	och	com	0	0			28	0	y	n					
		90	120	ZL				0	0			42	0		n					
											Total	**172**	**112**							
											MB	67	15					forage crop		
									Droughtiness grade (DR)			1	1							
168	T	0	35	mZCL	10YR4/2	och	com	0	0			67	67	y	n	*II*		2	**2**	We

		35	45	mZCL	10YR4/1	och	many	0	0		17	17	y	n						
		45	90	ZL	7.5YR5/3			0	0		67	55	n	n						
		90	120	ZL				0	0		42	0	n	n						
										Total	**192**	**139**								
										MB	87	42			forage crop; mixed colours and Fe concretions 35cm+					
									Droughtiness grade (DR)		1	1								
169	T	0	20	ZL	7.5YR4/2	och	many	0	0	-	46	46	y	n	*IV*	3b	**3b**	WE		
		20	75	ZCL	10YR4/1	och	many	0	0	poor	76	85	y	y						
		75	120	ZCL				0	0	poor	45	0		y						
										Total	**167**	**131**								
										MB	62	34								
									Droughtiness grade (DR)		1	1			grass-poached assume spl above 40cm					
170	T	0	20	ZL	7.5YR4/1	och	many	0	0	-	46	46	y	n	*IV*	3b	**3b**	WE		
		20	50	ZC	7.5YR5/1	och	many	0	0	poor	45	45	y	y						
		50	75	ZL	7.5YR5/1	och	many	0	0		35	44	y	n						
		75	120	ZL				0	0		63	0		n						
										Total	**189**	**89**								
										MB	84	-8								
									Droughtiness grade (DR)		1	2			grass					
171	T	0	33	ZL	10YR4/2	och	many	0	0	-	76	76	y	n	*IV*	3b	**3b**	WE		
		33	50	ZC	10YR5/1	och	many	0	0	poor	20	20	y	y						
		50	90	ZL	10YR5/1	och	many	0	0		56	44	y	n						
		75	120	ZL				0	0		63	0		n						
										Total	**215**	**140**								
										MB	110	43								
									Droughtiness grade (DR)		1	1			grass					
172	T	0	30	ZL	7.5YR2.5/2			0	0	-	69	69	n	n	*II*	2	**2**	WE		
		30	40	ZL	7.5YR2.5/2	Mn	many	0	0		22	22	n	n						
		40	70	ZCL	7.5YR4/2			0	0		37	51	n	n						
		70	85	C	5YR4/3			0	0	poor	11	0	n	y						
		85	120	C				0	0	poor	25	0	n	y						

											Total	**163**	**142**						
											MB	58	45						
								Droughtiness grade (DR)				1	1			grass-horses			
173	T	0	30	ZL		10YR4/2			0	0	-	69	69	n	n	*I*	1	**1**	N/A
		30	48	ZL		10YR4/3	och	few	0	0		40	40	n	n				
		48	90	ZL		7.5YR4/2	och	many	0	0		60	48	y	n				
		90	120	ZL					0	0		42	0	n	n				
											Total	**211**	**157**						
											MB	106	60						
								Droughtiness grade (DR)				1	1			grass-horses			
174	T	0	35	ZL		7.5YR4/2			0	0	-	81	81	n	n	*III*	3a	**3a**	WE
		35	40	ZL		7.5YR4/2	och	many	0	0		11	11	y	n				
		40	60	ZL		7.5YR5/1	och	many	0	0		36	44	y	n				
		60	85	ZC	sl	7.5YR5/1			0	0	poor	18	12	y	y				
		85	120	ZC					0	0	poor	25	0		y				
											Total	**170**	**148**						
											MB	65	51						
								Droughtiness grade (DR)				1	1			grass- shell fragments below 40cm			
175	T	0	35	ZL		7.5YR4/2	och	com	0	0		81	81	y	n	*III*	3a	**3a**	WE
		35	68	fS		5YR5/3	och	many	0	0		43	46	y	n				
		68	90	C		7.5YR5/1	och	many	0	0	poor	15	3	y	y				
		90	120	C					0	0	poor	21	0		y				
											Total	**160**	**129**						
											MB	55	32						
								Droughtiness grade (DR)				1	1						
176	T	0	20	ZL		7.5YR4/2			0	0		46	46	n	n	*IV*	3b	**3b**	WE
		20	35	mZCL		7.5YR5/3	och	many	0	0		26	26	y	n				
		35	60	C		7.5YR5/2	och	many	0	0	poor	27	33	y	y				
		60	120	C					0	0	poor	42	13		y				
											Total	**140**	**117**						
											MB	35	20						
								Droughtiness grade (DR)				1	1						

178	T	0	28	ZL	10YR3/1	och	many	0	0	-	64	64	(y)	n	*IV*	3b	**3b**	WE
		28	80	mZCL	10YR5/3	och	many	0	0		67	71	y	n	GW			
		100	120	mZCL				0	0		20	0						
										Total	**152**	**136**		grass; juncus; horses				
										MB	47	39		GW				
									Droughtiness grade (DR)		1	1						
181	T	0	28	ZL	10YR2/2			0	0		64	64	n	n	*II*	3a	**3a**	WE
		28	50	ZL	10YR4/1	och	many	0	0		48	48	y	n	*or III*			
		50	80	ZL	10YR5/2	och	many	0	0		42	44	y	n				
		80	120	ZL				0	0		56	0	y	n				
										Total	**211**	**157**						
										MB	106	60		grass; horse grazing				
									Droughtiness grade (DR)		1	1		Assume GW due to mottling				
182	T	0	38	hZCL	7.5YR3/1	och	many				72	72	y	n	*III*	3b	**3b**	WE
		38	40	hZCL	7.5YR4/1	och	many				3	3	y	n				
		40	50	hZCL	7.5YR5/2	och	many				17	17	y	n				
		50	80	fS	7.5YR5/3	och	many				36	28	y	n				
		80	120	fS							48	0		n				
										Total	**177**	**121**			saturated at 70cm- water present in hole			
										MB	72	24			groundwater wetness			
									Droughtiness grade (DR)		1	1						
183	T	0	30	hZCL	7.5YR3/1	och	many	0	0	-	57	57	y	n	*IV*	3b	**3b**	WE
		30	40	hZCL	5YR3/2	och	many	0	0		17	17	y	n				
		40	70	C	7.5YR4/1	och	many	0	0	poor	27	39	y	y				
		70	120	C				0	0	poor	35	0	n	y				
										Total	**136**	**113**						
										MB	31	16				grass badly poached		
									Droughtiness grade (DR)		1	1						
184	T	0	38	mSZL	7.5YR3/1			0			72	72	n	n	*IV*	3a	**3a**	WE
		38	60	C	7.5YR3/3	och	com	0	0	poor	23	29	n	y				
		60	120	C				0	0	poor	42	13	n	y				

										Total	**137**	**114**						
										MB	32	17				grass- poached-horses		
								Droughtiness grade (DR)			1	1						
185	T	0	38	mZCL	10YR3/2			0	0		72	72	n	n	*IV*	3b	**3b**	WE
		38	40	mZCL	10YR4/2	och	many	0	0		**3**	3	y	n				
		40	120	C				5	0	poor	**59**	37		y				
										Total	**135**	**113**						
										MB	30	16				stone at 40cm; grass		
								Droughtiness grade (DR)			1	1						
186	T	0	30	ZL	10YR2/2			0	0		69	69	n	n	*III*	3a	**3a**	WE
		30	45	cSL	10YR2/2			0	0		24	24	n	n				
		45	80	C	5YR3/3	och	com	0	0	poor	28	33	n	y				
		80	120	C				0	0	poor	28	0		y				
										Total	**148**	**126**						
										MB	43	29						
								Droughtiness grade (DR)			1							
187	T	0	28	mZCL	10YR4/1			0	0		53	53	n	n	*IV*	3b	**3b**	WE
		28	45	C	5YR3/3	och	com	0	0	poor	22	22	n	y				
		45	50	mZCL	10YR2/1			0	0		9	9	n	n				
		50	120	C				0	0	poor	49	26		y				
										Total	**133**	**110**						
										MB	28	13				grass		
								Droughtiness grade (DR)			2	1						
188	T	0	15	oZCL	7.5YR2.5/2			0	0		42	42	n	n	*IV*	3b	**3b**	WE
		15	60	hCL	10YR4/1	och	many	0	0	poor	49	54	y	y				
		60	80	C	2.5YR4/1	och	many	0	0	poor	14	13	y	y				
		80	120	C		och	many	0	0	poor	28	0	y	y				
										Total	**133**	**109**				powder soil 15cm+- hummocky field- mining history?		
										MB	28	12						
								Droughtiness grade (DR)			2	1						

Stone types	**Climate Data**	**Wetness Class Guidelines**	*II*	*III*	*IV*	*V*

%	TAv	EAv
hard	1	0.5
.		

MDwheat	99
MDpotato	89
FCD	171

SPL within 80cm, gleying within 40cm	>74cm	46-74cm	<46cm	
SPL within 80cm, gleying at 40-70cm	>60cm	<60cm		
No SPL but gleying within 40cm	coarse subsoil	*I*	other cases	*II*

hard pebble

Maximum depth of auger penetration is underlined

Site No.		Depth cm		Texture	$CaCO_3$	Colour	Mottle colour	abund-ance	stone% hard	stone% .	Struct-ure	APwheat mm	AP potato mm	Gley	SPL	WC	Wetness grade WE	Final Grade	Limiting Factor(s)
192	T	0	40	SCL		7.5YR4/3			0	0	-	68	68	n	n	*III*	3a	**3a**	WE
		40	120	C					15	0	poor	59	37		y				
											Total	**127**	**105**						
											MB	28	16			stone at 40cm grass; bullocks; coal measures/till			
									Droughtiness grade (DR)			2	1						
193	T	0	38	SCL		7.5YR2.5/2			0	0		65	65	n	n	*III*	3a	**3a**	WE
		38	45	SCL		7.5YR2.5/2	Mn	com	0	0		11	11	n	n				
		45	120	C					5		poor	53	31		y				
											Total	**128**	**106**						
											MB	29	17						
									Droughtiness grade (DR)			2	1			grass bullocks			
194	T	0	30	mCL		7.5YR3/2			0	0	-	54	54	n	n	*III*	3a	**3a**	WE
		30	45	mCL		7.5YR3/2	Mn	com	0	0		26	26	n	n				
		45	90	C		5YR5/3	och	many	0	0	poor	35	33	y	y				
		90	120	C					0	0	poor	21	0	n	y				
											Total	**135**	**112**						
											MB	36	23				grass		
									Droughtiness grade (DR)			1	1						
195	T	0	30	SCL		7.5YR3/3			0	0		51	51	n	n	*I*	1	**1**	WE
		30	50	SCL		7.5YR3/3			0	0		30	30	n	n				
		50	90	SCL		5YR4/3	Mn	com	0	0		40	30	n	n				
		90	120	SCL					0	0		30	0	n	n				
											Total	**151**	**111**						
											MB	52	22						
									Droughtiness grade (DR)			1	1				grass		

SJ 300 671

Stone types		
%	TAv	EAv
hard	1	0.5
Sstone	3	2

Climate Data	
MDwheat	91
MDpotato	78
FCD	180
AAR	778

Wetness Class Guidelines	II	III	IV	V
SPL within 80cm, gleying within 40cm	>77cm	49-77cm	<49cm	
SPL within 80cm, gleying at 40-70cm	>64cm	<64cm		
No SPL but gleying within 40cm	coarse subsoil	I	other cases	II

Maximum depth of auger penetration is underlined

AT0
1,384
Limitation

hard flint & pebble 76m

Site No.		Depth cm		Texture	$CaCO_3$	Colour	Mottle colour	abund-ance	stone% hard	stone% Sstone	Struct-ure	APwheat mm	AP potato mm	Gley	SPL	WC	Wetness grade WE	Final Grade	Limiting Factor(s)
196	T	0	27	LmS	n	10YR3/2			5	0		33	33	n	n	I	3a	**3a**	DR
		27	60	LmS	n	10YR4/3			7	0		25	28	n	n				
		60	80	LmS	n	10YR5/4			7	0		11	8	n	n				
		80	120	mS	n	10YR5/4			7	0		19	0	n	n				
											Total	**88**	**70**						
											MB	-3	-8						
									Droughtiness grade (DR)			3a	2						
197	T	0	27	mSL	n	10YR3/2			7	0		43	43	n	n	I	2	**2**	DR
		27	50	LmS	n	10YR4/3			7	0		19	19	n	n				
		50	72	LmS	n	10YR4/4			10	0		12	16	n	n				
		72	90	LmS	n	10YR5/4			10	0		10	0	n	n				
		90	120	mS	n	10YR5/4			10	0		14	0	n	n				
											Total	**98**	**79**						
											MB	7	1						
									Droughtiness grade (DR)			2	2						
198	T	0	25	SCL	n	7.5YR4/2			10	0		39	39	n	n	I	2	**2**	WE
		25	70	SCL	n	7.5YR4/3	Mn	Few	20	0		47	55	n	n				
		70	120	SCL	n	7.5YR4/3			25	0		38	0	n	n				
											Total	**123**	**93**						
											MB	32	15						
									Droughtiness grade (DR)			1	1						
199	T	0	25	mCL	n	10YR4/2	Fe	com	7	0		42	42	y	n	III	3a	**3a**	WE
		25	55	mCL	n	10YR5/2	Fe	com	10	0		41	44	y	n				

		55	80	hCL	n	5YR4/2	Femn	com	15	0	m/poor	18	18	y	y				
		80	120	hCL	n	5YR4/2	Femn	com	20	0	m/poor	28	0	y	y				
											Total	**129**	**104**						
											MB	38	26						
											Droughtiness grade (DR)	1	1						
200	T	0	25	mCL	n	10YR4/2			5	0		43	43	n	n	*III*	3a	**3a**	WE
		25	45	SCL	n	10YR5/1	Fe	few	5	0		29	29	n	n				
		45	55	SCL	n	10YR5/1	Fe	many	5	0		12	14	y	n				
		55	120	C/CL	n	5YR5/3	Femn/gr	v.many	5	0	poor	43	18	y	y				
											Total	**127**	**104**						
											MB	36	26						
											Droughtiness grade (DR)	1	1						
201	T	0	25	mCL	n	10YR4/2			7	0		42	42	n	n	*IV*	3b	**3b**	WE
		25	40	mCL	n	7.5YR5/2	Fe	com	7	0		22	22	y	n				
		40	120	C	n	5YR5/3	Femn	many	10	0	poor	56	35	y	y				
											Total	**121**	**100**						
											MB	30	22						
											Droughtiness grade (DR)	1	1						
202	T	0	25	mCL	n	10YR4/2			5	0		43	43	n	n	*IV*	3b	**3b**	WE
		25	45	hCL	n	5YR5/2	Fe	com	7	0		30	30	y	n				
		45	120	C	n	5YR5/3	Femn/gr	many	7	0	poor	52	30	y	y				
											Total	**125**	**103**		Next to pond				
											MB	34	25						
											Droughtiness grade (DR)	1	1						
203	T	0	25	mSL	n	7.5YR4/2			20	0		35	35	n	n	*I*	1	**3a**	DR
		25	47	LmS	n	5YR4/2			20	0		16	16	n	n				
		47	120	LmS	n	5YR4/2			20	0		37	17	n	n				
											Total	**87**	**68**		Small TS pit				
											MB	-4	-10		TS/USS colours mixed some greyish/reddish				
											Droughtiness grade (DR)	3a	3a						
204	T	0	40	LmS	n	10G3/1			3	0		51	51	n	n	*IV*	4	**4**	GW
Pit		40	120	LmS	n	10YR4/3	?	?	3	0		50	26	y	n				

												Total	**100**	**77**		Fully saturated			Water backfills pit to 30cm	
												MB	9	-1		TS-malodorous green/blue ish				
									Droughtiness grade (DR)				2	2		Wet underfoot reeds in around observation				
205	T	0	28	mCL	n	10YR3/2			3	0			49	49	n	n	*IV*	3b	**3b**	WE
		28	65	C	n	5YR5/3	Femn	many	0	0		poor	39	48	y	y				
		65	120	C	n	5YR5/2	Femn/gr	many	0	0		poor	39	7	y	y				
												Total	**127**	**104**						
												MB	36	26						
									Droughtiness grade (DR)				1	1						
206	T	0	32	SCL	n	10YR4/2			5	0			52	52	n	n	*II*	3a	**3b** /4	GR
		32	120	SCL	n	10YR4/2, 5YR5/3	Fe	com	7	0			91	53	y	n				
												Total	**142**	**105**		GR. 9/10de slope				
												MB	51	27		Edge of made ground. Boggy with reeds at base of slope (IV/3b)				
									Droughtiness grade (DR)				1	1		Made ground. Some 5YR5/3 clay inclusions				
																GW investigated at base of slope. At 40cm depth				
207	T	0	28	SCL	n	10YR4/2			7	0			44	44	n	n	*II*	3a	**4**	GR
		28	86	SCL	n	10YR4/2, 5YR5/3	Fe	com	15	0			59	54	y	n				
		86	120	SCL	n	10YR4/2, 5YR5/3	Fe	com	20	0			28	0	y	n				
												Total	**131**	**99**		Reddish brown/dark grey streaks/ patches in profile.				
												MB	40	21		GR. 15de slope to north/north-west				
									Droughtiness grade (DR)				1	1		Made ground	SS-clay inclusions			
211	T	0	28	mSL	n	10YR4/2			10	0			43	43	n	n	*I*	1	**N/A**	Non-AG
		28	45	mSL	n	5YR4/3, 5YR4/3			25	0			20	20	n	n				
		45	120	mSL	n	5YR4/3, 5YR4/3			25	0			64	29	n	n				
												Total	**127**	**91**		Made ground				
												MB	36	13		Landfill? Vents				
									Droughtiness grade (DR)				1	1						
212	T	0	17	mSL	n	10YR3/2			10	0			26	26	n	n			**N/A**	Non-AG

		17	27	mSL	n	10YR5/2, 10YR4/1, 10YR5/6			25	0		12	12	n	n					
		27	120	mSL	n	10YR5/2, 10YR4/1, 10YR5/6			25	0		85	49	n	n					
											Total	**123**	**87**		Made ground					
											MB	32	9		Landfill? Vents Brick and charcoal fragments in TS					
									Droughtiness grade (DR)			1	2							
213	T	0	27	mSL	n	10YR3/2			10	0		42	42	n	n	*I*	2	**3b**	GR		
		27	51	mSL	n	7.5YR4/3	Fe	com	15	0		31	31	(y)	n						
		51	60	LmS	n	7.5YR4/3	Fe	com	25	0		4	6	(y)	n						
		60	120	LmS	n	7.5YR4/3	Fe	com	25	0		28	7	(y)	n						
											Total	**104**	**86**		GR. 7/8de slope northern corner					
											MB	13	8							
									Droughtiness grade (DR)			2	2							
214	T	0	30	SCL	n	10YR4/2			7	0		48	48	n	n	*I*	2	**2**	WE		
		30	50	SCL	n	10YR4/3			10	0		27	27	n	n						
		50	120	SCL	n	10YR4/3	Mn	few	15	0		60	26	n	n						
											Total	**135**	**101**							
											MB	44	23							
									Droughtiness grade (DR)			1	1							
215	T	0	28	mCL	n	10YR4/2	Fe	com	5	0		48	48	y	n	*IV*	3b	**3b**	WE		
		28	46	hCL	n	7.5YR5/3	Fe	many	5	0		27	27	y	n						
		46	120	C	n	5YR4/3	Femn/gr	many	3	0	poor	53	30	y	y						
											Total	**128**	**106**							
											MB	37	28							
									Droughtiness grade (DR)			1	1							

Stone types		
%	TAv	EAv
hard	1	0.5
Sstone	3	2

Climate Data	
MDwheat	88
MDpotato	74
FCD	184
AAR	792

Wetness Class Guidelines	*II*	*III*	*IV*	*V*
SPL within 80cm, gleying within 40cm	>78cm	50-78cm	<50cm	
SPL within 80cm, gleying at 40-70cm	>66cm	<66cm		
No SPL but gleying within 40cm	coarse subsoil	*I*	other cases	*II*

AT0
1,366
Limitation

hard flint & pebble

Maximum depth of auger penetration is underlined

Site No.		Depth cm		Texture	$CaCO_3$	Colour	Mottle colour	abund-ance	stone% hard	stone% Sstone	Struct-ure	APwheat mm	AP potato mm	Gley	SPL	WC	Wetness grade WE	Final Grade	Limiting Factor(s)
238	T	0	30	SZL	n	10YR3/1			5	0		54	54	n	n	*I*	1	**Disturbed**	N/A
		30	70	hCL	n	10YR2/1			40	0		32	40	n	n				
		70	120	hCL	n	10YR2/1			40	0		31	0	n	n				
											Total	**118**	**94**		Disturbed land- stone is charcoal				
											MB	30	20		Not representative. Not to be included in grading				
											Droughtiness grade (DR)	1	1						
239	T	0	26	mCL	n	10YR3/2	Fe	com	3	0		45	45	n	n	*IV*	3b	**3b**	WE
		26	70	C	n	10YR5/1	Femn	v.many	5	0	poor	43	55	y	y				
		70	120	hCL	n	5YR5/3	Femn	many	10	0	poor	32	0	y	y				
											Total	**120**	**100**						
											MB	32	26						
											Droughtiness grade (DR)	1	1						
240	T	0	29	mCL	n	10YR3/2	Fe	com	2	0		51	51	n	n	*IV*	3b	**3b**	WE
		29	70	C	n	10YR6/1, 5YR5/3	Fe/gr	v.many	2	0	poor	41	52	y	y				
		70	120	C	n	5YR5/3	Fe/gr	many	5	0	poor	33	0	y	y				
											Total	**125**	**104**		Some fine loamy subsoil lenses. Clay dominant				
											MB	37	30						
											Droughtiness grade (DR)	1	1						
241	T	0	27	mCL	n	10YR3/2	Fe	com	2	0		48	48	n	n	*III*	3a	**3a**	WE
		27	55	fSCL	n	10YR5/2	Fe	many	2	0		41	44	y	n				
		55	120	C	n	5YR5/3	Femn/gr	v.many	7	0	poor	43	18	y	y				
											Total	**131**	**110**		Some fine loamy L. subsoil lenses. Clay dominant				
											MB	43	36						
											Droughtiness grade (DR)	1	1						

Site No.		Depth cm		Texture	$CaCO_3$	Colour	Mottle colour	abund-ance	stone% hard	stone% Sstone	Struct-ure	APwheat mm	AP potato mm	Gley	SPL	WC	Wetness grade WE	Final Grade	Limiting Factor(s)
242	T	0	30	mCL	n	10YR3/2			3	0		52	52	n	n	*III*	3a	**3a**	WE
		30	60	fSCL	n	5YR5/3	Fe	many	3	0		41	47	y	n				
		60	120	C/CL	n	5YR5/3	Femn	v.many	3	0	poor	41	12	y	y				
											Total	**134**	**111**		Variable LSS clay/hCL lenses.				
											MB	46	37						
											Droughtiness grade (DR)	1	1						
250	T	0	30	SCL	n	10YR3/2	Femn	com	3	0		50	50	n	n	*III*	3a	**3a**	WE
		30	58	SCL	n	10YR5/3	Femn	many	5	0		36	40	y	n				
		58	120	C	n	5YR5/3	Femn	many	5	0	poor	41	15	y	y				
											Total	**127**	**104**						
											MB	39	30						
											Droughtiness grade (DR)	1	1						
251	T	0	31	mCL	n	10YR4/2	Femn	few	2	0		55	55	n	n	*III*	3a	**3a**	WE
		31	55	hCL	n	10YR6/2	Femn	many	5	0		34	37	y	n				
		55	120	C/CL	n	5YR5/3	Femn	many	5	0	poor	43	18	y	y				
											Total	**132**	**109**		Variable LSS clay/hCL lenses.				
											MB	44	35						
											Droughtiness grade (DR)	1	1						

Stone types		
%	TAv	EAv
hard	1	0.5
Sstone	3	2

Climate Data	
MDwheat	84
MDpotato	69
FCD	190
AAR	810

Wetness Class Guidelines	*II*	*III*	*IV*	*V*
SPL within 80cm, gleying within 40cm	>79cm	51-79cm	<51cm	
SPL within 80cm, gleying at 40-70cm	>69cm	<69cm		
No SPL but gleying within 40cm	coarse subsoil	*I*	other cases	*II*

AT0
1,339
Limitation

hard flint & pebble

Maximum depth of auger penetration is underlined

116m

Site No.		Depth cm		Texture	$CaCO_3$	Colour	Mottle colour	abund-ance	stone% hard	stone% Sstone	Struct-ure	APwheat mm	AP potato mm	Gley	SPL	WC	Wetness grade WE	Final Grade	Limiting Factor(s)
257	T	0	29	SCL	n	10YR4/2			3	0		48	48	n	n	*I*	2	**2**	WE
		29	60	mSL	n	7.5YR4/3			7	0		40	43	n	n				
		60	75	mSL	n	5YR4/3	Mn	few	15	0		14	13	n	n				
		75	120	LmS	n	5YR4/3	Mn	few	20	0		22	0	n	n				

											Total	**124**	**104**						
											MB	40	35						
										Droughtiness grade (DR)		1	1						
258	T	0	33	SCL	n	10YR4/2			3	0		55	55	n	n	*I*	2	**2**	WE
		33	65	SCL	n	7.5YR4/3			5	0		39	46	n	n				
		65	75	mSL	n	7.5YR4/3			7	0		10	7	n	n				
		75	120	mSL	n	7.5YR4/3			20	0		40	0	n	n				
											Total	**143**	**107**						
											MB	59	38						
										Droughtiness grade (DR)		1	1						
259	T	0	25	mCL	n	10YR4/2	Fe	com	3	0		44	44	y	n	*III*	3a	**3a**	WE
		25	45	mCL	n	10YR5/3	Femn	many	5	0		31	31	y	n				
		45	65	fSCL	n	10YR6/2	Fe	com	5	0		22	31	y	n				
		65	120	C	n	5YR5/3	Fe	v.many	5	0	poor	37	6	y	y				
											Total	**133**	**111**						
											MB	49	42						
										Droughtiness grade (DR)		1	1						
260	T	0	28	mCL	n	10YR4/2	Fe	few	5	0		48	48	n	n	*III*	3a	**3a**	WE
		28	40	hCL	n	5YR5/3	Fe	many	10	0		17	17	y	n				
		40	54	hCL	n	5YR5/3	Fe	many	2	0		20	22	y	n				
		54	75	fSCL	n	5YR5/3	Fe	com	2	0		21	25	y	n				
		75	120	C	n	2.5YR5/3	Femn	v.many	5	0	poor	30	0	y	y				
											Total	**136**	**113**						
											MB	52	44						
										Droughtiness grade (DR)		1	1						
261	T	0	27	mCL	n	10YR4/2			0	3		47	47	n	n	*I*	2	**2**	WE
		27	50	SCL	n	7.5YR4/3			0	5		33	33	n	n				
		50	70	mCL	n	7.5YR4/3			0	10		18	29	n	n				
		70	90	LmS	n	10YR5/2			0	15		11	0	n	n				
		90	120	LmS	n	10YR5/2			0	20		16	0	n	n				
											Total	**125**	**110**						
											MB	41	41						

								Droughtiness grade (DR)			1	1							
262	T	0	26	mCL	n	10YR3/2			2	0		46	46	n	n	*III*	3a	**3a**	WE
		26	45	SCL	n	10YR6/3	Femn	com	5	0		27	27	y	n				
		45	70	SC	n	5YR5/3, 7.5YR5/3	Femn	many	5	0		26	36	y	n				
		70	120	hCL	n	5YR5/3	Femn/gr	many	7	0	poor	33	0	y	y				
											Total	**132**	**109**						
											MB	48	40						
								Droughtiness grade (DR)			1	1							
263	T	0	28	mCL	n	10YR4/2			5	0		48	48	n	n	*III*	3a	**3b**	GR
		28	60	mCL	n	10YR5/3	Fe	com	5	0		43	49	y	n				
		60	92	hCL	n	10YR5/1	Fe	many	3	0	poor	22	12	y	y				
		92	120	C	n	5YR5/3	Fe	many	7	0	poor	18	0	y	y				
											Total	**131**	**108**		GR. 7/8de		3b		
											MB	47	39						
								Droughtiness grade (DR)			1	1							
264	T	0	26	mCL	n	10YR4/2			5	0		45	45	n	n	*III*	3a	**3a**	WE
		26	55	hCL	n	7.5YR6/3	Fe	many	5	0		41	44	y	n				
		55	80	C	n	5YR5/3	Fe	many	5	0	poor	17	19	y	y				
		80	100	SCL	n	5YR4/3	Femn	many	10	0	m/poor	16	0	(y)	y				
		100	120	SCL	n	5YR4/3	Femn	com	5	0		19	0	(y)	n				
											Total	**138**	**107**						
											MB	54	38						
								Droughtiness grade (DR)			1	1							
265	T	0	27	mCL	n	10YR4/2	Fe	com	3	0		47	47	y	n	*IV*	3b	**3b**	WE
		27	40	hCL	n	10YR5/3	Fe	com	7	0		19	19	y	n				
		40	50	C	n	5YR5/3	Femn	many	7	0	poor	12	12	y	y				
		50	70	hCL	n	5YR5/3	Fe	v.many	7	0	poor	13	22	y	y				
		70	120	C	n	5YR5/3	Fe	many	10	0	poor	32	0	y	y				
											Total	**124**	**101**						
											MB	40	32						
								Droughtiness grade (DR)			1	1							

266	T	0	30	mCL	n	10YR4/2			5	0		51	51	n	n	*III*	3a	**3a**	WE
		30	48	mCL	n	5YR4/2	Fe	com	5	0		27	27	y	n				
		48	120	C/CL	n	5YR4/3	Femn	com	0	10	m/poor	58	29	n	(y)				
											Total	**137**	**108**		LSS-friable patches of weathered Sst				
											MB	53	39						
											Droughtiness grade (DR)	1	1						
267	T	0	28	SCL	n	10YR4/2			0	5		46	46	n	n	*I*	2	**3a**	DR
		28	52	LmS	n	7.5YR4/3			0	10		20	20	n	n				
		52	70	LmS	n	7.5YR4/3, 7.5YR5/1			0	15		10	15	n	n				
		70	120	Sst								10	0	n	n				
											Total	**85**	**80**						
											MB	1	11						
											Droughtiness grade (DR)	3a	1						
268	T	0	27	hCL	n	10YR4/2	Fe	few	5	0		46	46	n	n	*IV*	4	**4**	WE
		27	40	hCL	n	10YR5/2	Fe	many	3	0		20	20	y	n				
		40	120	C	n	5YR5/3	Fe/gr	many	3	0	poor	60	38	y	y				
											Total	**127**	**104**						
											MB	43	35						
											Droughtiness grade (DR)	1	1						
269	T	0	28	mCL	n	10YR4/2			5	0		48	48	n	n	*IV*	3b	**3b**	WE
		28	45	hCL	n	10YR5/3	Femn	com	5	0		26	26	y	n				
		45	55	C	n	5YR5/4	Femn	many	5	0	m/poor	10	14	y	y				
		55	120	C	n	2.5YR5/3	Femn/gr	com	7	0	poor	43	18	y	y				
											Total	**127**	**106**						
											MB	43	37						
											Droughtiness grade (DR)	1	1						

Stone types		
%	TAv	EAv
hard	1	0.5
.		

Climate Data	
MDwheat	88
MDpotato	73
FCD	188

Wetness Class Guidelines	*II*	*III*	*IV*	*V*
SPL within 80cm, gleying within 40cm	>78cm	51-78cm	<51cm	
SPL within 80cm, gleying at 40-70cm	>68cm	<68cm		
No SPL but gleying within 40cm	coarse subsoil	*I*	other cases	*II*

hard pebble

Maximum depth of auger penetration is underlined

Site No.		Depth cm		Texture	$CaCO_3$	Colour	Mottle colour	abund-ance	stone% hard	stone% .	Struct-ure	APwheat mm	AP potato mm	Gley	SPL	WC	Wetness grade WE	Final Grade	Limiting Factor(s)
270	T	0	30	mCL		7.5YR4/2			0	0	-	54	54	n	n	*IV*	3b	**3b**	WE
		30	40	mCL		7.5YR5/3	Fe	many	5	0		15	15	y	n				
		40	120	C					0	0	poor	62	39	y	y				
											Total	**131**	**108**						
											MB	43	35			grass horses			
									Droughtiness grade (DR)			1	1						
271	T	0	30	mCL		7.5YR3/2			0	0		54	54	n	n	*III*	3a	**3a**	WE
		30	40	mCL		7.5YR3/2	Fe	com	0	0		16	16	n	n				
		40	45	mCL		7.5YR4/2	Fe	com	0	0		8	8	y	n				
		45	60	C		5YR4/4	Fe	com	0	0	poor	14	20	n	y				
		60	120	C					5	0	poor	40	12	n	y				
											Total	**132**	**110**						
											MB	44	37						
									Droughtiness grade (DR)			1	1			grass			
272	T	0	40	SCL		7.5YR2.5/3			0	0	-	68	68	n	n	*III*	3a	**3a**	WE
		40	45	SCL		7.5YR4/2	Fe	few	5	0		7	7	n	n				
		45	55	C		5YR4/4	Fe	com	0	0	poor	10	13	n	y				
		55	100	C		5YR4/4	Mn	com	0	0	poor	32	20	n	y				
		100	120	C					0	0	poor	14	0	n	y				
											Total	**131**	**108**						
											MB	43	35				grass		
									Droughtiness grade (DR)			1	1						
273	T	0	35	mCL		7.5YR3/3			0	0		63	63	n	n	*III*	3b	**3b**	WE
		35	40	mCL		7.5YR4/2	Fe	com	0	0		8	8	n	n				

		40	120	C				0	0	poor	62	39	n	y					
										Total	**133**	**110**							
										MB	45	37							
										Droughtiness grade (DR)	1	1			grass				
274	T	0	35	SCL	10YR3/3			0	0	-	60	60	n	n	*II*	3a	**3a**	WE	
		35	40	SCL	10YR3/3	Mn	com	0	0		8	8	n	n					
		40	50	SCL	10YR4/2	Fe	many	0	0		15	15	y	n					
		50	70	SCL	10YR5/1	Fe	many	0	0		20	30	y	n					
		70	120	C				0	0	poor	35	0	n	y					
										Total	**137**	**112**							
										MB	49	39			Sp cereal; stone at 70cm				
										Droughtiness grade (DR)	1	1							
276	T	0	30	mCL	5YR4/3			0	0	-	54	54	n	n	*II*	3a	**3a**	WE	
		30	45	mCL	5YR4/3			0	0		24	24	n	n					
		45	75	hCL	5YR4/3			0	0		33	40	n	n					
		75	85	C	5YR4/4			0	0	poor	7	0	n	y					
		85	120	C				0	0	poor	25	0	n	y					
										Total	**142**	**118**							
										MB	54	45			grass, young cattle				
										Droughtiness grade (DR)	1	1							
277	T	0	35	mCL	5YR3/3			0	0		63	63	n	n	*III*	3a	**3a**	WE	
		35	48	hCL	5YR4/3			0	0		21	21	n	n					
		48	90	C	5YR5/3	Fe	com	0	0	poor	31	29	y	y					
		90	120	C		Fe	com	0	0	poor	21	0	y	y					
										Total	**135**	**112**							
										MB	47	39							
										Droughtiness grade (DR)	1	1			grass				
278	T	0	30	mCL	7.5YR3/3			0	0	-	54	54	n	n	*III*	3a	**3a**	WE	
		30	35	mCL	7.5YR3/3			0	0		8	8	n	n					
		35	55	hCL	5YR4/3			0	0		29	32	n	n					
		55	70	C	5YR3/3	Fe	com	0	0	poor	11	20	n	y					
		70	90	C	7.5YR5/3	Fe	com	0	0	poor	14	0	y	y					

		90	120	C				0	0	poor	21	0	y	y					
										Total	**136**	**114**							
										MB	48	41				grass young cattle			
										Droughtiness grade (DR)	1	1							
279	T	0	35	mCL	5YR3/3			0	0		63	63	n	n	*III*	3a	**3a**	WE	
		35	55	mCL	5YR4/3			0	0		29	32	n	n					
		55	80	C	5YR4/4	Fe	many	0	0	poor	18	20	n	y					
		80	120	C				0	0	poor	28	0	n	y					
										Total	**138**	**115**							
										MB	50	42							
										Droughtiness grade (DR)	1	1				grass young cattle			
280	T	0	40	SCL	5YR3/3			0	0	-	60	60	n	n	*III*	3a	**3a**	WE	
		40	50	C	5YR4/3	Mn	com	0	0	poor	8	8	n	y					
		50	120	C		Fe	many	10	0	poor	**15**	15	y	y					
										Total	**137**	**112**							
										MB	49	39				grass; dry soil ; stone at 50cm			
										Droughtiness grade (DR)	1	1							
281	T	0	38	mCL	5YR3/3			0	0	-	68	68	n	n	*III*	3a	**3a**	WE	
		38	40	hCL	5YR4/3	Mn	few	0	0		3	3	n	n					
		40	55	hCL	5YR4/3			0	0		21	24	n	n					
		55	70	C	5YR4/3	Fe	many	0	0	poor	11	20	y	y					
		70	120	C				0	0	poor	35	0	n	y					
										Total	**138**	**115**							
										MB	50	42				grass; dry soil ;			
										Droughtiness grade (DR)	1	1							
282	T	0	30	mCL	7.5YR3/4			5	0	-	54	54	n	n	*III*	3a	**3a**	WE	
		30	40	mCL	5YR4/3			15	0		16	16	n	n					
		40	120	C				0	0	poor	49	26	n	y					
										Total	**119**	**96**							
										MB	31	23				grass; dry soil augered to 30cm; stone present			
										Droughtiness grade (DR)	1	1							
283	T	0	30	mCL	7.5YR3/4			0	0	-	54	54	n	n	*III*	3a	**3a**	WE	

		30	40	mCL	5YR4/3	Fe	com	15	0		14	14	n	n					
		40	120	C				0	0	poor	62	39	n	y					
										Total	**130**	**107**							
										MB	42	34				grass stone at 40cm dry			
										Droughtiness grade (DR)	1	1							
284	T	0	35	mCL	7.5YR3/3			0	0	-	63	63	n	n	*III*	3a	**3a**	WE	
		35	60	hCL	5YR4/3	Mn	com	0	0		34	40	n	n					
		60	80	C	5YR5/3	Fe	many	0	0	poor	14	13	y	y					
		80	120	C				0	0	poor	**28**	0	n	y					
										Total	**139**	**116**							
										MB	51	43				grass			
										Droughtiness grade (DR)	1	1							
285	T	0	35	mCL	5YR3/4			0	0	-	63	63	n	n	*III*	3a	**3a**	WE	
		35	55	hCL	5YR3/4			5	0		28	30	n	n					
		55	70	C	5YR4/4	Fe	com	0	5	poor	11	20	n	y					
		70	120	C				0	0	poor	**35**	0	n	y					
										Total	**136**	**113**							
										MB	48	40				grass ; some sandstone fragments 55 cm+			
										Droughtiness grade (DR)	1	1							
286	T	0	35	mCL	7.5YR3/3			0	0	-	63	63	n	n	*III*	3a	**3a**	WE	
		35	45	mCL	7.5YR4/3			5	0		15	15	n	n					
		45	55	hCL	7.5YR4/3	Fe	com	0	0		13	16	n	n					
		55	100	C	5YR4/3	Fe	com	0	0	poor	32	20	n	y					
		100	120	C				0	0	poor	**14**	0	n	y					
										Total	**137**	**114**							
										MB	49	41				fallow after maize			
										Droughtiness grade (DR)	1	1							
287	T	0	35	mSL	5YR3/3			0	0	-	60	60	n	n	*I*	1	**1**	NA	
		35	75	mSL	5YR4/3			0	0		50	53	n	n					
		55	95	LmS	5YR4/4			0	0		24	0	n	n					
		95	120	LmS				0	0		15	0	n	n					
										Total	**148**	**112**							

										MB	60	39				fallow after maize		
										Droughtiness grade (DR)	1	1						
288	T	0	35	mCL	7.5YR3/3			0	0	-	63	63	n	n	///	3a	**3a**	WE
		35	45	mCL	7.5YR4/3			5	0		15	15	n	n				
		45	50	SCL	7.5YR5/3	Fe	com	0	0		8	8	y	n				
		50	60	C	5YR4/3			5	0	poor	7	12	n	y				
		60	120	C				0	0	poor	42	13	n	y				
										Total	**134**	**111**						
										MB	46	38						
										Droughtiness grade (DR)	1	1				stone at 40cm and 60cm		
289	T	0	39	SCL	7.5YR3/3			0	0	-	66	66	n	n	///	3a	**3a**	WE
		39	40	SCL	7.5YR4/3			5	0		1	1	n	n				
		40	120	C				0	0	poor	62	39	n	y				
										Total	**130**	**107**						
										MB	42	34				grass; cattle		
										Droughtiness grade (DR)	1	1						
290	T	0	35	mCL	7.5YR3/3					-	63	63	n	n	///	3a	**3a**	WE
		35	70	C	5YR4/3	Fe	com	5		poor	32	43	n	y				
		70	120	C						poor	35	0	n	y				
										Total	**130**	**106**						
										MB	42	33				grass;		
										Droughtiness grade (DR)	1	1						
291	T	0	38	mCL	7.5YR3/3			0	0	-	68	68	n	n	///	3a	**3a**	WE
		38	40	hCL	7.5YR3/3			0	0		3	3	n	n				
		40	80	C	7.5YR5/2	Mn	com	0	0	poor	34	39	n	y				
		80	120	C				0	0	poor	**28**	0	n	y				
										Total	**134**	**111**						
										MB	46	38				grass		
										Droughtiness grade (DR)	1	1						
292	T	0	40	SCL	7.5YR3/2			0	0	-	68	68	n	n	///	3a	**3a**	WE
		40	120	C				15	0	poor	53	34	n	y				

									Total	**121**	**102**						
									MB	33	29			grass; stone at 40cm; soil dry			
						Droughtiness grade (DR)				1	1						
293	T	0	39	SCL	7.5YR4/2	0	0	-	66	66	n	n	*III*	3a	**3a**	WE	
		39	40	hCL	5YR4/3	15	0		1	1	n	n					
		40	120	C		0	0	poor	62	39	n	y					
									Total	**130**	**107**						
									MB	42	34			grass ; stone at 40cm stopped auger; soil dry			
						Droughtiness grade (DR)				1	1						
294	T	0	40	SCL	7.5YR3/2	0	0	-	68	68	n	n	*III*	3a	**3a**	WE	
		40	45	SCL	7.5YR3/2	15	0		6	6	n	n					
		45	120	C		0	0	poor	56	33	n	y					
									Total	**130**	**107**						
									MB	42	34			grass ; stone at 40cm and auger stopped at 45cm; soil dry			
						Droughtiness grade (DR)				1	1						

Appendix 4: Site Photographs and Pit Descriptions

Pit	**03**	Ley sheep grazed.
Ah	0-15 cm	Very dark greyish brown (10YR3/2) organic heavy silty clay loam. Granular structure with many roots. SOM 9.0% (0- 25cm)
Bg1	15-35 cm	Grey (N5/1) clay with many mottles. Very firm coarse platy structure (compact). One earthworm. Non-calcareous.
Bg2	35-65 cm	As above, firm moderately developed coarse subangular blocky structure with roots. Greyer in root channels and some organic coats. Somewhat more permeable than above.
Oh	65-120 cm	Black loose peaty material with layers of silty clay loam. Saturated.

Geology: Tidal Flats clay over peat
Comment: wetness on surface due to slowly permeable clay within 20cm depth (Wetness Class IV). Permeability could be improved by grass subsoiler.
When augered through to the peaty loam, water rose to fill pit up to 35cm from surface. Ditches should be able to keep groundwater below this so ALC Subgrade 3b. Midelney series.

03: pit water seeping in 20cm (surface water sitting on compact clay) 	03 : when augered through to peat, water rises to 35cm (groundwater) 
03: structures. Compact platy clay at 20cm, less compact below 35cm 	03 : clay subsoil below 35cm; very firm but some biopores (grey root channels) 

Pit	**20**	Grass (improved)
Ap	0-25 cm	Brown (7.5YR4/2) medium clay loam. Very friable coarse granular structure with many roots. Good SOM level (5.9%).
GEg	25-38 cm	Greyish brown (10YR5/2) heavy clay loam with common iron mottles. Moderate medium subangular blocky structure. Roots and earthworm.
Btg	38-55 cm	Reddish-yellow (5YR6/6) clay with prominent grey mottling and manganese. Some root penetration. Very firm medium angular blocks passing to very large adherent blocks.

Geology: reddish Till

Comment: slowly permeable within 40cm so WC IV and ALC limited to Subgrade 3b due to Wetness. Salop series.

20: structures

20: clay 38cm; very firm, adherent structures, slowly permeable.

Pit	**23**	Winter wheat.
Ap	0-35 cm	Brown (7.5Y4/3) sandy clay loam, a few stones (2-4%). Friable fine subangular blocky fragments. Roots. Good SOM (5.3%).
Eb(g)	35-48 cm	Greyish brown (10YR5/2) sandy clay loam with a few faint mottles. Some large stones (15%). Very friable fine subangular blocky structure (loose) with roots.
Btg	48-60 cm	Yellowish red (5YR5/6) clay with many grey (10Y7/1) mottles, roots and some organic matter infills. Very firm moderate coarse subangular blocky structure.

Geology: Red Till

Comment: slowly permeable clay within 50cm and WC III. Coupled with medium topsoil is Subgrade 3a limitation due to Wetness. Clifton series.

23 : pit

23: well structured upper subsoil 35-48cm with one large stone.

Pit	**68**	Grass
Ag	0-25 cm	Greyish brown (10YR5/2) organic heavy silty clay loam with common iron mottles. Root mat 0-10cm; 10-20cm adherent blocks containing roots. 14.4% SOM.
Oh1	25-40 cm	Dark (10YR2/2) peaty loam. Loose with some roots
Oh2	40-120 cm	Loose granular dark peaty soil with some grey mottled medium subangular blocks or layers of mineral soil. Saturated; H_2S being evolved. Non-calcareous. 30-50cm sample measured 32% SOM.

Geology: Peaty alluvium

Comment: water level is quite high in adjoining ditch, and field to south relies on shallow gullies for drainage. Wetness Class V and ALC Grade 4 land (suitable for summer grassland only).

68: pit

68: structures

Pit	**78**	Arable (spring crop), plateau.
Ap	0-30 cm	Brown (7.5YR4/3) 'stickier' sandy clay loam. Friable medium subangular blocky fragments. A few stones. Cloddy surface.
Eb(g)	30-40 cm	Brown (7.5YR5/3) clay loam with pockets of sandy loam. Mottled at base. Friable moderate medium subangular blocky. Small stones and a few large stones (overall around 10%).
Btg	40-70 cm	Reddish brown (5YR4/4-5/4) clay with grey and manganese mottles. Moderately developed structure with some biopores and roots: firm medium subangular passing to coarse blocky. Slightly calcareous. Significant stones (difficult to dig).
Ckg	70-120 cm	Reddish brown clay as above but more calcareous.

Geology: Red Till

Comment: stickiness of topsoil due to lower organic matter (3.1%) than other areas. Slowly permeable within 45cm but relatively unmottled within 35cm. WC III-IV. Based on WCIII, ALC Grade is 3a, although similar adjoining soils in the valley are 3b. Salop series.

78: pit

78: structures

Pit	**81**	Grassland
Ap	0-23 cm	Brown (7.5YR4/2) medium clay loam. Some mottles below 15cm. A few stones. Compact breaking to coarse granular with many roots. 5.1% SOM (good).
Ebg	23-45 cm	Brown (7.5YR5/2) medium clay loam. Sandy loam on one side of pit. Many iron mottles. Wet. Slightly stony.
Btg	45-60 cm	Reddish brown (5YR5/4) heavy clay loam (slowly permeable).
BCg	60-120 cm	Reddish brown clay.

Geology: Red Till

Comment: drainage is quite poor here as evidenced by poaching. Graded as WC IV and ALC Subgrade 3b, though subsoiling, better under-drains (and deeper ditches) could improve it. Salop series.

81: structures

81: poached and shallow ditch

Pit	**89**	Maize stubble, footslope.
Ap	0-29 cm	Dark greyish brown (10YR4/2) sandy loam. Compact, breaking into coarse blocky fragments. Slightly stony. 4.4% SOM.
Eb(g)	29-45 cm	Brown (10YR5/3) sandy clay loam with common faint iron mottles. Some organic matter coats. Platy (compact) at top and loose beneath (fine subangular blocky). About 8% stones.
B(g)	45-95 cm	Pale brown (10YR6/3) sandy clay loam. Many manganese mottles below 65cm. Friable, moderate medium angular blocky structure. Slightly stony.
BCg	95-120 cm	Pale brown (10YR6/3) slightly stony sandy loam.

Geology: Glacial sandy and gravel.

Comment: no slowly permeable layer though lateral water flows may affect lower subsoil. WC II and Grade 1. Compaction in top 35cm should be easy to remove by appropriate cultivation.

89: structures

89: coarse manganese mottles in lower subsoil (on auger), faint fine iron mottles in upper subsoil (below)

Site photographs

03 view to 02. Reasonable quality grass, locally wetter underfoot. Points 1 and 2 not wet underfoot. Field graded as 3b.

Vew from 06 to 05 over ditch where grass is unimproved.

07 improved grassland. Useable in summer but lack of deep ditches so prone to high ground or surface water much of year. Gr 4.

32. Grass paddock, reasonably well drained (Subgrade 3a).

45. View north to Stanlow oil refinery. Grass ley on gentle slope; reasonably well drained.

Better drained loamy soils over clay at depth. Grade 2.

46. View to south east. Grass ley on gentle slope; better well drained (Grade 2).

47 poached topsoil indicating some wetness, but SPL is sufficiently deep to Subgrade 3a.

View from 48 to 49 shallow ditch system, clay nearer to surface. Near 49 around pond is wet (Subgrade 3b).

55 looking to 56 downslope and motorway beyond.

Grazed ley

Well drained deep stony sandy soil. Deep dark topsoil (SOM 4.4%) but sandy subsoil so droughty (Subgrade 3a).

Sample 54 was relocated to top of this field from the adjacent paddock which had many horses.

60 view to 59 and 58. Fertile maize field (treated with lime cake and other manure). Deep sandy loam (Grade 2).

View from west from dyke: location 65 on left (Grade 5) and 63 right (Grade 4).

64: reed infested, water on surface water (Grade 5)

Shallow ditch near 68 (Grade 4)

69 towards 68 shallow gullies to remove water

67: motorway is top right.

Peaty subsoil but on a slight rise. Better drained but disturbed land. Large boulder in foreground.

82 to 81: pond

87: willow coppice.
Slowly permeable clay subsoil at 40cm.

90: meadow east of Canal (alluvium). Not boggy except to right (south)

Topsoil spits

43 topsoil. Grass ley, few stones. Sandy clay loam

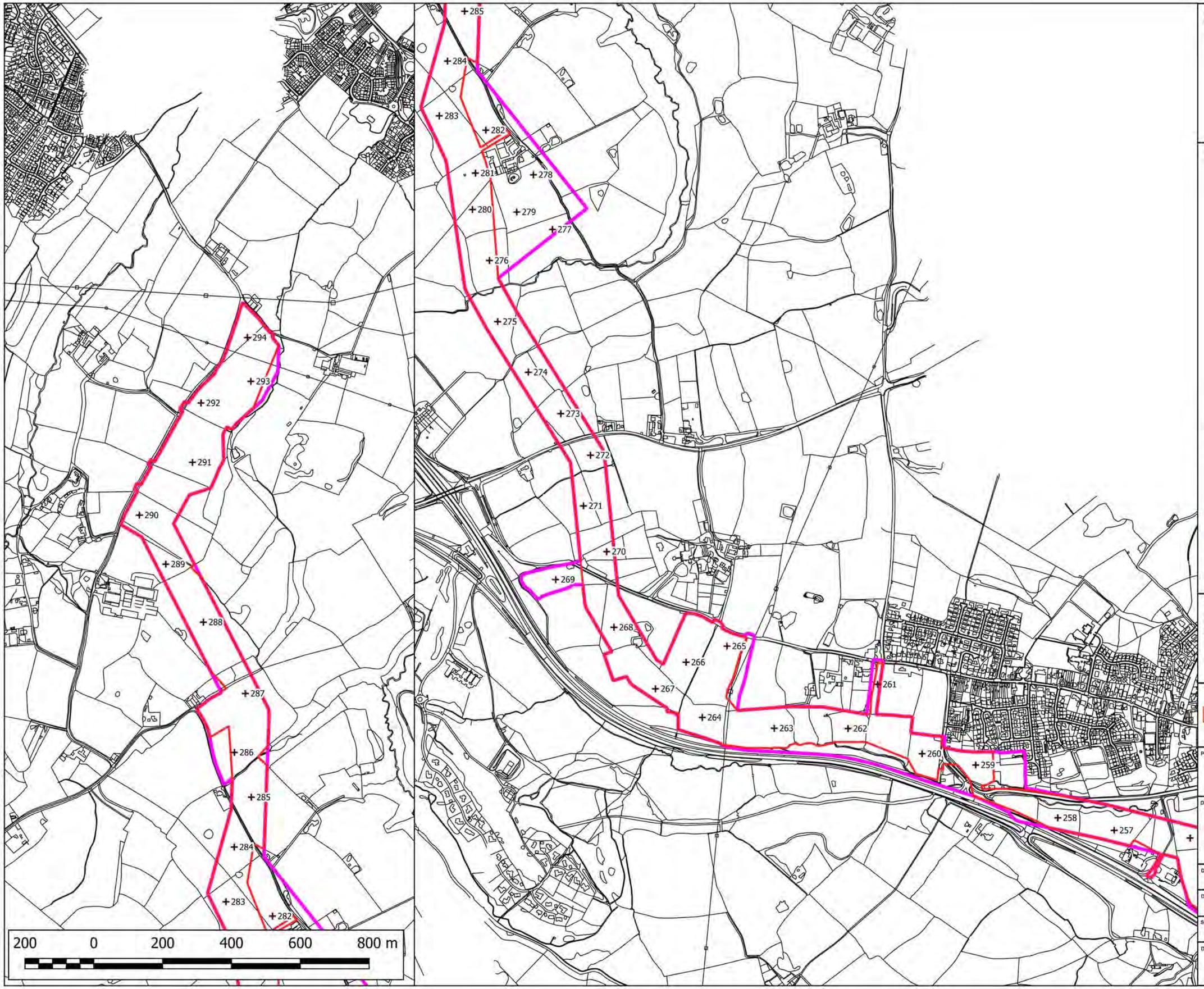
46 topsoil. Sandy clay loam over clayey subsoil.
SOM 5.7% (Good).

48 topsoil
Better drained loamy soils over clay at depth. Grade 2.

51 topsoil. Grass field. Sandy loam. 4.6% SOM (Good). Excellent structure although overlying clay within 40cm (WC IV).

60 topsoil, fertile sandy loam. 6.1% SOM (high)
pH 8.2
Maize stubble.

93 topsoil, friable sandy clay loam overlying pebbly sandstone within 80cm. Maize stubble.



Key:

KEY

Observation

+ 1 Auger

+ P Pit

DCO Boundary

Survey Boundary

Surveyed by MAFF/WG

HyNet North West

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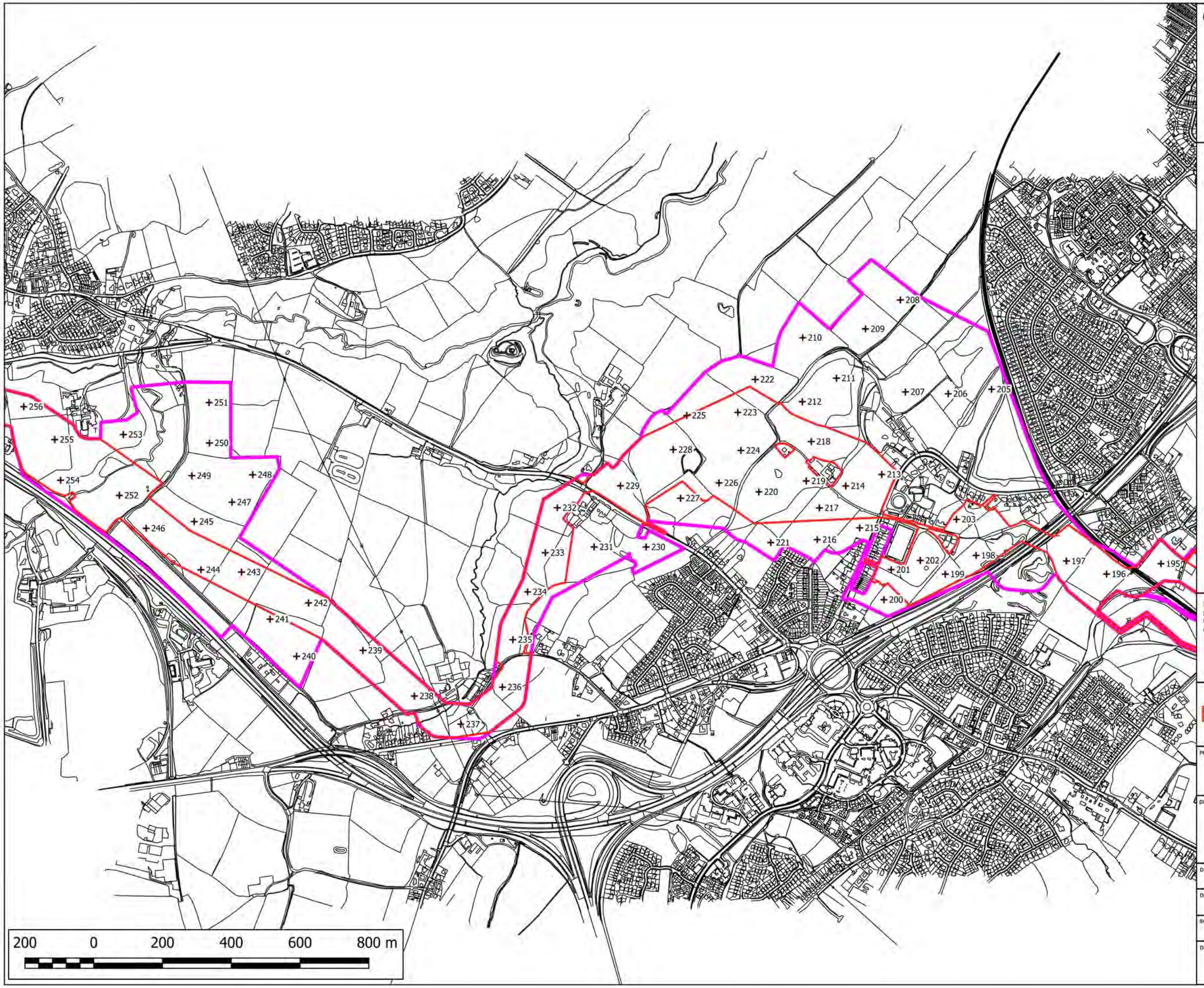

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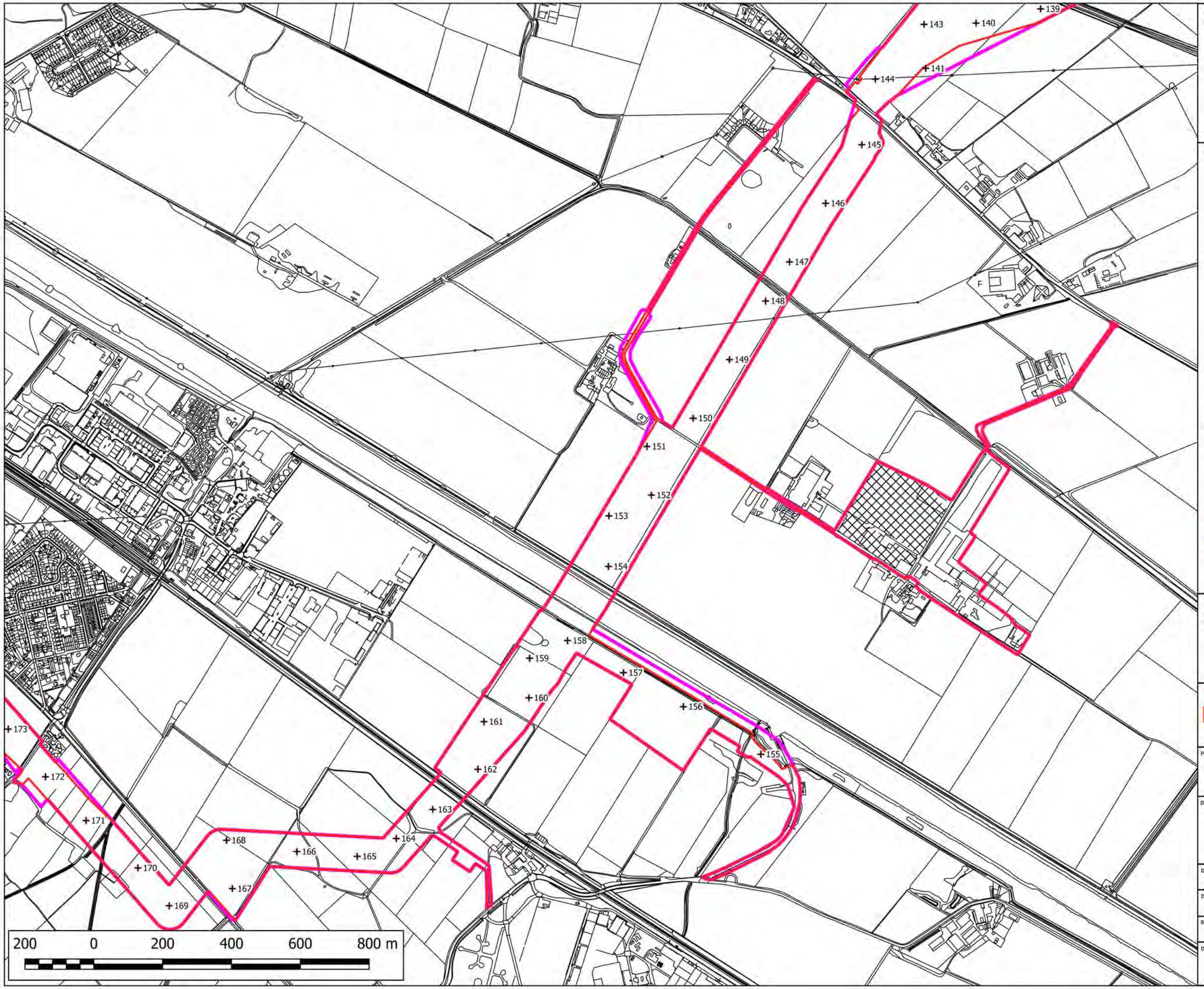

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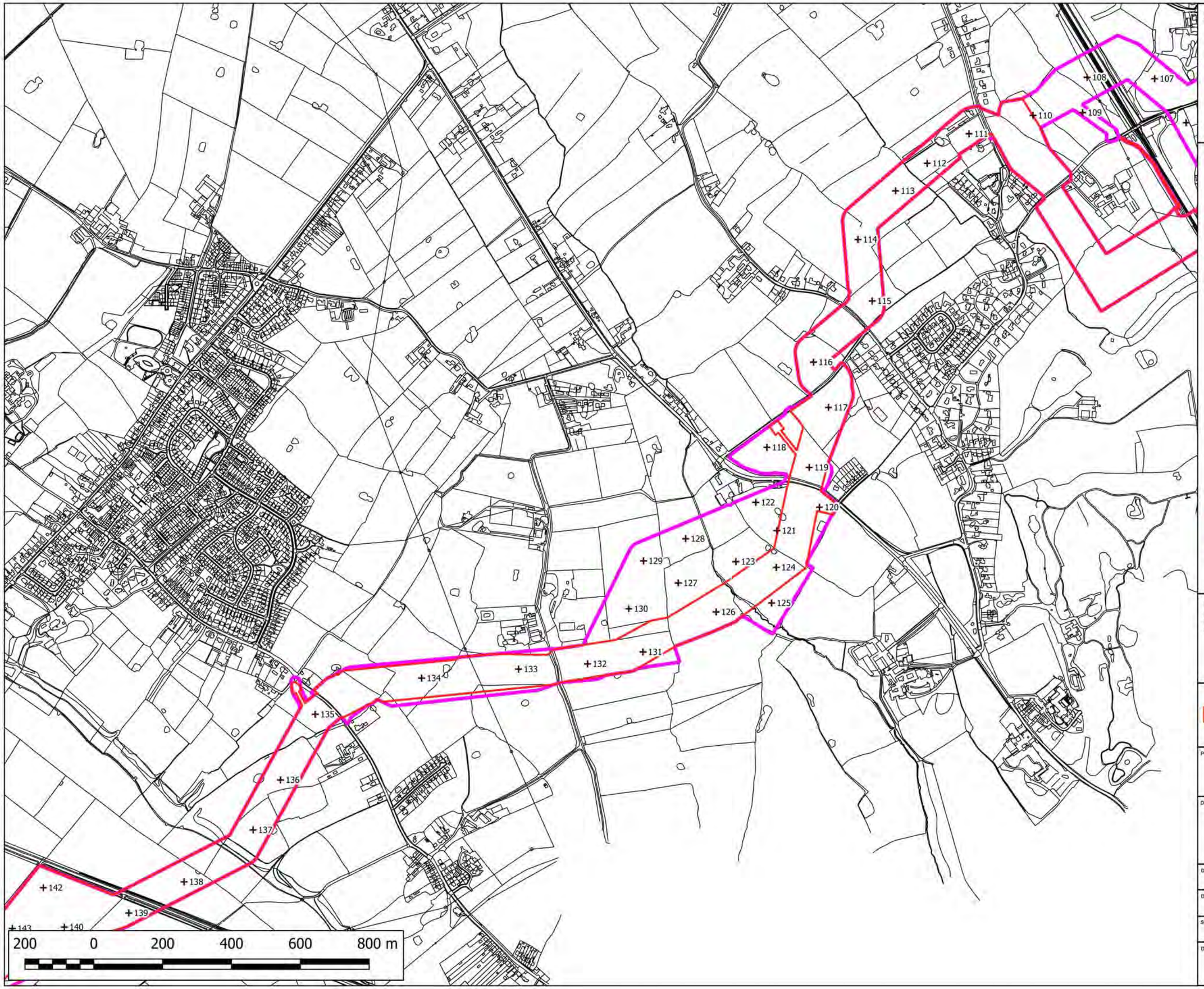

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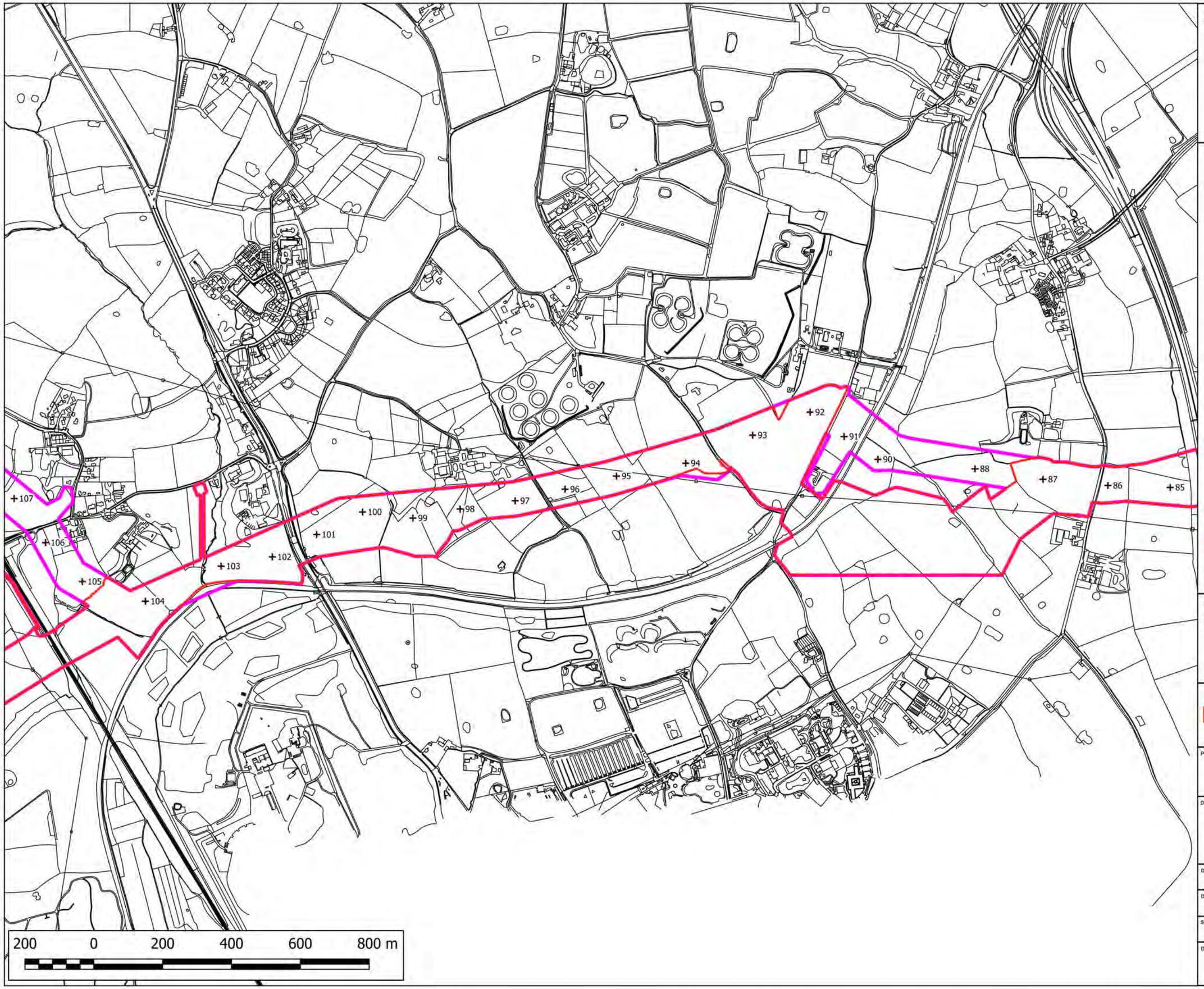

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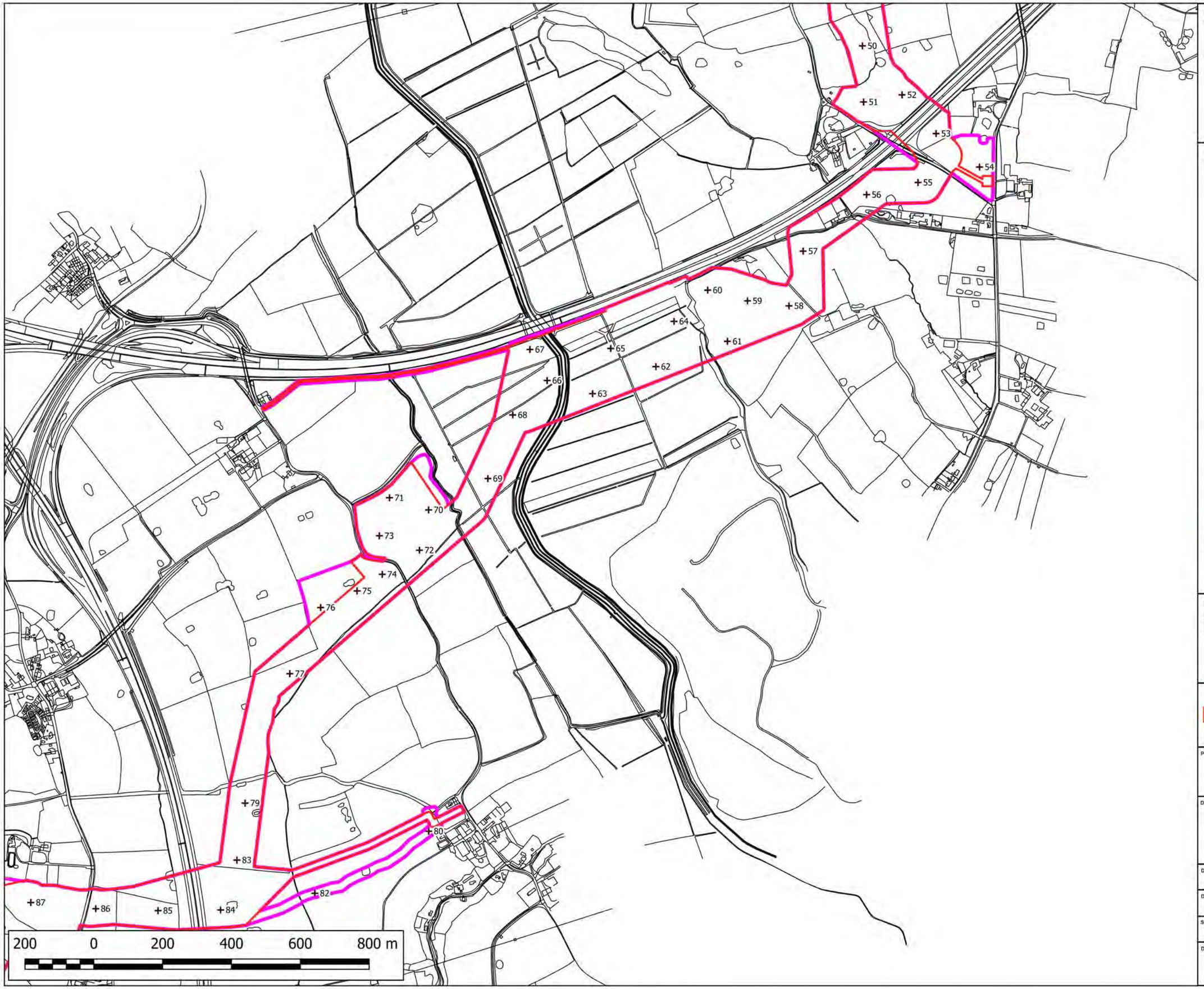

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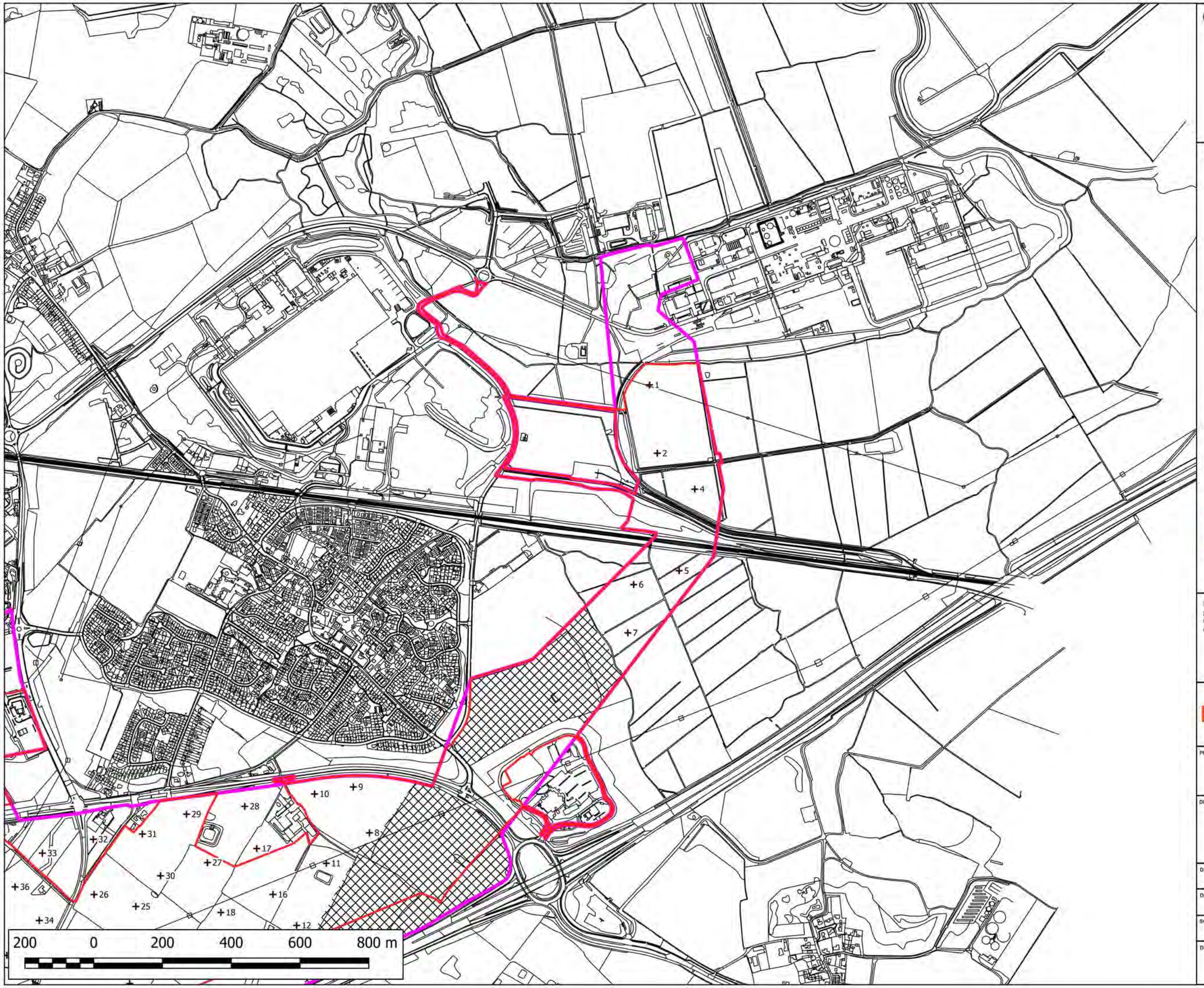

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- Subgrade 3a
- Subgrade 3b
- Grade 4
- Grade 5
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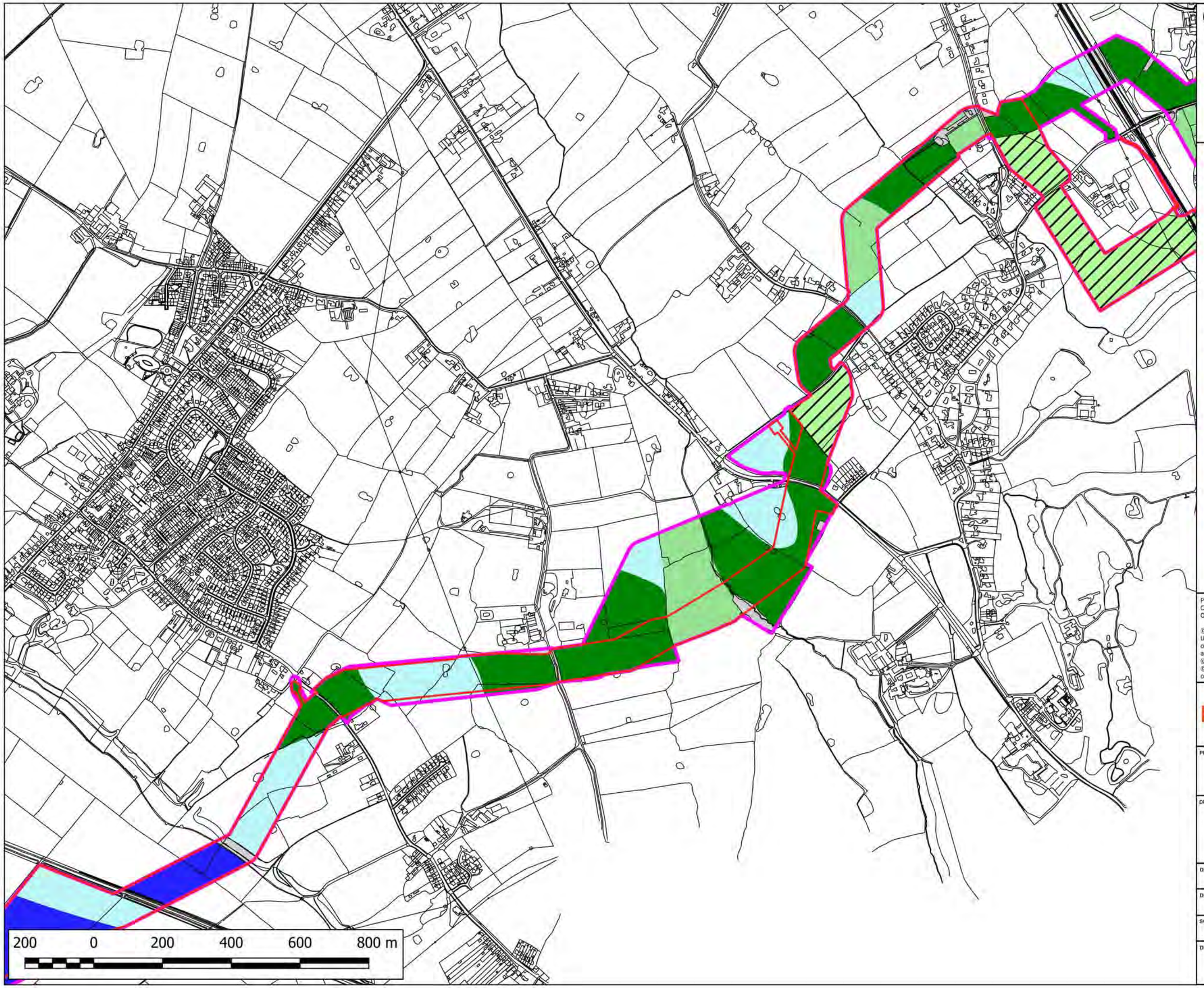

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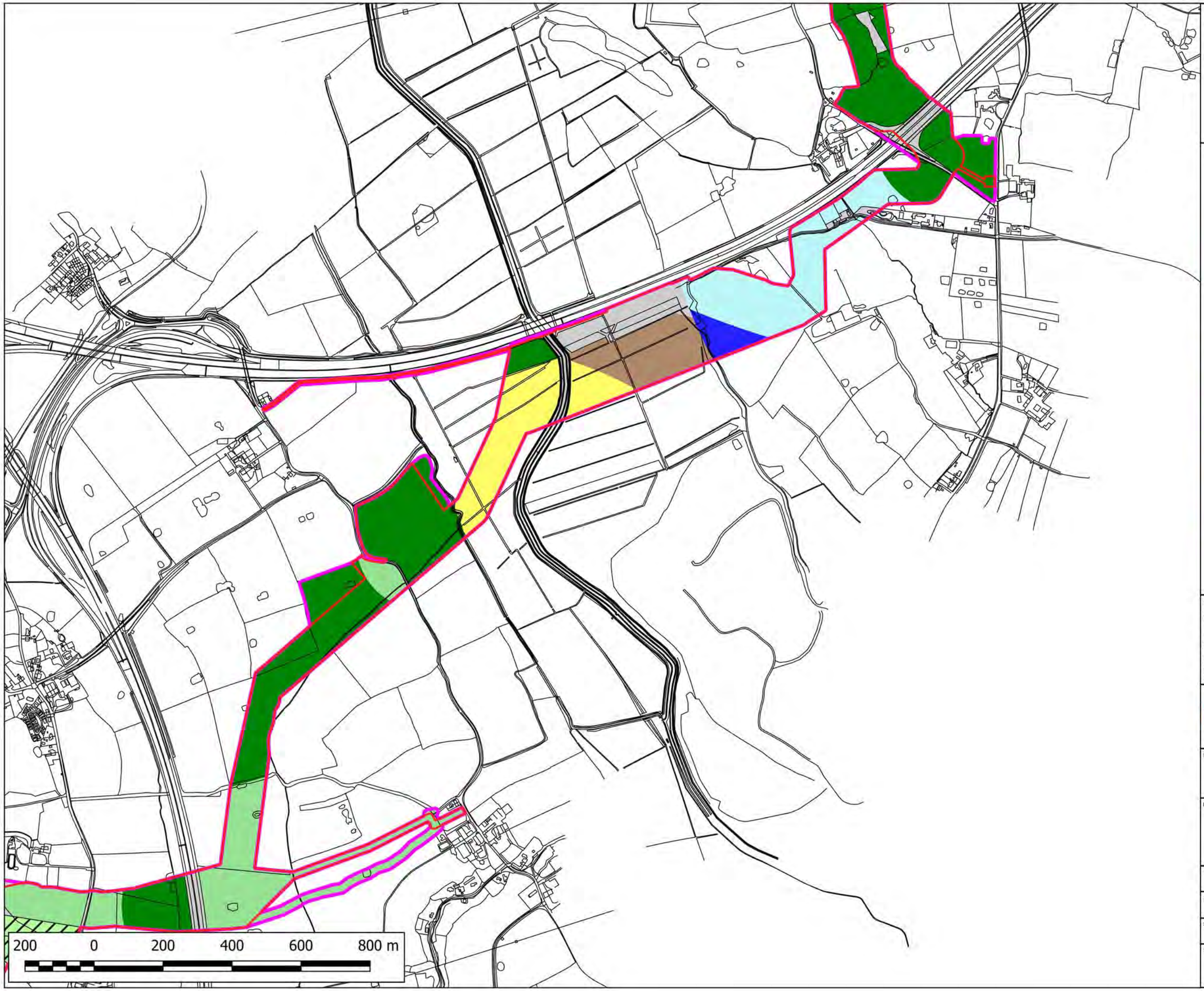

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- Grade 5
- Non-agricultural
- Not surveyed
- Provisional Grade 3 (England - Undifferentiated Subgrade 3a/3b)

HyNet North West

PROJECT TITLE
HyNet North West CO2 Pipeline

DRAWING TITLE
AGRICULTURAL LAND CLASSIFICATION

DRAWING STATUS
FOR INFORMATION

DRAWN	CHECKED	APPROVED	AUTHORISED
AGM	SRW	AIF	EM

SCALE @ A3 SIZE	DATE	REVISION
1:10,000@A3	17/08/2022	P02

DRAWING NUMBER
RAC/9188/2.2

Key:

KEY

- DCO Boundary
- Survey Boundary
- Predictive ALC (Wales)
- Provisional ALC (England)

Agricultural Land Classification

- Grade 1
- Grade 2
- Subgrade 3a
- Subgrade 3b
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200 0 200 400 600 800 m