

AGRICULTURAL LAND QUALITY REPORT

**LAND OFF NEW ROAD
RHOSROBIN
WREXHAM**

**Prepared: 12 August 2014
For: Liberty Properties**

**Prepared by
Matthew Burton, BSc (Hons), MRICS FAAV
Becky Evans, BSc (Hons), MRICS
FISHER GERMAN LLP
CHARTERED SURVEYORS
4 Vicar's Lane
Chester, CH1 1QU
Telephone: 01244 409660**

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1. Summary

- 1.1 A study and survey of the block of land located to the west of the A483 Wrexham bypass and to the south of junction 6 in the settlement of Rhosrobin was inspected by Fisher German on Thursday 7 August 2014. The property included within this report and outlined in red extends to approximately 40 acres and is made up of three parcels of permanent pasture land and two parcels of re-seeded grassland with a further area of scrub and rough land.
- 1.2 The land remains relatively level although with the southern half gently rising up towards New Road on the southern boundary. The land is accessed directly off Plas Acton Road along the northern boundary. The three permanent pasture blocks were being grazed by a number of horses and foals at the time of inspection and the reseeded grass lay was ready for silaging.
- 1.3 The external boundary is stock proof, however, the internal fences are in need of repair and are dilapidated in places. The land down to permanent pasture benefits from mains water.
- 1.4 At the time of the inspection the weather conditions were wet but conditions soon dried up but were blustery. Underfoot conditions were dry. The land, according to the Ministry of Agriculture Fisheries and Food (MAFF) Soil Survey of England and Wales 1969, confirms an Agricultural Land Classification (ALC) of Grade 2 which is identified as light blue. There is one soilscape over the whole site, identified as soilscape 6 being freely draining slightly acid loamy soil. Texture identified is loamy with drainage being freely draining. Natural fertility is low. Habitats include neutral acid pastures and deciduous woodlands, shortage of soil moisture is the most likely limiting factor on crop yields, particularly where stony or shallow.
- 1.5 Following on from the 1969 Agricultural Land Classification surveys, a number of sites across the region were re-surveyed following the introduction of the 1988 Agricultural Land Classification (ALC), surveying methods, resulting in many sites being re-classified and re-graded. This site in Rhosrobin, which sits to the east of the centre of the settlement and to the north-west of the centre of Wrexham, was not re-surveyed and has not been reclassified. Certain sites to the east around Farndon and further south-east, nr Malpas have been resurveyed and have been reclassified and previously Grade 3 land has been identified as either Grade 3A or 3B.
- 1.6 The predominant agricultural land use in the area varies but there are a large number of dairy holdings on the lower ground around the outskirts of Wrexham and to the south of Chester but further east into North Wales where the terrain, topography and altitude change livestock farming and sheep farming is the predominately land use. Other land uses identified in the area include equestrianism. The soil type identified is generally of low natural fertility within this region as identified by the soilscape report, land is typically grassland and used for livestock grazing. On some more improved pasture where the soil is deeper, the land can be used for hay or silage production. This soil type is suitable for growing persistent yields of good quality grass crops. The soil type identified means that the land type is often marginal in agricultural terms as it is free draining, this is the biggest limiting factor on yields of grass.
- 1.7 This report, whilst providing descriptions on soil profiles observed, will comment on the physical characteristics of the land and how they interact with agricultural

operations, but the soil was not analysed for soil wetness or droughtiness characteristics.

2. Introduction

- 2.1 Fisher German were instructed by Liberty Properties to carry out an agricultural land quality assessment of the circa 40 acres of agricultural land which sits to the west of the A483 Wrexham bypass and to the south of Plas Acton Road. Location and site plans are contained in **Appendices 1 and 2**.
- 2.2 The report provides information on soil resources, climate and comments on the current use of the land along with opinions of the agricultural quality of the land based on the physical characteristics of the site. The report is based on a desktop survey of the soils and climatic conditions affecting the site. The survey also includes opinions from the surveyors following an inspection of the land carried out on Thursday 7 August 2014. Soil samples were taken and visually assessed and comments made. No samples have been submitted for laboratory examination.

3. Situation

- 3.1 The block of land sits to the south-east of Rhosrobin and to the east of New Rhosrobin. The small settlement of Pandy sits to the north with Wrexham situated to the south-east.
- 3.2 Rhosrobin is a small village situated in Wrexham Borough Council in Wales about 2 miles north-west of Wrexham Town Centre close to the A483. The population of the village has expanded considerably in recent years with a number of new developments for housing and commercial being provided within the area. With direct access along B5425 to Wrexham Town Centre and easy connection to the A483 at Pandy for Chester and the north-west of England and beyond. The Chester to Shrewsbury railway line runs through the centre of the village and along the western boundary of the site. The Rhosddu Industrial Estate which sits on the outskirts of Rhosrobin sits on the old colliery site that once occupied the whole area.
- 3.3 The block of land is accessed from the north off Plas Acton Road and from the south off New Road.
- 3.4 The post code for the parcel of land is LL11 2UF and the grid reference is SJ 33333 52893.
- 3.5 According to the Environment Agency Flood Risk maps, the site lies outside the identified planning flood risk area. The site also lies outside of the ground water flood risk area. Copies of the Flood Risk Maps are contained in **Appendix 3**.

4. Methodology Field Work

- 4.1 A desktop study of existing soils and climatic information was undertaken followed by a detailed field work study to assess soil types and land types. The land has previously been classified using the system outlined in the MAFF, now a DEFRA publication – Agricultural Land Classification of England & Wales – Revised Guidelines and criteria for grading the quality of agricultural land (October, 1988).

- 4.2 Field work was undertaken with a hand-held Dutch soil auger measuring 120cm. In total 41 samples were taken across the site. All the borings were taken at intervals equidistant from each other covering both parcels of land as shown on the site plan at **Appendix 2**. From the soil profiles taken a visual assessment was made to determine the characteristics of the soil. Samples from each auger boring site were taken and the profiles inspected. Photographs showing the soil profiles from each sample point can be seen at **Appendix 4**. A visual inspection of each soil sample was taken but no samples have been submitted for laboratory analysis and therefore no formal regrading of the land classification has been carried out.

5. Results

- 5.1 The provisional Agricultural Land Classification map shown at **Appendix 5** identifies that the site is covered by Land Classification Grade 2. This is shown coloured light blue. Under the MAFF Agricultural Land Classification system, land is graded according to the degree to which certain physical characteristics; in particular climate, relief, and soil impose long-term limitations on agricultural use. A full description of the classification and the criteria used to determine the grades can be found in the published MAFF report, an extract of which can be seen in **Appendix 6**.
- 5.2 Grade 2 land is identified as very good quality agricultural land – land with minor limitations would affect cropped yield cultivation or harvesting. A wide range of agricultural and horticultural crops can usually be grown. It is felt that based on the location, soil type, access, local climate and surrounding urban land use, that the land should not be classified as Grade 2, simply because it is not capable of producing good high quality yields of high value cash crops including vegetables. The low natural fertility, shallowness and stoniness of the soil are all factors which would affect crop yields.
- 5.3 The information available at a scale of 1:250,000 is suitable for use from a strategic point of view and is therefore not suitable for site specific schemes. Further evidence is required to establish an accurate land classification. It is felt that, following the survey and desktop research that the land classification of the majority of the site should be Grade 3A or 3B. Grade 3B is identified as “moderate quality agricultural land”. This is land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year. This land is certainly capable of producing consistent yields of grass which can be grazed or harvested over most of the year.
- 5.4 According the map in **Appendix 5** the predominant land classification grade around the north-east and south of Wrexham is Grade 2, but further afield to the east and west of the Rhosrobin site is Grade 3. Further west from the site the land is Grade 4 and 5 as you reach the Moorlands.
- 5.5 Certain blocks of land across the county were re-surveyed following the original 1960's surveys and subsequently the post-1988 Agricultural Land Classification maps were published. In some cases certain sites were re-classified and re-graded, and the results now provide a breakdown of Grade 3 into sub-grades 3A and 3B. The site at Rhosrobin has not been resurveyed.

- 5.6 The best and most versatile land is defined as Grades 1, 2 and 3A by planning policy guidance.
- 5.6 Assessment of agricultural land is based on the long-term, physical and chemical properties of the land as to how they may restrict its use. Land is graded from best (Grade 1) to worst (Grade 5). Such restrictions might include:-
- The range of crops that can be grown
 - Yield levels
 - Consistency of yield
 - Cost per yield

These restrictions are governed by factors such as:-

- Climate: temperature, rainfall, aspect, exposure and frost risk
- Site: Gradient, micro-relief, and flood risk
- Soil: Texture, structure, depth and stoniness

6. Climate

- 6.1 Summarised below are the main climatic parameters used in this determination of land quality taken from the nearest weather station to Wrexham.

Table 1 – Climatic Parameters

Site at Rhosrobin, Wrexham	
Grid Reference	SJ 3341052935
Altitude (range)	84m to 97m above sea level
Average annual rainfall	726.2mm
Average high temperature	13.58°C
Average low temperature	6.33°C

Data sourced from www.metoffice.gov.uk – information has been calculated using data collected over the past two decades from the nearest weather station at Hawarden).

- 6.2 The site at Rhosrobin generally features warm but not hot summers and cool but not cold winters and has a relatively narrow temperature range as indicated. The maximum average temperature is 13.58°C is slightly higher than average across the rest of North Wales. The rainfall appears evenly dispersed throughout the year with the wettest month being October with 81.3mm of rainfall on average. Throughout the growing season from March through to August, the wettest month is in June at 59.2mm of rain and the driest month is April at 49.5mm, representing a range of only 10mm on average. The wettest period is from October through to January.
- 6.3 The combination of rainfall and temperatures indicated identifies that the site is capable of growing a variety of crops. Water requirements for crops such as winter wheat are typically 450mm to 650mm depending on the length of the growing period. Typical water requirements for potatoes is between 500mm and 700mm. The slightly lower than average annual rainfall and the fact that the soil type as identified is free draining and light means that soil droughtiness is a potential limiting factor on yields of crops grown.

7. Gradient and Flood Limitations

- 7.1 The land at Rhosrobin is fairly level but slightly rises up towards New Road along the south boundary. The gradient does not exceed 7° and therefore grading is not a limiting factor in the land's agricultural quality. The table below identifies grading limits and how they compare to grades and sub-grades of land classification.

Table 2 – Grade according to gradient

Grade/sub-grade	Gradient limits (degrees)
1	7°
2	7°
3a	7°
3b	11°
4	18°
5	> 18°

- 7.2 According to the Environment Agency Flood Risk maps, all the land lies outside the defined flood risk area. The land does in some limited places suffer from flooding from surface water. The Flood Risk maps can be viewed in **Appendix 3**.

8. Soil and Interactive Limitations

- 8.1 From the research carried out, there is one soilscape mapped over the Rhosrobin site. The Soilscape Viewer Report taken from Cranfield University National Soil Resource is shown at **Appendix 8**. The soilscape identified is soilscape 6 which is a freely draining, slightly acid loamy soil. The predominant texture is loamy and this soilscape covers approximately 16.7% of England and Wales. Drainage characteristics are freely draining and fertility is low. Habitats include natural and acid pastures and deciduous woodlands. Other characteristics include that the soil is free draining and shortage of soil moisture is the most likely limited factor on yields, particularly in stony or shallow soils. Lime and fertiliser rapidly leech.
- 8.2 Following the inspection, findings from the various samples taken confirmed that the predominant soil texture was loam. The texture in the majority of samples was a very light loam. The southern two fields in permanent pasture adjoining New Road provided samples of a heavier texture some containing clay with a number of samples retaining moisture. Those samples from the fields bounding Plas Acton Road to the north were very shallow, very light, very stony and dry. The average depth of sample taken from the fields adjoining Plas Acton Road was 30.9cm until a hard impenetrable layer was hit. The sample taken at point 1 was 0cm as the area was covered in stone. The deepest sample being taken at point 20 close to the boundary of the field adjoining the New Road. The average soil sample taken from those fields adjoining New Road was 37cm with the deepest sample being taken at point 22 at a depth of 45 cm and the shallowest sample at point 27 being 20cm. The change in texture within the two fields adjoining New Road was quite visible. The soil texture was heavier, clumpier and in certain places contained clay making it malleable and moist. The colour appeared darker. Stones were present in the majority of samples taken.
- 8.3 All samples were predominately dry. There was no standing water present across the site and the ground remained firm throughout.

- 8.4 All boring samples were taken from the land on Thursday 7 August 2014. Weather conditions were dry and warm but blustery. A recent heavy downpour had passed before the inspection commenced. Underfoot conditions were dry across the site.

Table 3 – Soil Sample Observations

Sample No.	Depth (cm)	General Observations
1	-	Unobtainable within this area. Signs of hardcore (stone).
2	20 cm	Appearance light brown. Light sandy loam, very stony, solid layer hit. Auger resistance – hard.
3	25 cm	Light brown in appearance, very stony, signs of orangey red specks, very light in consistency. Auger resistance – hard.
4	25 cm	Light brown in appearance, with signs of orangey specks, stones present throughout, very light dry loam. Auger resistance – hard.
5	21 cm	Light brown subsoil with dark brown topsoil, very light in texture, although signs of stone. Auger resistance – hard.
6	21 cm	Very light brown in colour, consistent colour throughout, signs of stones. Auger resistance – medium.
7	28 cm	Brown in colour, subsoil showing signs of sand at tip, clumpier in consistency, signs of stone. Auger resistance – medium.
8	18 cm	Medium to light brown in colour, slightly darker topsoil, stony with clumpier consistency, higher moisture than other samples. Auger resistance – medium.
9	22 cm	Medium to light brown loam, slightly heavier topsoil, very fine consistency, slightly stony. Auger resistance – medium.
10	25 cm	Dark brown, then red, then into light sandy colour topsoil, very light in consistency, very fine loam. Auger resistance – medium.
11	24 cm	Brown in colour, slightly darker topsoil, holding moisture, signs of compaction, subsoil did show slight signs of clay. Auger resistance – medium.
12	21 cm	Light brown in colour with slight orange flecks, dry powdery loam, very light, less stones than other samples. Auger resistance – hard.
13	27 cm	Dark brown in colour, very light, clumpy, slightly heavy loam. Auger resistance – medium.
14	20 cm	Pale brown, light in consistency, dry, slightly compacted, stones present. Auger resistance – medium.
15	16 cm	Pale brown in colour, very shallow depth, stony, heavy and clumpy. Auger resistance – hard.
16	30 cm	Light brown, generally very light in consistency, topsoil to 10 cm, tiny particles of red clay, subsoil powdery and dry. Auger resistance – easy.
17	25 cm	Very light brown, consistent in colour. Auger resistance – easy.
18	25 cm	Brown in colour, stony, darker than other samples but consistent in colour, heavy, clumpy, however, moisture shown in topsoil. Auger resistance – medium.
19	31 cm	Darker heavier soil, red throughout, showing signs that clay might be present. Auger resistance – medium.
20	40 cm	Dark brown loam, signs of clay and subsoil, dense/malleable, 10 cm above subsoil. Auger resistance – easy.
21	45 cm	Dark brown loam topsoil, sandy loam subsoil, definite colour

		change. Auger resistance – easy.
22	38 cm	Dark brown lighter loam, stones present. Auger resistance – easy.
23	37 cm	Light brown loam, sand at tip, signs of stone, topsoil loam and subsoil sandy up to 8 cm. Auger resistance – medium.
24	29 cm	Fine brown loam topsoil, orange specks, sand at tip, stony and very dry. Auger resistance – easy.
25	38 cm	Brown loam, sand at tip, heavier texture topsoil into finer subsoil, consistent in colour. Auger resistance – easy.
26	20 cm	Clumpy loam, possibly clay in subsoil and compacted. Brown in colour. Auger resistance – medium.
27	40 cm	Signs of sand, orange at tip, however, very dark and dense clay subsoil at 10 cm, heavier dark loam in rest of sample. Auger resistance – easy.
28	38 cm	Dark brown loam, clumpy, slightly lighter at tip and subsoil. Auger resistance – medium.
29	28 cm	Consistent brown colour hard layer, topsoil heavy, subsoil light fine loam. Auger resistance – hard.
30	23 cm	Hard layer hit, consistent brown colour, heavier topsoil, slightly compacted, lighter subsoil consistent loam. Auger resistance – medium.
31	27 cm	Light brown in colour, textured topsoil, slightly compacted, subsoil light – loam. Auger resistance – medium.
32	26 cm	Brown in colour, hard layer hit, consistent colour throughout, slightly malleable, heavier topsoil, lighter sandy loam subsoil. Auger resistance – easy.
33	28 cm	4 cm from tip, change in colour from orange to grey/brown loam, light sand/loam. Auger resistance – easy.
34	26 cm	Orangey/brown in colour, very light textured loam. Auger resistance – medium.
35	19 cm	Pale brown in colour, stony, very fine loam, light in consistency. Auger resistance – hard.
36	17 cm	Darker brown, light but compacted, shallow depth, although stony. Auger resistance – hard.
37	15 cm	Brown in colour, light fine loam, signs of stone, however, shallow. Auger resistance – hard.
38	21 cm	Brown in colour, very light loam, stones present. Auger resistance – hard.
39	12 cm	Brown in colour, very hard layer hit, light loam. Auger resistance – hard.
40	13 cm	Light brown loam, very hard layer hit, again stony. Auger resistance – hard.

- 8.5 Based on the information contained within the table and the observations made on the day, the underlying soilscape is predominantly loam. As identified within the report, the soil type does vary between the northern half and the southern half of the site. The soil texture becomes heavier in the southern half with some samples containing clay. Samples were also taken at a deeper average depth. Site photographs are contained in **Appendix 9** which show the site conditions across the property.
- 8.6 It would appear that based on the observations made that the soil type over the majority of the site is free draining as identified in the soilscape viewer report. Leeching of nutrients and drought would be limiting factors combined with the shallow average soil depth.

- 8.7 Soil wetness and droughtiness were not tested. However, it was observed that the top soil would be fairly permeable due to its relatively large soil particle size. The topsoil predominantly comprising loam would be fairly free-draining. The subsoil containing a heavier loam and clay in places suggests some moisture could be retained over a limited area.
- 8.8 The median duration of field capacity days, moisture deficit and moisture balance of wheat and potatoes which define drought limits for ALC grades were not assessed and are not covered in this report.

9. Land Use

- 9.1 The circa 40 acres is divided into six field enclosures. At the time of the inspection, the four fields adjoining the eastern boundary (A483) were all being grazed by horses and foals. Four paddocks were all in permanent pasture and represented the usual over grazed equestrian land type. Ragwort, docks and nettles were present throughout. It was clear to see that across these four fields that very little farming or management care has been taken of the land as quite a number of self-seeded samplings along with all the weeds as identified were present. It is assumed that very few inputs have been applied over the years and the horses are just left to graze. Although no soils were examined the pale colour of the topsoil would signify a lack of organic matter content and it is assumed that fertility and the pH is low.
- 9.2 The two fields bounding the railway line to the west and Plas Acton Road to the north are currently in a what appears a recently reseeded grass ley and it is assumed is used for silage production. The grass ley appears to have established reasonably well, however, there were bare patches at ground level and the grass was not as dense as it would be on heavier ground.
- 9.3 The principal agricultural land use in the region in and around Wrexham is dairy farming with the land down to grassland for silage production or grazing or in maize. There are a number of arable holdings within the region to the north and east of Wrexham. Further west of the site, where the altitude increases livestock farming and sheep farming are the predominant land uses.
- 9.4 There is one public footpath running directly through the middle of the property from Plas Acton Road to the New Road, this is shown on the Public Rights of Way Definitive map for Wrexham as right of way NO. 24. On general inspection there were a number of deviations from this footpath and appears trespass has occurred and other rights may have been established.
- 9.5 There were a number of overhead power lines crossing the property running from Plas Acton Road, south to New Road therefore resulting in a number of infill posts. There was also a large transformer situated along the boundary of Plas Acton Road. One manhole cover was found approximately in the location of sample point 32 and is assumed therefore there is either a sewer or water main running underneath the property. Infield poles and the underground pipe pose some restrictions on some agricultural operations.
- 9.6 As identified at **Appendix 5** there is a large swathe of Grade 2 land identified as pale blue to the north, east and south of Wrexham. Beyond this the majority of land classification is shown as Grade 3. The soilscape identified within the areas identified as Grade 2, is soilscape 18 which is slowly permeable seasonally wet slightly acid but base rich loam and clay soil. Texture is predominately clay and loam within impeded drainage. Natural fertility is moderate and typical land

cover is grassland and arable. General cropping is mostly suited to grass production for dairy or beef with some cereal production for feed. To the north-east of Wrexham, soilscape 10 has been identified which is freely draining slightly acid sandy soil with a predominant texture of sand. General cropping here is suitable for a wide range of spring and autumn crops.

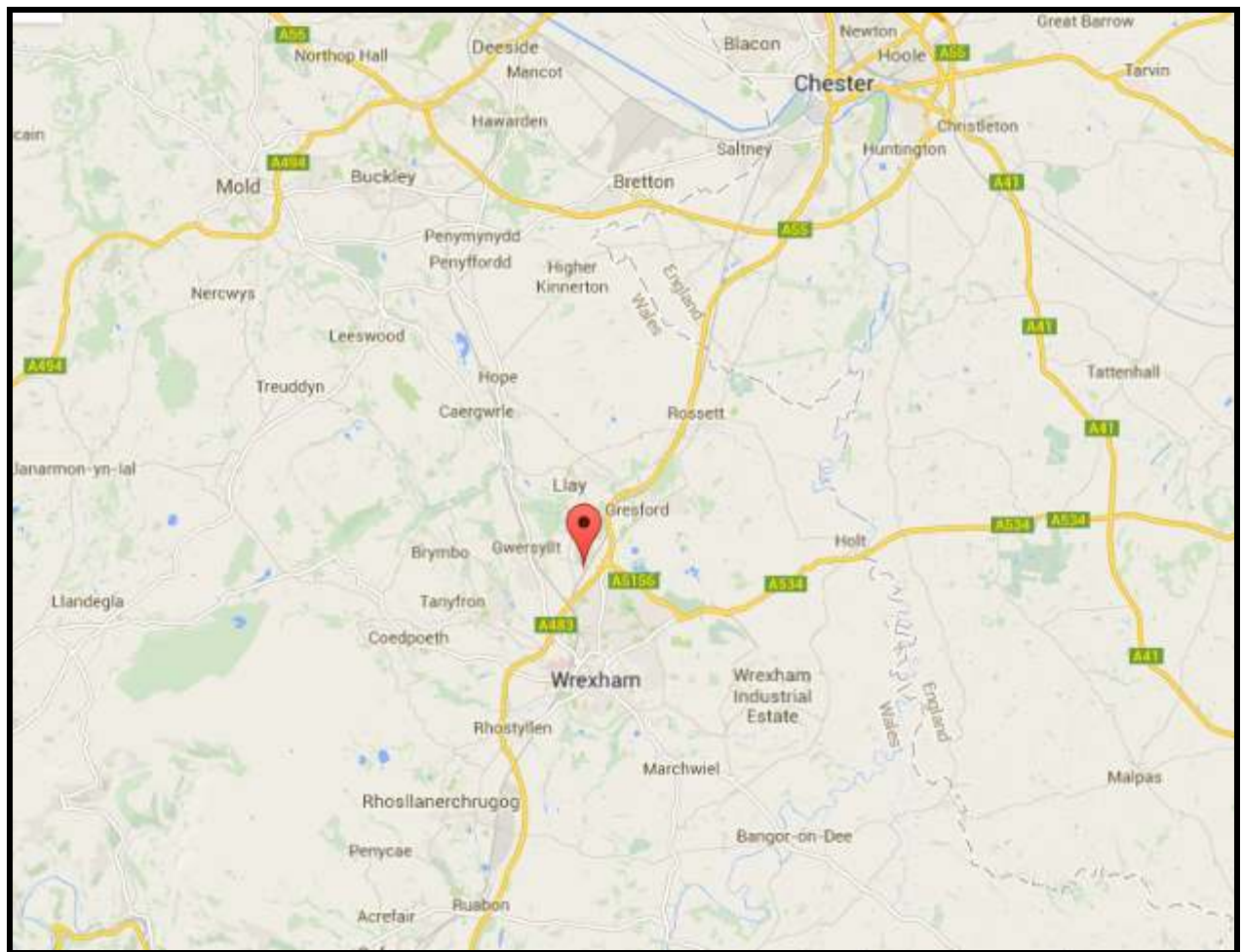
- 9.7 Due to the close proximity to an urban area and the fact that the railway line and Wrexham bypass run along either boundary this prohibits the use of the land for intensive farming. That combined with the shallow and stony soil means that horse grazing is a less risky option as opposed to cropping the land.
- 9.8 Although the type of soil found is suitable for growing crops where the texture is very light, shallow and stony, the soil is not capable of holding moisture which effects seed germination and plant growth. Although the land classification is identified as Grade 2, it is anticipated that if the site was re-surveyed following the introduction of the 1988 Agricultural Land Classification Survey methods, the land would be reclassified. Without assessing the wetness class and droughtiness and carrying out further intrusive surveys, no formal reclassification can be made at this stage.
- 9.9 The land classification Sub-Grade 3B is defined as moderate quality agricultural land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed over most of the year. It is the opinion of the Surveyor that this block of land is clearly suitable for grass production and being grazed and or harvested if the required inputs are applied over most of the year. It would appear therefore that Land Classification of Grade 3B appears most suitable. The Surveyor does not believe that the block of land has attributes to fall into the Grade 2 classification, taking into consideration its location and the physical obstructions surrounding the site.
- 9.10 Although soil wetness was not tested, it is a measure of how wetness of the soil adversely affects plant growth and imposes restrictions on cultivations and grazing by livestock. Excessive soil wetness does not appear to be a problem across this property. To achieve full yield potential, a crop requires adequate supply of soil moisture throughout the growing season. Different crops require different moisture levels plus the extent to which yield is depressed when the moisture is in short supply is influenced by the crop type. This is likely to be the most significant limitation to crop growth on this site. In addition where significant subsoil compaction occurs, root penetration is generally restricted and moisture reserves cannot be accessed.
- 9.11 It is clear based on the Agricultural Land Classification Map at **Appendix 5** that the best and most the land is situated within the region is that to the east, north and south of Wrexham. Within these more rural settings, large areas are down to high yielding grass leys and combinable crops as the soil type combined with land grade and location allows for consistent yields of crops to be established on an annual basis. The location of the site at Rhosrobin means that agriculture operations are difficult because access is restricted, trespass and crop damage is a risk and the total acreage of the land in one block is restricted due to the surrounding urban settlement and transport links. Within rural areas where good quality agricultural land is in one block, fixed costs can be spread over that large area making it more economically viable to produce arable and grass crops. When agricultural land in and around urban settlements is farmed, it is more expensive to do so and there is a higher risk associated. Uses such as equestrian grazing are more sought after due to the population on the doorstep and the

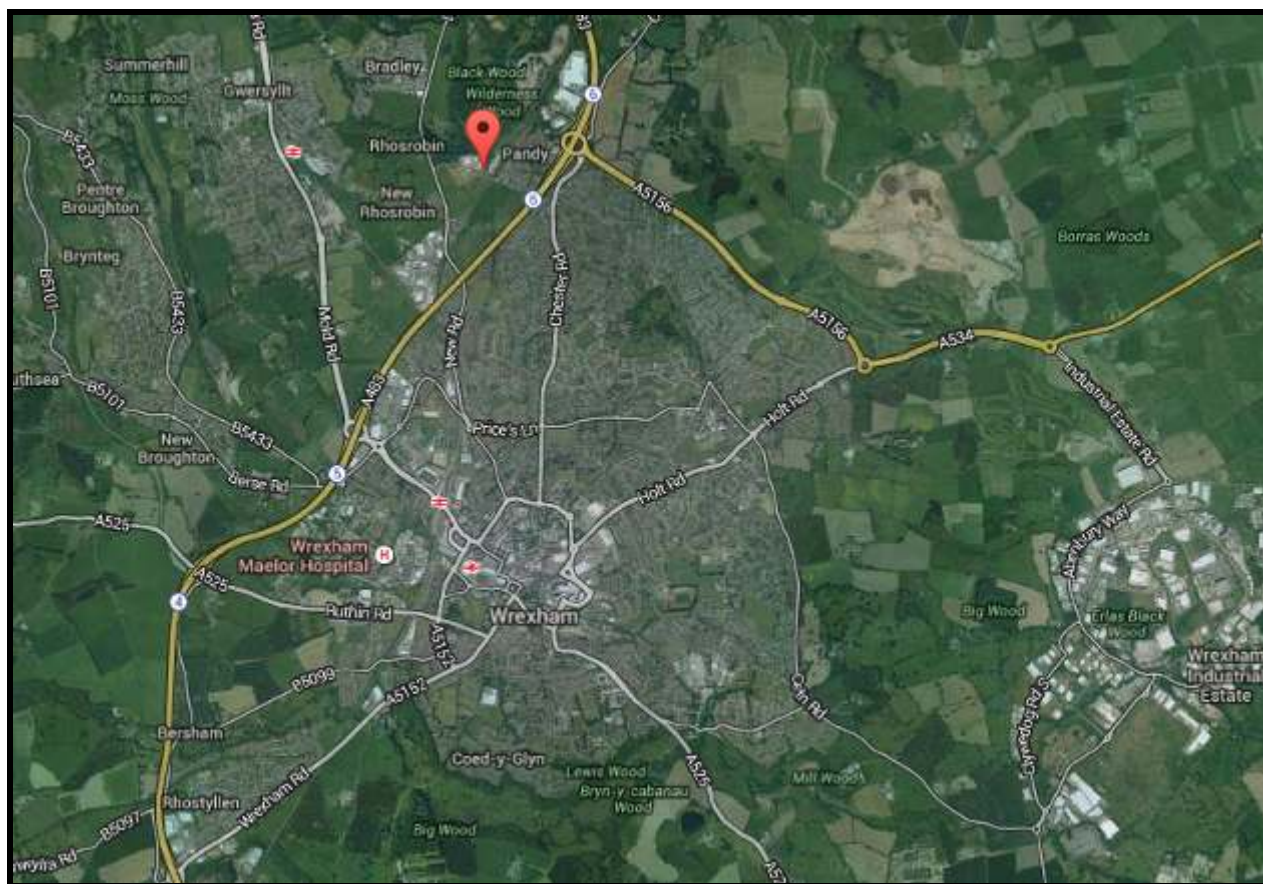
higher rents that can be achieved. Land grazed by horses is usually unmanaged, overgrazed with no inputs applied.

10. Conclusion

- 10.1 Study and survey of the circa 40 acres of land situated in Rhosrobin show that the land is currently in part permanent pasture and grazed by horses and part temporary grass leys.
- 10.2 The site is covered in the main by a light loamy textured soil with low natural fertility. The inspection confirmed that soil type becomes heavier towards New Road.
- 10.3 The whole site is classified as Grade 2 under the MAFF Land Classification Maps. However, if re-surveyed, it is felt that a Land Grade of 3B would be more suitable as this fits the definition of moderate yields of a narrower range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year can be produced from this block of land. It is felt that based on the location, physical restrictions and soil type that the Grade 2 and 3A definitions do not fit within the parameters of what the land can produce.
- 10.4 Clearly, the most productive and fertile and versatile agricultural land is situated to the east and south of Wrexham. It is therefore felt that the loss of this land to development would have not have a significant impact on agriculture in the region. As the majority of the site at present is not in agricultural production the loss of it from agriculture would be minimal.

APPENDIX 1 – LOCATION PLAN

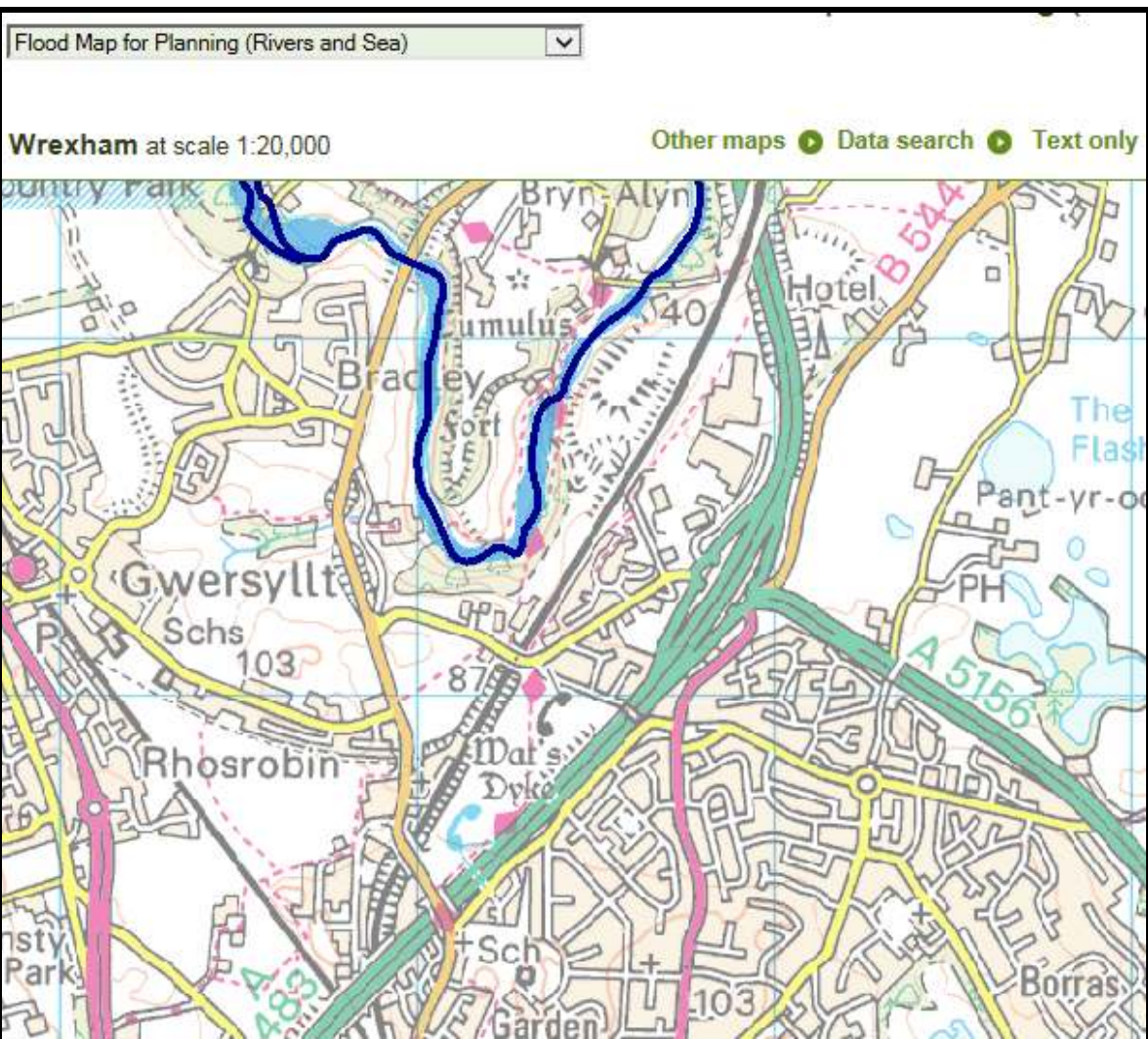




APPENDIX 2 – SITE PLAN



APPENDIX 3 – FLOOD RISK MAP



Risk of Flooding from Surface Water

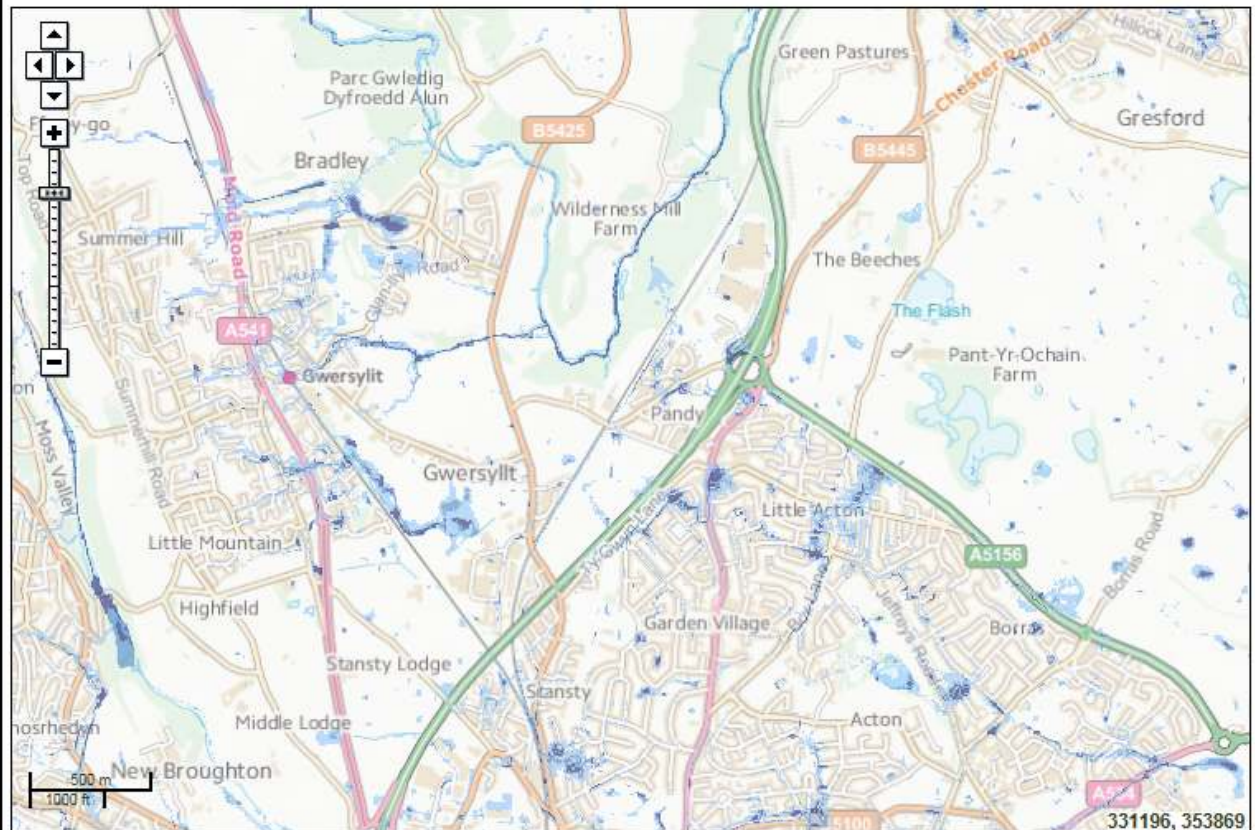
Surface water flooding happens when rainwater does not drain away through the normal drainage systems or soak into the ground, but lies on or flows over the ground instead.

The shading on the map shows the risk of flooding from surface water in this particular area.

Click on the map for a more detailed explanation.

Map of X: 333,399; Y: 353,113 at scale 1:20,000

[Data search](#)



Customers in Wales - From 1 April 2013 Natural Resources Wales (NRW) will take over the responsibilities of the Environment Agency in Wales

APPENDIX 4 – SOIL SAMPLE PHOTOGRAPHS

Soil Sample 1-Unobtainable
Soil Sample 2



Sample 3



Soil Sample
4



Soil Sample 5



Soil Sample 6



Soil Sample 7



Soil sample
8



Soil Sample 9



Soil Sample 10



Soil Sample 11





Soil Sample 12



Soil Sample 13



Soil Sample 14



Soil Sample 15



Soil sample 16



Soil Sample 17





Soil Sample
18





Soil Sample 19





Soil Sample 20





Soil Sample
21





Soil Sample 22



Soil Sample 23



Soil Sample
24



Soil Sample 25



Site Sample 26



Site Sample
27



Soil Sample 28



Soil Sample 29



Soil Sample 30



Soil Sample 31



Soil Sample 32



Soil Sample 33



Soil Sample 34



Soil Sample
35



Soil Sample 36



Soil Sample
37



Soil Sample
38



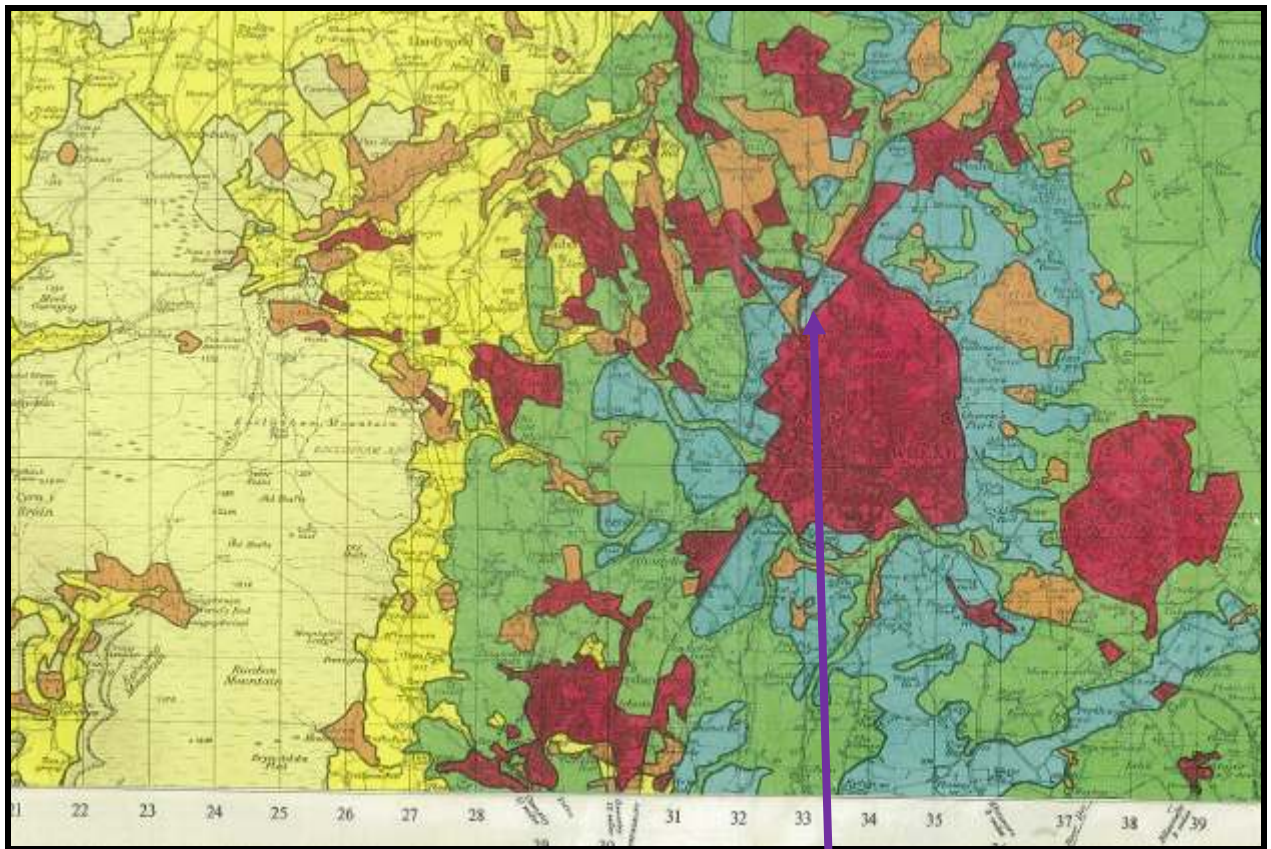
Soil Sample 39



Soil Sample
40



APPENDIX 5 – PROVISIONAL AGRICULTURAL LAND CLASSIFICATION MAP



Rhosrobin Site

Dark Blue – Grade 1
Light Blue – Grade 2
Green – Grade 3
Yellow – Grade 4
Brown - Grade 5

APPENDIX 6 – ALC GRADE DEFINITION

GRADE 1 – excellent quality agricultural land

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality

GRADE 2 – very good quality agricultural land

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.

GRADE 3 – good to moderate quality agricultural land

Land with moderate limitations which affect the choice of crops, timings and type of cultivation, harvesting or level of yield. Where more demanding crops are grown yields are generally lower or more variable than on Grades 1 and 2.

SUBGRADE 3A – good quality agricultural land

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

SUBGRADE 3B – moderate quality agricultural land

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

GRADE 4 – poor quality agricultural land

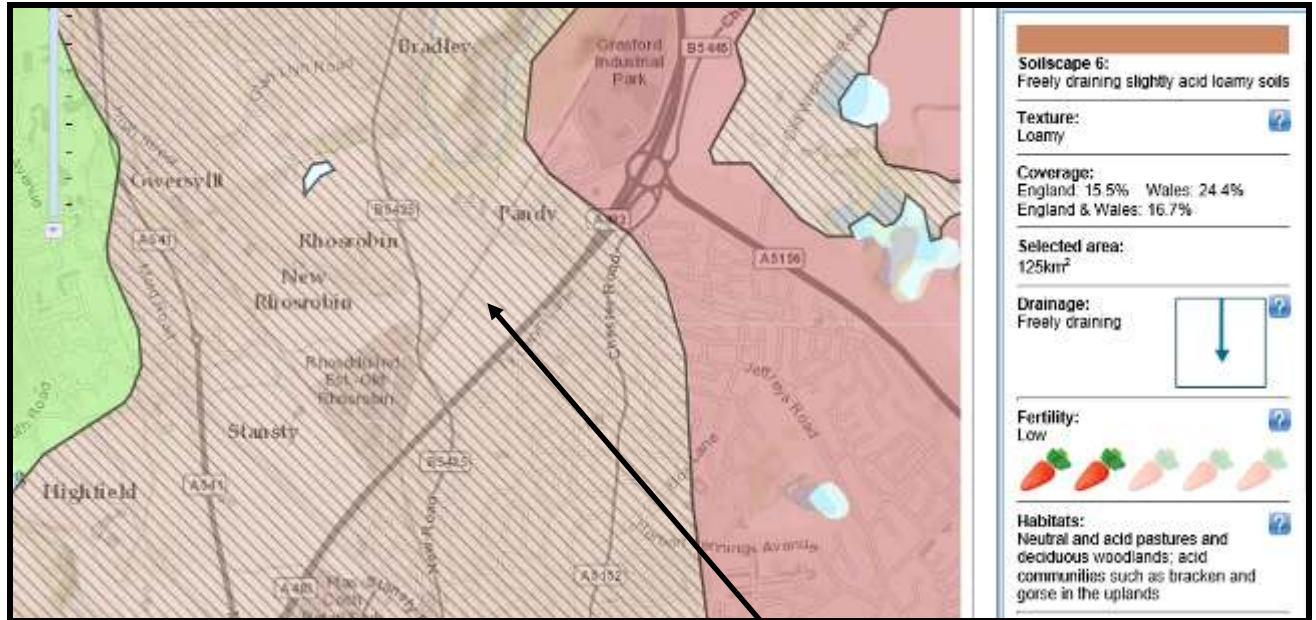
Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

GRADE 5 – very poor quality agricultural land

Land with very severe limitations which may restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

APPENDIX 7 – SOILSCAPE REPORT

Soilscape for Plas Acton Rd, Rhosrobin



Site

Key points:

- Soilscape 6 – Light brown
- Freely draining loamy soil
- Low fertility
- Shortage of soil moisture – limiting factor

APPENDIX 8 – SITE PHOTOGRAPHS







































