A46 Coventry Junctions (Walsgrave) Scheme number: TR010066

6.3 Environmental Statement Appendices

Appendix 9.2 Soil Resource Plan and Agricultural Land Classification

APFP Regulations 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

Volume 6

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Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

A46 Coventry Junctions (Walsgrave)
Development Consent Order 202[x]

ENVIRONMENTAL STATEMENT APPENDICES
Appendix 9.2 Soil Resource Plan and Agricultural Land Classification

Regulation Number	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010066
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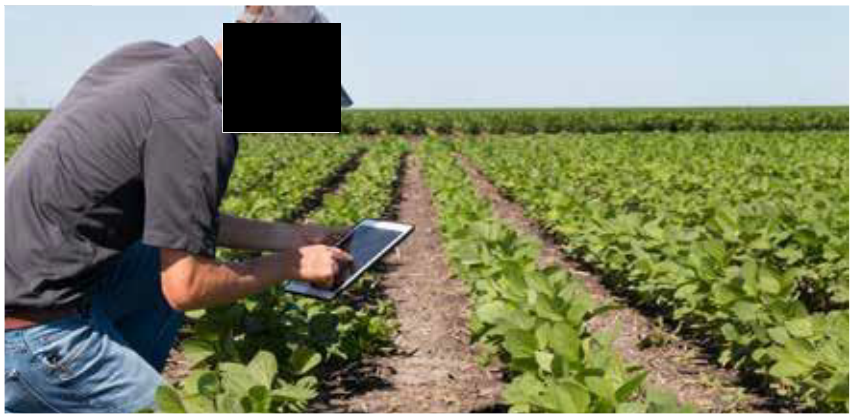
Author	A46 Coventry Junctions (Walsgrave), Project Team & National Highways

Version	Date	Status of Version
Rev 0	November 2024	Application Issue

Sweco



A46 Walsgrave, Coventry

Soil Resource Plan and Agricultural Land Classification

July 2024

ADAS

ADAS GENERAL NOTES

Project No.: 1011139

Title: A46 Coventry, Soil Resource Plan and ALC

Date: 5th July 2024

Office: **ADAS Gleadthorpe, Meden Vale, Mansfield, Nottinghamshire. NG20 9PD**

Status: Final v2

Author	[redacted]	**Technical reviewer**	[redacted]
Updated by			

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Appendices

1. Scheme introduction

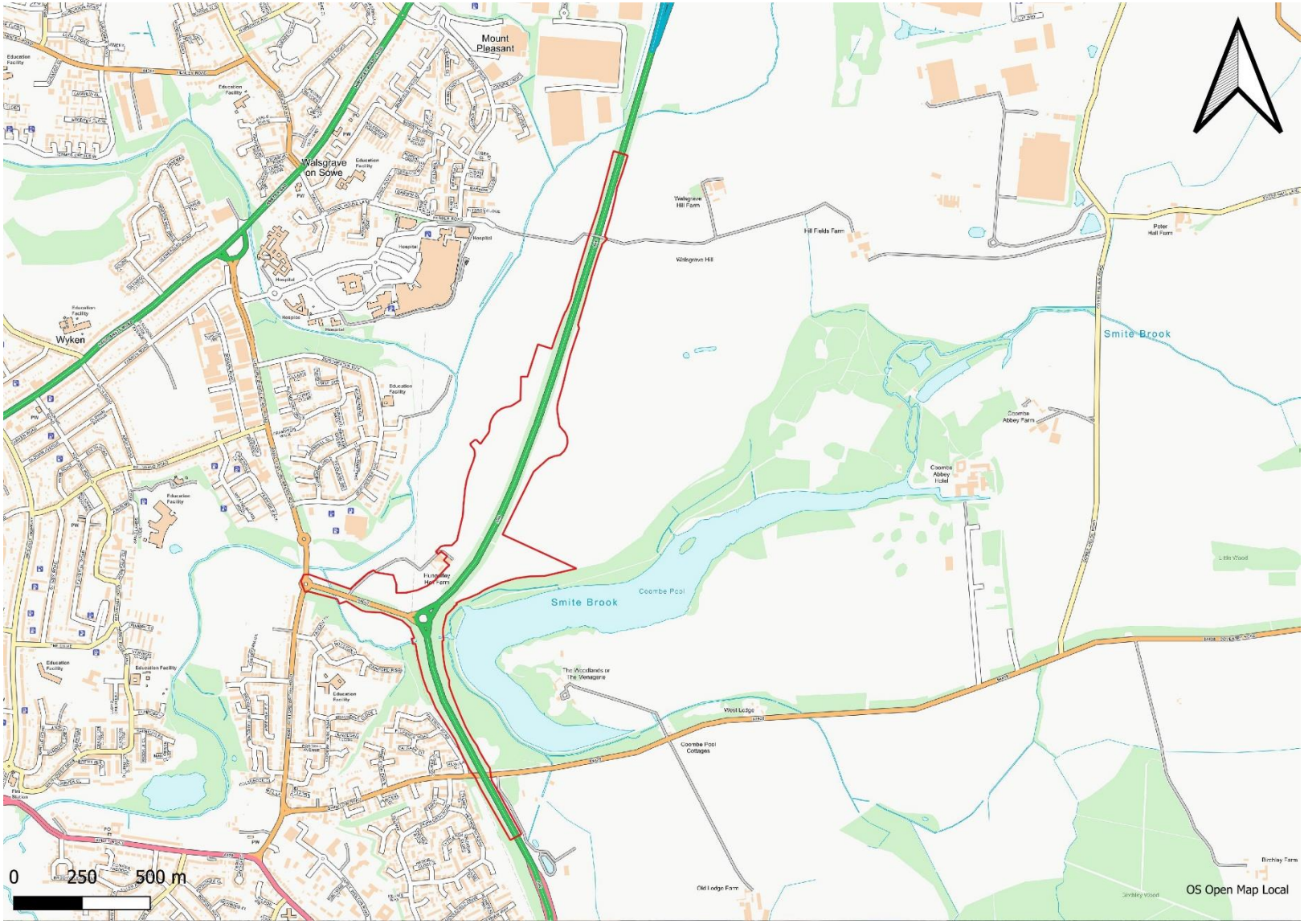
1.1.1. National Highways proposes to upgrade the A46 to the east of Coventry.

1.1.2. ADAS has undertaken a Soil Resource and Agricultural Land Classification Survey for Sweco. This report provides information on the different soils found across the survey area and provides general guidance on the most suitable use of the soils for landscaping.

1.1.3. The survey area covers approximately 17.6 ha of land along either side of the A46 from Binley in the South to Walsgrave in the North West. The land forms part of Hungerley Hall Farm located just north of the A46 and B4082 roundabout and has the A46 running approximately north to south through it.

1.1.4. The site runs through 13 fields, predominantly arable with two permanent grassland fields that are grazed. The wider site boundary lies to the south and east of the site run through common land, while to the south and west runs through the woodland boundaries of Coombe Country Park. The main farm buildings are in the middle of the site and there is an access road to the farm. There are some additional farm tracks and a bridge spans the A46 for access to the land on the eastern part of the site.

2. Location plan



3. Methodology

3.1.1. A detailed survey was carried out in October 2023.

3.1.2. The soil survey was based on auger observations at intersects of a 100 m grid, giving a sampling density of one observation per hectare, and three observation pits were dug. During the survey soils were examined via auger borings to a maximum depth of 1.2 m. A detailed log of the auger borings is attached to this report at Appendix A. A map showing the location of each observation point is attached as Appendix B.

3.1.3. Representative topsoil and subsoil samples were taken during the pit survey and submitted to NRM laboratories for British Standard soil analysis - BS 3882:2015 (topsoil) and BS 8601:2013 (subsoil) which includes particle size distribution (PSD) analysis.

4. Published Information

4.1. Geology

4.1.1. 1:50,000 scale BGS information[1] records the basal geology of the survey area as Mercia Mudstone Group. Also known as Red Marl, Mercia Mudstone is characterised by calcareous clay, siltstone and mudstones. This sedimentary bedrock formed between 250 and 200 million years ago during the Triassic period.

4.1.2. The bedrock is shown to be overlain with a variety of deposits varying from the north to the south of the site as follows:

4.1.3. Thrussington Member – sediment made from a range of different particle sizes from boulders to fine particles (Diamicton). Superficial deposits were formed approximately between 480 and 420 thousand years ago during the Quaternary period.

4.1.4. Baginton Sand and Gravel Formation – made up of sand and gravel. Sedimentary deposits formed between 2.5 million and 12 thousand years ago during the Quaternary period.

4.1.5. Alluvium – a mix of clay, silt, sand and gravel. Made from sedimentary deposits formed between 11thousand years ago and the present day during the Quaternary period.

4.1.6. River Terrace Deposits, made up of a mix of sand and gravel. Sedimentary deposits were formed approximately between 2.5 million years ago and the present day during the Quaternary period.

4.2. Soils

4.2.1. The National Soil map[2,] published at 1:250,000 scale, records the survey area as belonging to the Flint soil association in the north and Wick 1 in the south. A small area at the south eastern tip of the site is mapped as Fladbury 1.

4.2.2. The Flint association is described as seasonally wet, deep red loamy over clayey soils with slowly permeable subsoils and slight seasonal waterlogging.

4.2.3. The Wick 1 association is described as an association of deep, well drained course loamy and sandy soils over gravel. Some similar soils affected by groundwater with a slight risk of water erosion.

[1] British Geological Survey, 2019. *Geology of Britain viewer*. Online resource: http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html

[2] Ragg J.M. et al., 1984. *Soils and their use in Midland and Western England*. Soil Survey of England and Wales, Harpenden

4.3. Previous Agricultural Land Classification

4.3.1. There is no post 1988 agricultural land classification publicly available for the area of the site to the west of the A46 around Hungerley Hall Farm. However, to the east of the A46 there has been a survey done that records the land as being of Grade 3a and 3b north of Coombe Pool, enclosing a smaller area recorded as Grade 2[3].

4.3.2. The publicly available provisional ALC map, published at 1:250,000 scale prior to the revision and subdivision of grade 3 in 1988, records the majority of the site as Grade 2, with the exception of the area represented by auger numbers 1, 2, 3 and 6 which are mapped as Grade 3.

4.4. Flood risk

4.4.1. Much of the site falls into Flood Zone 1 and is not prone to flooding. However, to the south west and south east of the B4082 and A46 (Coventry Eastern bypass) roundabout there are small areas of the site that fall into Flood Zone 2 & 3 due to their proximity to Smite Brook and Coombe Pool[4].

4.5. Altitude and Climate

4.5.1. The land is level to slightly sloping and lies between 70m and 80m AOD. The site is in an area which has an average annual rainfall of 670 mm and 152 Field capacity days (FCD).

[3] Defra, 2019. *Interactive map of Great Britain*. Online resource: https://magic.defra.gov.uk/MagicMap.aspx

[4] https://flood-map-for-planning.service.gov.uk/

5. Soil Units

5.1.1. The soils observed on site are representative of the two main soil associations mapped across the site.

5.1.2. For soil handling purposes the soils can be grouped into three soil types:

- Unit 1 – permeable, freely draining medium to light loamy soils
- Unit 2 – permeable, moderately freely draining light loamy over clayey soils at depth

5.1.3. These soil types are described in detail below. A map showing areas covered by Soil Units 1 and 2 is included in this report in Appendix C.

5.2. Unit 1 – Freely draining light loamy soils

5.2.1. These soils are generally characterised by 330-390 mm of sandy clay loam or medium sandy topsoils, over subsoils of medium sandy loam or loamy medium sand. Soils are very slightly stony in places and typically non-calcareous throughout the profile.

5.2.2. Unit 1 soils are found in the centre of the survey area on both the east and west sides of the A46.

5.2.3. These soils are freely draining and belong to soil wetness class I. They have a high capacity to absorb excess winter rainfall.

Below is the description for the observation pit in Soil Unit 1 soils.

Pit 1 description

Depth (cm)	**Details**
0 – 35	Dark yellowish brown (10YR 4/4) sandy clay loam; compacted layer at 33cm; non-calcareous; moist; very slightly stony (5%) medium rounded hard stones; friable; many fine fibrous roots; many very fine fibrous roots; few worms; weakly developed medium subangular blocky structure; clear smooth to wavy boundary to:
35 – 90+	Strong brown (7.5YR 4/6) medium sandy loam; non calcareous; moderately stony (25%) medium rounded hard stones; friable; few very fine fibrous roots; weakly developed granular to fine subangular blocky structure; permeable.

5.3. Unit 2 – Poorly draining medium to heavy loamy over clayey soils

5.3.1. These soils are characterised by 260-390 mm of medium to heavy silty clay loam, over gleyed, slowly permeable subsoils of heavy clay loam, heavy silty clay loam, clay and silty clay. They are very slightly stony in places and typically non-calcareous throughout the profile.

5.3.2. These soils are imperfectly and poorly draining and belong respectively to soil wetness classes III and IV. They have a reduced capacity to absorb excess winter rainfall.

Below are the descriptions from the two observation pits in Soil Unit 2 soils:

Pit 1 description

Depth (cm)	Details
0 – 32	Dark brown (10YR 3/3) heavy silty clay loam with few FMCs (ferric-manganiferous concretions); compacted layer at 30cm; non-calcareous; wet; very slightly stony (2%) medium rounded hard stones; firm; common medium fibrous roots; many fine fibrous roots; weakly developed medium angular blocky structure; distinct smooth to wavy boundary to
32 - 47	Brown (7.5YR 4/4) and brown (7.5YR 5/2) sandy clay loam; gleyed with few medium sized strong brown (7.5YR 4/6) mottles; few FMC's; non calcareous; moist; slightly stony (5%) medium rounded hard stones; firm; few fine fibrous roots; weakly to moderately developed coarse angular blocky structure; slowly permeable; distinct smooth to wavy boundary to
47 – 100+	Light brownish-grey (10YR 6/2) silty clay; gleyed with few FMCs; non-calcareous; moist; very slightly stony (2%) medium rounded hard stones; very firm; no roots; slowly permeable; moderate developed coarse angular blocky structure.

Pit 2 description

Depth (cm)	Details
0 – 31	Brown (7.5YR 4/3) medium to heavy silty clay loam with few FMCs (ferri-manganiferous concretions); compacted layer at approximately 20cm; non-calcareous; moist; slightly stoney (4%) medium rounded hard stones; firm; few fine, fibrous roots; weakly developed coarse angular blocky structure; distinct smooth to wavy boundary to
31 - 48	Brown (10YR 5/3) medium silty clay loam; gleyed with common medium sized brownish yellow (10YR6/6) mottles; non calcareous; moist; slightly stoney (4%) medium rounded hard stones; friable; no roots; weakly developed medium angular blocky structure; slowly permeable; distinct smooth to wavy boundary to
48 – 90+	Light brownish-grey (10YR 6/2) heavy silty clay loam; gleyed with many medium sized strong brown (7.5YR 5/6) mottles; non-calcareous; moist; slightly stoney (4%) medium rounded hard stones; friable; no roots; moderate developed coarse angular blocky structure;

Table 1 : Summary of soil units – typical soil profiles

Horizon	Base of Horizon (mm)	Texture	Drainage	Stones
Unit 1				
Topsoil	330-390 (average 360)	Sandy clay loam, Medium sandy loam	Well drained	Very slightly stony (1-5%)
Subsoil	1,000	Medium sandy loam, Loamy medium sand	Well drained	Very slightly stony (1-5%)
Unit 2				
Topsoil	260-390 (average 330)	Medium to heavy silty clay loam	Impeded drainage	Very slightly stony (1-5%)
Subsoil	1,000	Heavy silty clay loam, silty clay, clay	Slowly permeable	Very slightly stony (1-5%)

6. Soil Management, Restoration and Aftercare

6.1. Site preparation

6.1.1. The site should be constructed with the aim of keeping the soils in store for as short a time as possible, whilst minimising damage to the soil or site. Some adjustment to the working method may be required if the soils remain close to field capacity or above their plastic limit.

6.1.2. The site should be cleared of any deposited rubbish ahead of soil stripping and all collected material treated as waste and managed under a Materials Management Plan.

6.1.3. Existing utilities should be clearly marked and protected by 'no dig' areas.

6.1.4. All hedges, trees and fencing should be removed from the working area prior to stripping the topsoil.

6.1.5. Any vegetative growth higher than 100mm should be sprayed off with a systemic herbicide or cut and removed from site prior to topsoil stripping. If encountered, species of invasive vegetation such as Japanese Knotweed should be treated according to the particular requirements for that species.

6.1.6. Haul routes and the surface of the construction areas and compounds should be stripped of topsoil.

6.1.7. Areas for landscaping should be left undisturbed wherever possible and should be fenced off from the construction areas to preserve soil quality.

6.1.8. Any land drains located during soil stripping should be recorded and diverted to a new perimeter ditch to prevent the site becoming waterlogged during construction.

6.1.9. Haul roads should be sprayed with water when required during dry weather conditions to reduce dust.

6.2. Soil Stripping

6.2.1. Topsoil should be stripped and stored with similar textured topsoils as shown in the soil storage table (Table 2). Grassland and arable topsoil should be kept separate.

6.2.2. Subsoils should be stripped and stored with similar textured subsoils as shown in the soil storage table (Table 2).

6.2.3. Topsoil stripping should only occur when the soils are as dry as reasonably practicable, normally when they are below the plastic limit and not within 24 hrs of significant rainfall

(i.e. >10 mm in 24 hrs). The soil should be tested on site by attempting to form a worm of soil 3mm in diameter by rolling it out on a flat non-porous surface. If the soil 'worm' will not form or is cracked the soil is sufficiently dry to handle.

6.2.4. If it is not possible to strip topsoil when it is below the plastic limit, they should be deposited into windrows prior to lifting them into their final bund once they have dried out sufficiently.

6.2.5. Topsoil should be stripped as deep as the base of the darker topsoil layer. Typical depths for each soil unit are shown in Table 2 but the depth of stripping should be adjusted where the topsoils obviously occur to a different depth.

6.2.6. The stripped topsoil should be stored in designated bunds at locations to be agreed, normally close to their final destination ready for use.

6.2.7. Subsoil should be stripped to a maximum depth of 1,000mm, with any deeper soils treated as overburden and stored in an area from which the topsoil has been removed.

Table 2: Soil stripping depth and storage bund

Soil Unit	Stripping depth	Typical soil texture	Approximate soil volume (m^3)	Soil bund number
Soil Unit 1 (8.0 ha)				
Topsoil	360	Sandy clay loam, Medium sandy loam	28,800	1
Subsoil	1,000	Medium sandy loam, Loamy medium sand	51,200	2
Soil Unit 2 (9.6 ha)				
Topsoil	330	Medium to heavy silty clay loam	31,680	3
Subsoil	1,000	Heavy silty clay loam, silty clay, clay	64,320	4

6.3. Soil Moisture Assessment

To minimise the risk of structural damage to the soil handling of the soil should take place only when it is in a dry and friable condition.

The following points should be considered on each occasion that soil handling is proposed:

- topsoil stripping will only occur when the soils are as dry as reasonably practicable (normally below the plastic limit and not normally within 24 hours of significant rainfall (i.e. >10 mm in a 24 hour period)
- during light rainfall events local level decisions to proceed or stop should be based on the current wetness state of the soils being handled
- there should be no surface water standing in the area to be stripped
- the ground should be sufficiently dry for traffic to travel across without forming ruts
- soil should not be moved when the ground is covered by snow or is frozen

To determine the suitability of the soil for handling the following in-field soil moisture test should be undertaken to assess the moisture content of the soil prior to working.

The method involves rolling a ball of soil into intact threads (3 mm diameter), which, if possible, indicate the soils are in a plastic and wet condition[5] [6] [7]. A visual examination of the soil is initially taken and then an assessment of the soil consistency (the cohesion and adhesion of the soil) as set out in Tables 3, 4 and 5 should be undertaken. These tests are likely to be more difficult to carry out on soils of Unit 1 due to their high sand content.

Table 3 Visual Assessment of Soil Moisture

Soil Condition	Procedure
If the soil is wet, films of water are visible on the surface of the soil particles or aggregates and/or when a soil sample is squeezed by hand and readily deforms into a 'cohesive' ball	No handling
Soil peds readily break up or crumble when squeezed in the hand	Handling OK
If the sample is moist (a slight dampness when squeezed by hand) but the soil colour does not change upon further wetting	Handling OK if undertaken by Tracked Excavator and Consistency Test is passed.
If the sample is dry and darkens if water is added the soil is brittle	Handling OK if Consistency Test is passed

[5] MAFF 1982 Reference Book 441 Techniques for measuring soil physical properties HMSO
[6] Natural England 2021 Planning and aftercare advice for reclaiming land to agricultural use.

[7] The Institute of Quarrying (2021). Good Practice Guide for Handling Soils Supplementary Note 4 Soil Wetness

Table 4 Consistency Test (1)

Attempt to mould a soil sample into a ball by hand:

Soil Condition	Procedure
Impossible because the soil is too hard or dry	Handling OK
Impossible because the soil is too loose (dry)	Handling OK
Impossible because the soil is too loose and wet	Handling not OK
Possible	Go to Table 5

Table 5 Consistency Test (2)

Attempt to roll the ball by hand into a thread of 3mm diameter on a flat non-adhesive surface

Soil Condition	Procedure
Impossible, the soil crumbles or disintegrates	Handling OK
Possible	No Handling

NB: It is impossible to roll most coarse loamy and sandy soils into a thread even when they are wet. For these soils, the result of the visual assessment test alone must be adhered to.

6.4. Drainage

6.4.1 A record of ground conditions during construction works should be kept and any unmarked utilities located during the work should be recorded and protected.

6.4.2 A track sheet should record any existing drainage features located during soil stripping, including their type, depth, size, angle and condition. This detail will then be available to aid a review of the requirements of post construction remedial drainage.

6.4.3 Any existing field drains which are cut off/damaged by the works should be diverted into local drainage ditches through silt traps, to minimise sediment release.

6.4.4 Permanent post construction drainage is likely to be required as part of land reinstatement and existing agricultural land drainage will be replaced if damaged to ensure continued agricultural use.

6.5. Soil Storage

6.5.1. Topsoil and subsoil from different soil units should be stored in the separate soil stores shown in Table 2. Where possible grassland topsoil should be kept separate from arable soils because nutrient and organic matter levels are often different.

6.5.2. Soil stores should be placed close to their original location so that arable soils are returned to arable fields and grassland soils used to restore grassland fields. Surplus

topsoil should be put to a beneficial use off site to ensure its many soil functions such as a carbon and water storage are retained.

6.5.3. Topsoil should be stored in bunds up to 3m high unless required to be higher for landscaping. They should be lightly formed to consolidate the surface to shed water.

6.5.4. Bunds should be fenced off from the rest of the site to prevent materials being stored on the sides of the mounds.

6.5.5. Topsoil should be stored on topsoil from which any excess vegetation has been removed.

6.5.6. Any subsoil which needs to be stripped should be stored separately from the topsoil and should be clearly labelled as subsoil.

6.5.7. Subsoil should be stored in bunds up to 5m high.

6.5.8. Subsoil should be stored on subsoil i.e. the topsoil should be removed from below all subsoil storage bunds.

6.5.9. Soil stores should be set back by more than 0.5m from the excavation to prevent soils slumping into the cut.

6.5.10. A record should be kept of any soils which are placed in store. All bunds should be labelled with their historic land use, volume and soil type (e.g. pasture, ***m^3; Unit 1 topsoil).

6.6. Stockpile Maintenance

6.6.1. All bunds which will be in place for more than 6 months should be sown with a low maintenance grass seed mix at a rate of 5g/m^2.

6.6.2. All soil bunds should be inspected in spring to ensure that the grass cover is intact and to decide if an herbicide is required to control invasive weeds. The species present will determine the most appropriate herbicide or cutting regime.

6.7. Restoration of Land

6.7.1. Wherever possible, soil reinstatement should be undertaken between late March and early-November when soils are likely to be at their driest.

6.7.2. The site should be litter picked and be free of construction materials, roadstone and protective covers such as Terram prior to work commencement.

6.7.3. 10 days prior to soil reinstatement soil bunds should be sprayed off if vegetated.

6.7.4. To minimise compaction of subsoils during restoration works, soil replacement should only take place when the soils are below their plastic limit and not within 24hrs of significant rainfall (i.e., >10mm in 24hrs). This will allow a full day of drying before work recommences. Failure to follow this guidance could result in soil structural damage that may be impossible to resolve in the short term.

6.7.5. The cleared surface should be soil sampled in areas most at risk of having been contaminated (such as from under fuel stores and from any areas of imported material which could have contained potentially toxic substances), to ensure the soils are suitable for use. Samples should be collected and submitted to UKAS and MCERTS accredited laboratories for a range of commonly occurring pollutants such as metals, oils and PAHs.

6.7.6. Any excavations in the subsoil should be backfilled and the subsoil surface reformed and very lightly consolidated to reduce settlement, ensuring that the natural contours are maintained to allow surface water flow over the restored profile.

6.7.7. If required due to damage to an existing old drainage system, new drains should be installed into the subsoil.

6.7.8. Subsoil compaction should be removed prior to replacing the topsoil. Subsoiling should be carried out at an angle to the line of the haul roads and any drains, where possible extending into the undisturbed soil on the lower side of the temporary working area. The depth of working and the type of equipment used will be determined by the depth of compaction.

6.7.9. Soils should be replaced with the minimum of vehicular movement's necessary, to avoid re-compacting the loosened surface. Restoration should start at the furthest point from each site exit to ensure that soils once deposited are not trafficked by earth moving machinery.

6.7.10. Particular care should be taken to minimise re-compaction of the subsoil by carefully controlling traffic movement along defined routes and working only in dry conditions. The defined route will have to be loosened again prior to topsoil placement.

6.7.11. Topsoils should be reinstated to their full depth, maintaining and tying into the original contours on either side of the strip to allow surface water flow.

6.8. Aftercare

6.8.1. On completion of the restoration works the soils will be in a fragile condition and all work should be geared towards stabilising the soil structure and establishing a strongly growing crop to ensure the best chance of a successful and sustainable restoration.

6.8.2. Timing of cultivation operations will be critical to the success of the restoration with the soils only being worked when in a dry and friable condition.

6.8.3. The responsibility of the aftercare programme should be agreed with the landowner before the land is restored.

7. Suitability of soils for landscaping

7.1. Summary

7.1.1. The scheme may create soils which are surplus to requirement for the restoration of the landscaped areas and surplus soils can be used for landscaping of embankments and planting areas.

7.2. Laboratory results

Topsoil and subsoil samples were taken as a composite from the soil observation pits (see Appendix B Auger Location Plans) and sent to NRM to be analysed for BS 2882:2015 Specification for topsoil and BS 8601:2013 Specification for subsoil. The results are summarised below in Tables 3 and 4, which shows the breakdown of which parameters the samples have passed and failed on. Full details of the laboratory analyses are included in Appendix E.

Table 6 : Summary of topsoil laboratory results

Analysis	Unit 1 **Topsoil** (pit 3)	Unit 2 **Topsoil** (pit 2)	Unit 2 **Topsoil** (pit 1)
Texture	Loamy sand	Sandy clay loam	Sandy silt loam
Stone Content (%w/w)	6.5	13.1	2.6
Organic Matter (%w/w)	3.2	3.6	4.0
pH	6.7	5.8	6.8
Carbonate (%w/w)	<0.1	<0.1	<0.1
Total Nitrogen (%w/w)	0.113	0.143	0.194
Available Phosphorus (mg/l)	15.8	27.4	30.4
Available Potassium (mg/l)	111.2	89.7	196.2
Available Magnesium (mg/l)	54.7	114.3	81.7
Carbon:Nitrogen (:1)	16.5	14.6	12.0
Conductivity (uS/cm)	2135	2079	2108
Zinc (mg/kg)	38.6	78.6	71.6

Analysis	Unit 1 **Topsoil** (pit 3)	Unit 2 **Topsoil** (pit 2)	Unit 2 **Topsoil** (pit 1)
Copper (mg/kg)	9.3	24.6	13.3
Nickel (mg/kg)	10.2	21.7	17.4
Visible Contaminants (%w/w)	0	0	0
Overall Suitability	Low Fertility	Fail	Multi purpose

*Underlined data indicates the analyses where soils have failed to meet standards required

Table 7 : Summary of subsoil laboratory results

Analysis	Unit 1 **Subsoil** (pit 3)	Unit 2 **Upper Subsoil** (pit 1)	Unit 2 **Lower Subsoil** (pit 1)	Unit 2 **Upper Subsoil** (pit 2)	Unit 2 **Lower Subsoil** (pit 2)
Texture	Loamy sand	Silty Clay	Sandy loam	Clay loam	Clay loam
Stone Content (%w/w)	38.0	0.4	6.8	6.3	5.9
Organic Matter (%w/w)	2.5	1.5	2.1	1.9	1.5
pH	6.6	7.1	7.2	6.7	7.0
Carbonate (%w/w)	<0.1	2.5	<0.1	<0.1	<0.1
Total Nitrogen (%w/w)	n/a	n/a	n/a	n/a	n/a
Available Phosphorus (mg/l)	11.8	3.2	8.2	8.6	7.4
Available Potassium (mg/l)	87.0	101.1	124.5	80.2	113.8
Available Magnesium (mg/l)	44.0	329.9	78.0	136.7	218.6
Carbon:Nitrogen (:1)	n/a	n/a	n/a	n/a	n/a
Conductivity (uS/cm)	2047	2082	2065	2019	2027
Zinc (mg/kg)	28.3	111	50.4	54.7	48.4

Analysis	Unit 1 **Subsoil** (pit 3)	Unit 2 **Upper Subsoil** (pit 1)	Unit 2 **Lower Subsoil** (pit 1)	Unit 2 **Upper Subsoil** (pit 2)	Unit 2 **Lower Subsoil** (pit 2)
Copper (mg/kg)	7.1	16.8	9.7	10.4	8.5
Nickel (mg/kg)	<10	41.7	24.4	18.9	19.0
Visible Contaminants (%w/w)	0	0	0	0	0
Overall Suitability	Fail	Fail	Fail	Multi purpose	Multi purpose

*Underlined data indicates the analyses where soils have failed to meet standards required

7.3. Particle size analysis and stone content

7.3.1. Stone content for Soil Unit 2 topsoil is reported as 13.1%, of which 10.8% is greater than 20mm which is above the allowed limit, and so fails to meet the specification (see Appendix E). Soil Unit 1 topsoil meets the requirements for stone content.

7.3.2. Soil Unit 1 subsoil has a stone content of 38%, with 33.6% greater than 20mm (see Appendix E), which is above the maximum limit, and so fails to meet BS 8601:2013 specification for subsoil. Soil Unit 2 subsoils meet the requirements for stone content.

7.3.3. Reported topsoil textures for Soil Units 1 and 2 conform with requirements for BS 2882:2015 specification for topsoil.

7.3.4. Soil Unit 2 upper subsoil from pit 1 fails to meet the textural requirements, as the clay content is too high. All other subsoils meet texture requirements.

7.3.5. The textures for Soil Unit 2 topsoil and lower subsoil from pit 1 has been queried with the testing laboratory, however the texture remains reported as sandy silt loam in the topsoil and sandy loam in the lower subsoil. Although these results were reissued by the NRM Laboratories, they still do not agree with the textures observed and recorded in the field at the time of survey.

It is our professional opinion that in this case that the textures recorded in the auger log and pit descriptions are as observed in the field, and are more representative of the soil textures on site.

7.4. pH, carbonate and conductivity

7.4.1. The topsoil sample for Soil Unit 1 shows a pH of 6.7, which is within the requirements for multipurpose and low fertility use. The carbonate concentration for the topsoil is less than 1% i.e. it is not calcareous, and not suitable for 'calcareous' use.

7.4.2. The topsoil samples for Soil Unit 2 show pH of 5.8 and 6.8, which are within the requirements for multipurpose and low fertility use. The carbonate concentration for these topsoils is also less than 1% i.e. they are not calcareous, and not suitable for 'calcareous' use.

7.4.3. The subsoil sample for Soil Unit 1 shows a pH of 6.6, and a carbonate concentration of less than 1%. This meets requirements for BS 8601:2013 for multipurpose use subsoils. However, it is unsuitable for plants requiring acidic or calcareous conditions.

7.4.4. Subsoil samples for Soil Unit 2 show pH of 7.1 and 6.7 in the upper subsoil, and 7.2 and 7.0 in the lower subsoil, which are all compliant with the requirements for multipurpose use, but not suitable for specific acidic or calcareous use. In addition the subsoils of Soil Unit 2 have less than 1% carbonate (except the upper subsoil from pit 2 which has 2.5%ww carbonate, however this may be an anomaly as when tested onsite, no carbonate reaction was observed).

7.5. Organic matter and fertility status

7.5.1. The topsoil organic matter content for Soil Units 1 meets BS 3882:2015 at 3.2%.

7.5.2. Topsoil organic matter content for Soil Unit 2 is reported at 3.6% and 4.0%, which also meets requirements.

7.5.3. The BS 8601:2013 subsoil specification sets an upper limit of 2% organic matter. The organic matter content of Soil Unit 1 subsoil is 2.5% and therefore fails to meet specification requirements. However, in practice, if the soils are used onsite, this is unlikely to cause any issues.

7.5.4. The upper and lower subsoils for Soil Unit 1 mostly fall below 2% organic matter, except for the lower subsoil results for pit 1, which fall just outside of required parameters (2.1%). However, in practice, if the soils are used onsite, this is unlikely to cause any issues.

7.5.5. The fertility status includes available phosphorus, potassium and magnesium, total nitrogen and carbon:nitrogen ratio. Soil Unit 1 topsoil fails to meet BS 3882:2015 for total nitrogen and available phosphorus and potassium parameters. However, this topsoil would be suitable for low fertility planting.

7.5.6. The fertility status of Soil Unit 2 topsoil shows the topsoil from pit 2 fails to meet BS 3882:2015 for the parameters of total nitrogen and available potassium, whilst topsoil from pit 1 meet all fertility requirements. This is likely the result of different fertiliser regimes of Soil Unit 2 soils in the northern and southern fields of the survey area.

7.5.7. Fertility status is not a parameter in subsoil requirements for BS 8601:2013.

7.6. Phytotoxic and visible contaminants

7.6.1. For BS 3882:2015 and BS 8601:2013 soils are analysed for the potentially phytotoxic (toxic to plants) elements copper, nickel and zinc. Soil Unit 1 and Soil Unit 2 topsoil samples show no level for any of these potential phytotoxins that exceeded the maximum permissible levels specified.

7.6.2. Similarly for Soil Unit 1 and Soil Unit 2 subsoils, phytotoxic element concentrations were below the maximum permitted levels for BS 8601:2013 compliance, and therefore meet requirements.

7.6.3. No visible contaminants >2mm were found in any of the topsoils or subsoils of Soil Unit 1 or Soil Unit 2.

7.7. Conclusions on BS 3882:2015 topsoil

7.7.1. Soil Unit 1 topsoil fails to meet BS 3882:2015 specification for multipurpose grade due to their low fertility status in total nitrogen and available phosphorus and potassium. This could be remedied by the addition of fertiliser for phosphorus and potassium. Total nitrogen is more difficult to increase and would require the use of nitrogen rich organic manures. Appropriate use of nitrogen rich inorganic fertilisers could be used to prevent nitrogen deficiency in plants growing on the soil but the total nitrogen content of the soil may not increase by the use of inorganic nitrogen fertilisers. These soils are however, suitable for low fertility planting schemes in their current state. Many wild flowers require low fertility schemes, and a high degree of biodiversity can thrive in this type of landscape.

7.7.2. Soil Unit 2 topsoils from pit 1 have met all requirements for multipurpose use, however the topsoil from pit 2 fails to meet the required concentration of total nitrogen and available potassium. Low potassium concentrations can be improved with the addition of potassium fertilizer. It would be advisable to retest the nutrient status of any topsoils being used for planting areas, once the soils are out of storage bunds and reinstated.

7.7.3. The stone content for the Soil Unit 2 topsoils from pit 2 also fails to meet BS 3882:2015 due to a stone content of 10.8% greater than 20mm.

7.8. Conclusions on BS 8601:2013 subsoil

7.8.1. Subsoils of Soil Unit 1 fail to meet specified requirements of BS 8601:2013. The subsoil fails due to higher than permitted organic matter content (2.5%). This alone is unlikely to cause any issues, especially if the subsoils are used onsite. However, the reported stone content in particular stones greater than 20mm comprised 33.6% of the sample, means Soil Unit 1 subsoils fail to stay within the permitted range for stone content.

The subsoils are pH 6.6 and are therefore suitable for multipurpose planting and not suitable for specific acidic or calcareous planting use.

7.8.2. Aside from texture, Soil Unit 2 subsoils only marginally fail in one parameter out of all four samples (pits 1 and 2, upper and lower subsoils). Pit 1 lower subsoil contains 2.1% organic matter content, where the limit in BS 8601:2013 is 2% organic matter in subsoils. In reality this is unlikely to cause any issues with reuse of the subsoil.

8. Agricultural Land Classification

A detailed soil survey was carried out in October 2023. The survey was based on observations at intersects of a 100 m grid, giving a sampling density of at least one observation per hectare, plus three soil observation pits. During the survey, soils were examined using a Dutch auger to a maximum depth of 1.2 m. A map showing the location of each observation point is attached to this report as Appendix B.

8.1. Climate

8.1.1. The agricultural climate is an important factor in assessing the agricultural quality of land, and the agricultural climate of this site has been calculated using the Climatological Data for Agricultural Land Classification.[8]

8.1.2. The survey area within the site covers around 17.6 ha. As the altitude varies very little and the climate is similar at all locations, one set of climate data has been used for the whole survey area, as shown below in Table 5.

Table 8: Agro-climatic variables for Walsgrave (438601, 279758)

Variable	Value
Altitude (AOD)	
Average Annual Rainfall (AAR)	
January-June Accumulated Temperature (AT0)	1398 day °C
Field Capacity Days (FCD)	152
Moisture Deficit Wheat (MDw)	
Moisture Deficit Potatoes (MWp)	
Climate (upper grade limit)	1

8.1.3 The site is located in the West Midlands of England and has no agro-climatic limitation to agriculture.

[8] Meteorological Office, (1989). *Climatological Data for Agricultural Land Classification*.

9. Results

9.1.1. The soil auger results were used in conjunction with the agro-climatic data above to provisionally classify the land according to the revised guidelines for Agricultural Land Classification issued in 1988 by the Ministry of Agriculture, Fisheries and Food (now Defra)[9].

9.1.2. This survey has identified agricultural land of Grade 1 and subgrades 3a and 3b quality. The principal limitation to agricultural where present, is soil wetness.

Grade 1

This grade is mapped over 8 ha of the survey area. This is the land grade in areas formed on permeable light soils such as those described in section 5.2. These soils are freely draining and belong to wetness class I. These soils have no limitations to agriculture.

Grade 2

No land of this quality has been mapped.

Subgrade 3a

This grade is mapped over 3.5 ha of the site. These soils are imperfectly draining and belong to wetness class III. Although these soils show gleying and signs of waterlogging with 40cm from the surface, they do not present a slowly permeable layer until the lower subsoil, which occurs between 48cm and 65cm in these soils, and the topsoils are medium textured in these areas. The principal limitation to agriculture on land formed by these soils is soil wetness. Soil wetness has a moderate impact on the flexibility of cultivation and harvest.

Subgrade 3b

This grade is mapped over 6.1 ha of the site. These soils are poorly draining and mostly belong to wetness class IV, with some soils belonging to wetness class III, that also have heavy textured topsoils. These soils are seasonally waterlogged and are slowly permeable. The principal limitation to agriculture is soil wetness.

Grade 4

No land of this quality has been mapped.

Grade 5

No land of this quality has been mapped.

[9] MAFF, (1988). *Agricultural Land Classification for England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land*.

Table 9. Summary of ALC Grade Areas

Grade	Total (ha)	Total (%)
Grade 1	8	45
Grade 2	-	-
Subgrade 3a	3.5	20
Subgrade 3b	6.1	35
Grade 4	-	-
Grade 5	-	-
Total:	**17.6 ha**	**100%**

10. Conclusion

10.1.1. An Agricultural Land Classification and Soil Resource Survey has been undertaken of 17.6 ha of land along A46 in Walsgrave, east of Coventry.

10.1.2. The survey has identified 8 ha of Grade 1 quality land, 3.5 ha of subgrade 3a quality land and 6.1 ha of subgrade 3b quality land.

10.1.3. The soil survey identified two principal soil types - freely-draining medium/sandy soils (Soil Unit 1) and poorly or imperfectly draining clayey soils (Soil Unit 2).

10.1.4. In areas where the soils are medium/sandy and freely draining (Soil Unit 1), there is no limit to agriculture and the land is Grade 1 quality land. This land is found centrally in the survey area.

10.1.5. The northern end and the south-western area of the surveyed area where there are heavier mainly poorly drained clayey soils the land is graded subgrade 3b. The middle northern part of the surveyed area west of the A46 has imperfectly drained clayey soils and this land is graded subgrade 3a. The subgrade 3a and subgrade 3b land is limited by wetness and form Soil Unit 2 on this site.

Appendix A – Auger boring log

Appendix A: Soil Auger Log

Soil Profile											Agricultural Land Classification					
Auger	Depth (cm)	Colour		Texture	Mottling	SPL	$CaCO_3$	Stones (%) Total	Litho'	Notes	(°)	W C	WE grade	DR grade	Overall grade	Limit(s)
1	0 - 26	75yr32	Dk Br	HCL	-	-	no	1	1		**2**	**(I)**	**2**	**1**	**2**	**WE**
	26 - 45	75yr44	Br	HCL				2	1		Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	39.0	26.0	1	1
2	0 - 35	75yr32	Dk Br	HZCL	-	-	no	2	1		**2**	**IV**	**3b**	**2**	**3b**	**WE**
	35 - 120	75yr43 + 75yr53	Br	HZCL	xxx	yes		1	1	many FM	Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	28.7	15.9	2	1
3	0 - 34	75yr33	Dk Br	HZCL	-	-	no	1	1	Com Rrm	**3**	**III**	**3b**	**1**	**3b**	**WE**
	34 - 50	75yr44	Br	SCL	x			2	1		Droughtiness Calculation					
	50 - 120	75yr43	Br	ZC	xxx	yes		0			MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	49.0	36.0	1	1
4	0 - 33	75yr33	Dk Br	HZCL	-	-	no	1	1		**2**	**III**	**3b**	**1**	**3b**	**WE**
	33 - 48	75yr44	Br	SCL	x			1	1		Droughtiness Calculation					
	48 - 120	75yr43	Br	HZCL	xxx	yes		0			MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	45.1	32.1	1	1
5	0 - 36	75yr33	Dk Br	HZCL	-	-	no	1	1		**2**	**III**	**3b**	**1**	**3b**	**WE**
	36 - 55	75yr44	Br	SCL	x			1	1		Droughtiness Calculation					
	55 - 120	75yr43	Br	ZC	xxx	yes		0			MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	48.0	35.0	1	1
6	0 - 37	10yr33	Dk Br	SCL	-	-	no	2	1		**1**	**I**	**1**	**1**	**1**	**0**
	37 - 75	75yr43	Br	MSL	o	no		5	1	sos	Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	74.4	39.7	1	1
7	0 - 38	10yr33	Dk Br	MSL	-	-	no	2	1	uneven s	**1**	**I**	**1**	**1**	**1**	**0**
	38 - 120	75yr43	Br	MSL	o	no		3	1		Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	77.0	41.4	1	1
8	0 - 39	10yr32	Dk Gr Br	MSL	-	-	no	8	1		**2**	**I**	**1**	**1**	**1**	**0**

Appendix A: Soil Auger Log

Auger	Depth (cm)	Colour		Texture	Mottling	SPL	$CaCO_3$	Stones (%) Total	Stones (%) Litho'	Notes	(°)	W C	WE grade	DR grade	Overall grade	Limit(s)
											Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
	39 - 63	75yr43	Br	LMS	o	no		5	1	sos	101	91	70.9	36.2	1	1
9	0 - 35	10yr32	Dk Gr Br	SCL	-	-	no	3	1		**3**	**I**	**1**	**1**	**1**	**0**
	35 - 72	75yr43	Br	MSL	o	no		1	1		Droughtiness Calculation					
	72 - 120	75yr54	Br	MSL	o	no		0			MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	76.2	39.2	1	1
10	0 - 33	10yr32	Dk Gr Br	SCL	-	-	no	2	1		**1**	**I**	**1**	**1**	**1**	**0**
	33 - 58	75yr43	Br	MSL	o	no		2	1		Droughtiness Calculation					
	58 - 120	10yr54	Yl Br	LMS	o	no		0			MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	36.9	28.9	1	1
11	0 - 33	10yr32	V Dk Gr Br	SCL	-	-	no	3	1		**4**	**I**	**1**	**1**	**1**	**0**
	33 - 66	75yr34	Dk Br	MSL	o	no		0			Droughtiness Calculation					
	66 - 120	75yr54	Br	LFS	o	no		0			MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	66.8	19.0	1	1
12	0 - 34	10yr32	V Dk Gr Br	MZCL	-	-	no	2	1		**1**	**III**	**3a**	**2**	**3a**	**WE**
	34 - 59	75yr42	Br	MZCL	xxx	no		1	1		Droughtiness Calculation					
	59 - 120	10yr52	Gr Br	HZCL	xxx	yes		1	1		MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	30.6	17.8	1	1
13	0 - 33	10yr32	V Dk Gr Br	MZCL	-	-	no	1	1		**1**	**III**	**3a**	**1**	**3a**	**WE**
	33 - 65	75yr42	Br	M-HZCL	xxx	no		1	1		Droughtiness Calculation					
	65 - 120	10yr52	Gr Br	HZCL	xxx	yes		1	1		MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	44.6	31.8	1	1
14	0 - 36	10yr32	V Dk Gr Br	M-HZCL	-	-	no	2	1		**1**	**III**	**3a**	**1**	**3a**	**WE**
	36 - 52	75yr42	Br	MZCL	xxx	no		1	1		Droughtiness Calculation					
	52 - 120	10yr52	Gr Br	HZCL	xxx	yes		1	1		MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	46.8	34.0	1	1
15	0 - 39	10yr32	V Dk Gr Br	MZCL	-	-	no	2	1		**1**	**III**	**3a**	**1**	**3a**	**WE**
	39 - 55	75yr42	Br	MZCL	xxx	no		1	1		Droughtiness Calculation					

Appendix A: Soil Auger Log

Soil Profile											Agricultural Land Classification					
Auger	Depth (cm)	Colour		Texture	Mottling	SPL	$CaCO_3$	Stones (%) Total	Stones (%) Litho'	Notes	(°)	W C	WE grade	DR grade	Overall grade	Limit(s)
	55 - 120	10yr52 + 10yr62	Gr Br + Li Gr Br	HZCL	xxx	yes		1	1	Fmcs, sar	MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	49.7	36.9	1	1
16	0 - 32	75yr43	Br	M-HZCL	-	-	no	4	1		**1**	**III**	**3a**	**1**	**3a**	**WE**
	32 - 48	10yr53	Br	MZCL	xxx	no		4	1		Droughtiness Calculation					
	48 - 120	10yr62	Li Gr Br	HCL	xxxx	yes		4	1	sandy	MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	39.5	27.4	1	1
17	0 - 34	10yr33	Dk Br	MZCL	-	-	no	2	1		**1**	**IV**	**3b**	**1**	**3b**	**WE**
	34 - 120	10yr53	Br	C	xxx	yes		0			Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	45.5	32.5	1	1
18	0 - 36	10yr41	Dk Gr	M-HZCL	-	-	no	2	1		**1**	**IV**	**3b**	**1**	**3b**	**WE**
	36 - 120	75yr46 + 75yr52	St Br + Br	C	xxx	yes		1	1		Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	46.8	34.0	1	1
19	0 - 32	10yr32	V Dk Gr Br	MZCL	-	-	no	1	1		**2**	**IV**	**3b**	**1**	**3b**	**WE**
	32 - 120	10yr53	Br	HZCL	xxx	yes		1	1		Droughtiness Calculation					
										Fmc	MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	43.6	30.8	1	1
20	0 - 34	10yr32	V Dk Gr Br	M-HZCL	-	-	no	1	1		**1**	**IV**	**3b**	**1**	**3b**	**WE**
	34 - 55	10yr42	Dk Gr Br	HZCL	xxx	yes		1	1		Droughtiness Calculation					
	55 - 120	10yr53	Br	HZCL	xxx	yes		1	1		MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	45.6	32.8	1	1
21	0 - 32	10yr32	V Dk Gr Br	M-HZCL	-	-	no	1	1		**1**	**IV**	**3b**	**2**	**3b**	**WE**
	32 - 62	10yr42	Dk Gr Br	HZCL	xxx	yes		1	1		Droughtiness Calculation					
	62 - 120	10yr53	Br	HZCL	xxx	yes		1	1		MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	31.0	18.2	1	1
22	0 - 33	10yr32	V Dk Gr Br	M-HZCL	-	-	no	2	1		**1**	**IV**	**3b**	**2**	**3b**	**WE**
	33 - 65	10yr42	Dk Gr Br	HZCL	xxx	yes		1	1		Droughtiness Calculation					

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Soil Profile											Agricultural Land Classification					
Auger	Depth (cm)	Colour		Texture	Mottling	SPL	$CaCO_3$	Stones (%) Total	Litho'	Notes	(°)	W C	WE grade	DR grade	Overall grade	Limit(s)
	65 - 120	10yr53	Br	HZCL	xxx	yes		1	1		MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	31.0	18.2	1	1
23	0 - 33	10yr32	V Dk Gr Br	HZCL	-	-	no	1	1		**2**	**IV**	**3b**	**2**	**3b**	**WE**
	33 - 120	10yr42	Br	C	xxx	yes		2	1		Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	44.0	31.4	1	1
24	0 - 32	10yr32	V Dk Gr Br	HZCL	-	-	no	2	1		**4**	**IV**	**3b**	**1**	**3b**	**WE**
	32 - 70	75yr53	Dk Gr Br	HZCL	xxx	yes		2	1	fmcs	Droughtiness Calculation					
	70 - 120	10yr44 + 75yr53	Dk Br + Br	SCL	xxx	yes		2	1		MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	42.3	29.7	1	1
25	0 - 31	10yr32	V Dk Gr Br	HZCL	-	-	no	1	1		**2**	**IV**	**3b**	**2**	**3b**	**WE**
	31 - 120	75yr53	Br	C	xxx	yes		1	1		Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	42.6	29.9	1	1
26	0 - 30	10yr32	V Dk Gr Br	HZCL	-	-	no	5	1	standing	**2**	**IV**	**3b**	**2**	**3b**	**WE**
	30 - 120	75yr53	Br	C	xxx	yes		1	1		Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	24.8	12.0	2	1
27	0 - 34	10yr44	Dk Yl Br	SCL	-	-	no	2	1		**2**	**I**	**1**	**1**	**1**	**0**
	34 - 120	10yr44 + 75yr46	Dk Yl Br + St Br	MSL	x	no		2	1		Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	71.7	25.8	1	1
28	0 - 35	10yr44	Dk Yl Br	SCL	-	-	no	2	1		**2**	**I**	**1**	**1**	**1**	**0**
	35 - 120	10yr44 + 75yr46	Dk Yl Br + St Br	MSL	x	no		2	1		Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	71.7	25.8	1	1
29	0 - 35	10yr44	Dk Yl Br	SCL	-	-	no	1	1		**1**	**I**	**1**	**1**	**1**	**0**

Appendix A: Soil Auger Log

Soil Profile											Agricultural Land Classification					
Auger	Depth (cm)	Colour		Texture	Mottling	SPL	$CaCO_3$	Stones (%) Total	Litho'	Notes	(°)	W C	WE grade	DR grade	Overall grade	Limit(s)
	35 - 120	10yr44 + 75yr46	Dk Yl Br + St Br	MSL	x	no		5	1		Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	69.1	24.9	1	1
30	0 - 33	10yr44	Dk Yl Br	SCL	-	-	no	1	1		**1**	**I**	**1**	**1**	**1**	**0**
	33 - 120	10yr44 + 75yr46	Dk Yl Br + St Br	MSL	x	no		5	1		Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	69.3	25.0	1	1
31	0 - 36	10yr44	Dk Yl Br	SCL	-	-	no	1	1		**1**	**I**	**1**	**1**	**1**	**0**
	36 - 120	10yr44 + 75yr46	Dk Yl Br + St Br	MSL	x	no		5	1		Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	68.9	24.7	1	1
32	0 - 35	10yr44	Dk Yl Br	SCL	-	-	no	1	1		**1**	**I**	**1**	**1**	**1**	**0**
	35 - 120	10yr44 + 75yr46	Dk Yl Br + St Br	MSL	x	no		5	1		Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	68.9	24.6	1	1
33	0 - 39	10yr44	Dk Yl Br	SCL	-	-	no	1	1		**1**	**I**	**1**	**1**	**1**	**0**
	39 - 120	10yr44 + 75yr46	Dk Yl Br + St Br	MSL	x	no		5	1		Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	68.6	24.4	1	1
34	0 - 37	10yr44	Dk Yl Br	SCL	-	-	no	2	1		**1**	**(I)**	**1**	**1**	**1**	**0**
	37 - 48	10yr44 + 75yr46	Dk Yl Br + St Br	MSL	x	no		10	8	sos	Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	63.0	21.5	1	1
35	0 - 36	10yr44	Dk Yl Br	SCL	-	-	no	2	1		**2**	**(I)**	**1**	**1**	**1**	**0**

Appendix A: Soil Auger Log

Soil Profile											Agricultural Land Classification					
Auger	Depth (cm)	Colour		Texture	Mottling	SPL	$CaCO_3$	Stones (%)		Notes	(°)	W C	WE grade	DR grade	Overall grade	Limit(s)
								Total	Litho'							
	36 - 50	10yr44 + 75yr46	Dk Yl Br + St Br	MSL	x	no		10	8	sos	Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	63.3	21.7	1	1
36	0 - 38	10yr44	Dk Yl Br	SCL	-	-	no	2	1		**2**	**(I)**	**1**	**1**	**1**	**0**
	38 - 60	10yr44 + 75yr46	Dk Yl Br + St Br	MSL	x	no		10	8	sos	Droughtiness Calculation					
											MDW	MDP	MBW	MBP	Grade W	Grade P
											101	91	63.1	21.7	1	1

Appendix B – Auger Location Map

Title

Appendix B.
Auger Location Map

Project

A46 Coventry Junction

Client

SWECO

Key

Red Line Boundary updated

Auger points

Pits

Google Sat

Date: 05 / 07 / 2024

ADAS

www.adas.uk

Appendix C – Soil Unit Map

Title

Appendix C. Soil Unit Map

Project

A46 Coventry Junction

Client

SWECO

Key

- Red Line Boundary updated
- Auger points
- Pits
- Soil Unit 1
- Soil Unit 2

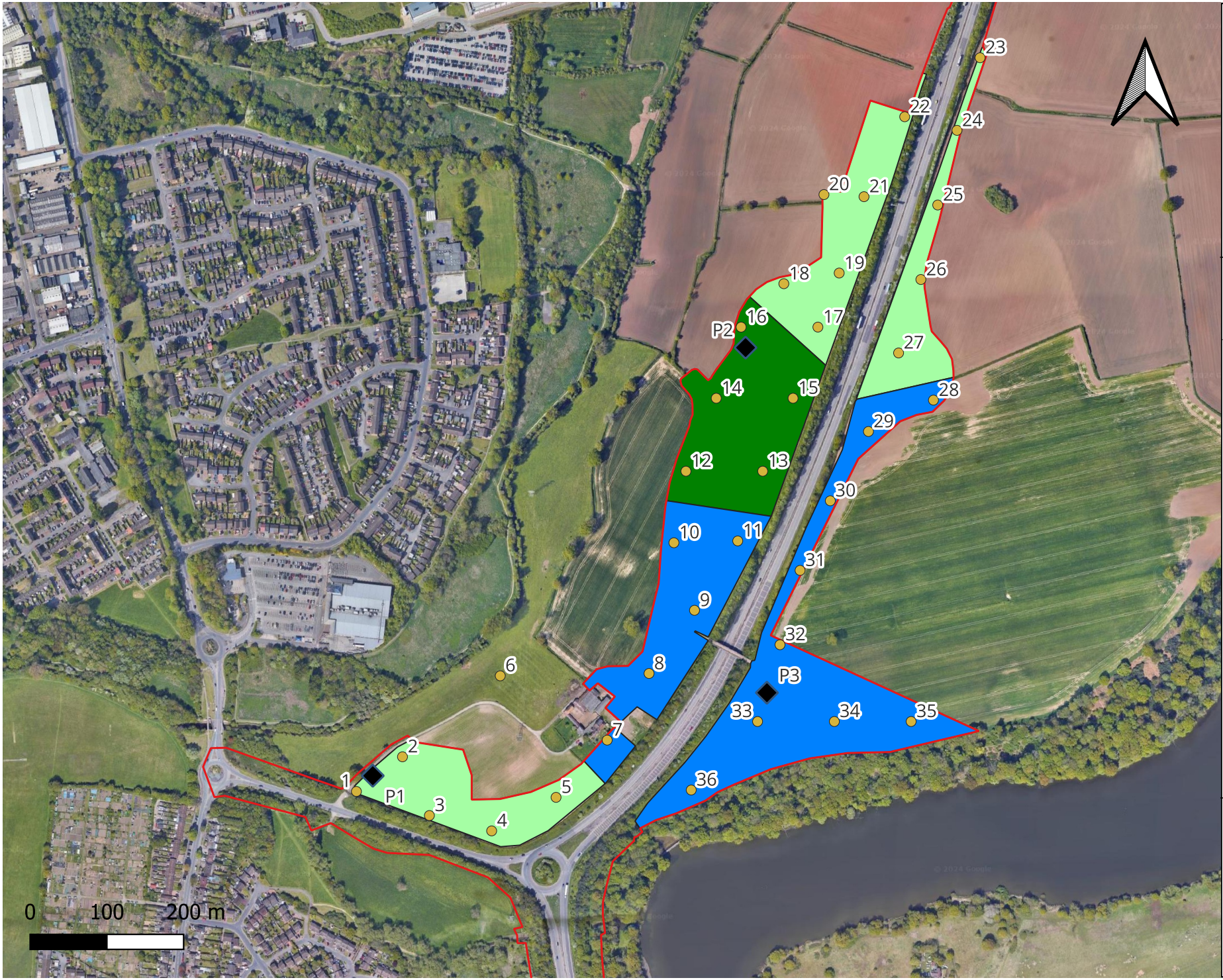
Google Sat

Date: 05 / 07 / 2024

ADAS

www.adas.uk

Appendix D – ALC Grade map



Title

Appendix D. ALC Grade Map

Project

A46 Coventry Junction

Client

SWECO

Key

- Red Line Boundary updated
- Auger points
- Pits

ALC Grades

- 1
- 2
- 3a
- 3b
- 4
- 5
- Non agric
- Urban

Google Sat

Date: 05 / 07 / 2024

ADAS

www.adas.uk

Appendix E – Laboratory results

Certificate of Analysis

Client: [redacted]
(K754)

Originator: 1011139
A46
1011139

Lab ID: 17262 - 673669
Sample ID: PIT 1 TOPSOIL
Sample Weight: 1033g

Date Received: 12/01/2024
Date Reported: 24/01/2024

BS 3882 : 2015 SPECIFICATION FOR TOPSOIL
Multipurpose Grade

					Compliant with range (Y/N)					
					Multi-P	Acid	Calc	Low-F	Low-F Acid	Low-F Calc
		Unit	Result							
Texture:	Clay	% w/w	16							
	Silt	% w/w	37			*See area of permitted soil textural*				
	Sand	% w/w	47			*classes in Fig. 1.*				
	Textural Class		Sandy Silt Loam		Y	Y	Y	Y	Y	Y
Organic Matter:		% w/w	4.0		Y	Y	Y	Y	Y	Y
Coarse	>2 mm	% w/w	2.6		Y	Y	Y	Y	Y	Y
Fragment	>20 mm	% w/w	2.0		Y	Y	Y	Y	Y	Y
Content:	>50 mm	% w/w	0.0		Y	Y	Y	Y	Y	Y
Soil pH:			6.8		Y	N	N	Y	N	N
Carbonate:		% w/w	<1				N			N
Available	Nitrogen	% w/w	0.194		Y	Y	Y			
Plant	Phosphorus	mg/l	30.4	(3)*	Y	Y	Y	N	N	N
Nutrients:	Potassium	mg/l	196.2	(2+)*	Y	Y	Y			
	Magnesium	mg/l	81.7	(2)*	Y	Y	Y			
Carbon:Nitrogen Ratio:		:1	12.0		Y	Y	Y	Y	Y	Y
Exchangeable Sodium Percentage:		%	0.9							
Phytotoxic	Total Zinc	mg/kg	71.6		Y	Y	Y	Y	Y	Y
Contaminants:	Total Copper	mg/kg	13.3		Y	Y	Y	Y	Y	Y
	Total Nickel	mg/kg	17.4		Y	Y	Y	Y	Y	Y
Visible	> 2mm	% w/w	0.00		Y	Y	Y	Y	Y	Y
Contaminants:	Plastics	% w/w	0.00		Y	Y	Y	Y	Y	Y
	Number of Sharps		0		Y	Y	Y	Y	Y	Y
Additional	Available Sodium	mg/l	17.1							
Analysis:	Available Calcium	mg/l	1449.1							
	Conductivity	uS/cm	2108		Y					
Compliancy:					**Y**	**N**	**N**	**N**	**N**	**N**

Results are expressed on a dry matter basis.
* Soil indices from RB209

Released by: [redacted]

DECLARATION: I certify that this sample has been analysed by NRM in accordance with BS 3882 Specification for Topsoil (2015).

NRM Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS
Tel: +44 (0) 1344 886338 **Fax:** +44 (0) 1344 890972 **Email:** enquiries@nrm.uk.com **www**.nrm.uk.com

Analytical Report

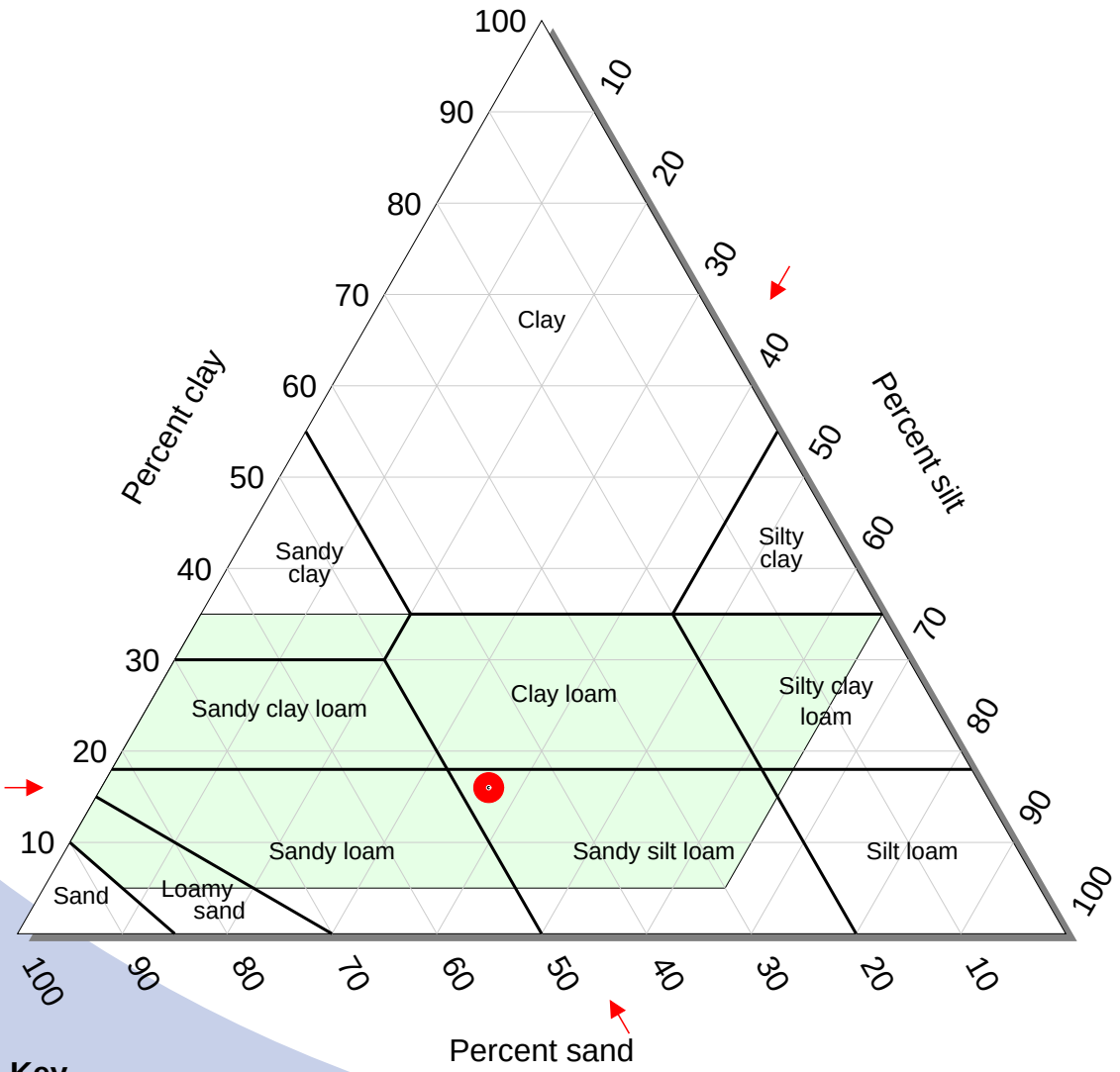
Client: [redacted]
(K754)

Originator: 1011139
A46
1011139

Lab ID: 17262 - 673669
Sample ID: PIT 1 TOPSOIL
Sample Weight: 1033g

Date Received: 12/01/2024
Date Reported: 24/01/2024

Fig. 1. Textural Class: Sandy Silt Loam (compliant)



Key

Area within which texture of topsoil is required to fall.

NRM Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS
Tel: +44 (0) 1344 886338 **Fax:** +44 (0) 1344 890972 **Email:** enquiries@nrm.uk.com **www**.nrm.uk.com

Certificate of Analysis

Client: [redacted]
(K754)

Originator: 1011139
A46
1011139

Lab ID: 17262 - 673670
Sample ID: PIT 2 TOPSOIL
Sample Weight: 2058g

Date Received: 12/01/2024
Date Reported: 24/01/2024

BS 3882 : 2015 SPECIFICATION FOR TOPSOIL
Fails BS 3882

		Unit	Result		Compliant with range (Y/N) Multi-P	Acid	Calc	Low-F	Low-F Acid	Low-F Calc
Texture:	Clay	% w/w	20							
	Silt	% w/w	28			*See area of permitted soil textural*				
	Sand	% w/w	52			*classes in Fig. 1.*				
	Textural Class		Sandy Clay Loam		Y	Y	Y	Y	Y	Y
Organic Matter:		% w/w	3.6		Y	Y	Y	Y	Y	Y
Coarse	>2 mm	% w/w	13.1		Y	Y	Y	Y	Y	Y
Fragment	>20 mm	% w/w	10.8		N	N	N	N	N	N
Content:	>50 mm	% w/w	3.6		N	N	N	N	N	N
Soil pH:			5.8		Y	N	N	Y	N	N
Carbonate:		% w/w	<1				N			N
Available	Nitrogen	% w/w	0.143		N	N	N			
Plant	Phosphorus	mg/l	27.4	(3)*	Y	Y	Y	N	N	N
Nutrients:	Potassium	mg/l	89.7	(1)*	N	N	N			
	Magnesium	mg/l	114.3	(3)*	Y	Y	Y			
Carbon:Nitrogen Ratio:		:1	14.6		Y	Y	Y	Y	Y	Y
Exchangeable Sodium Percentage:		%	0.4							
Phytotoxic	Total Zinc	mg/kg	78.6		Y	Y	Y	Y	Y	Y
Contaminants:	Total Copper	mg/kg	24.6		Y	Y	Y	Y	Y	Y
	Total Nickel	mg/kg	21.7		Y	Y	Y	Y	Y	Y
Visible	> 2mm	% w/w	0.00		Y	Y	Y	Y	Y	Y
Contaminants:	Plastics	% w/w	0.00		Y	Y	Y	Y	Y	Y
	Number of Sharps		0		Y	Y	Y	Y	Y	Y
Additional	Available Sodium	mg/l	10.1							
Analysis:	Available Calcium	mg/l	1928.4							
	Conductivity	uS/cm	2079		Y					
Compliancy:					**N**	**N**	**N**	**N**	**N**	**N**

Results are expressed on a dry matter basis.
* Soil indices from RB209

Released by: [redacted]

DECLARATION: I certify that this sample has been analysed by NRM in accordance with BS 3882 Specification for Topsoil (2015).

NRM Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS
Tel: +44 (0) 1344 886338 **Fax:** +44 (0) 1344 890972 **Email:** enquiries@nrm.uk.com **www**.nrm.uk.com

Analytical Report

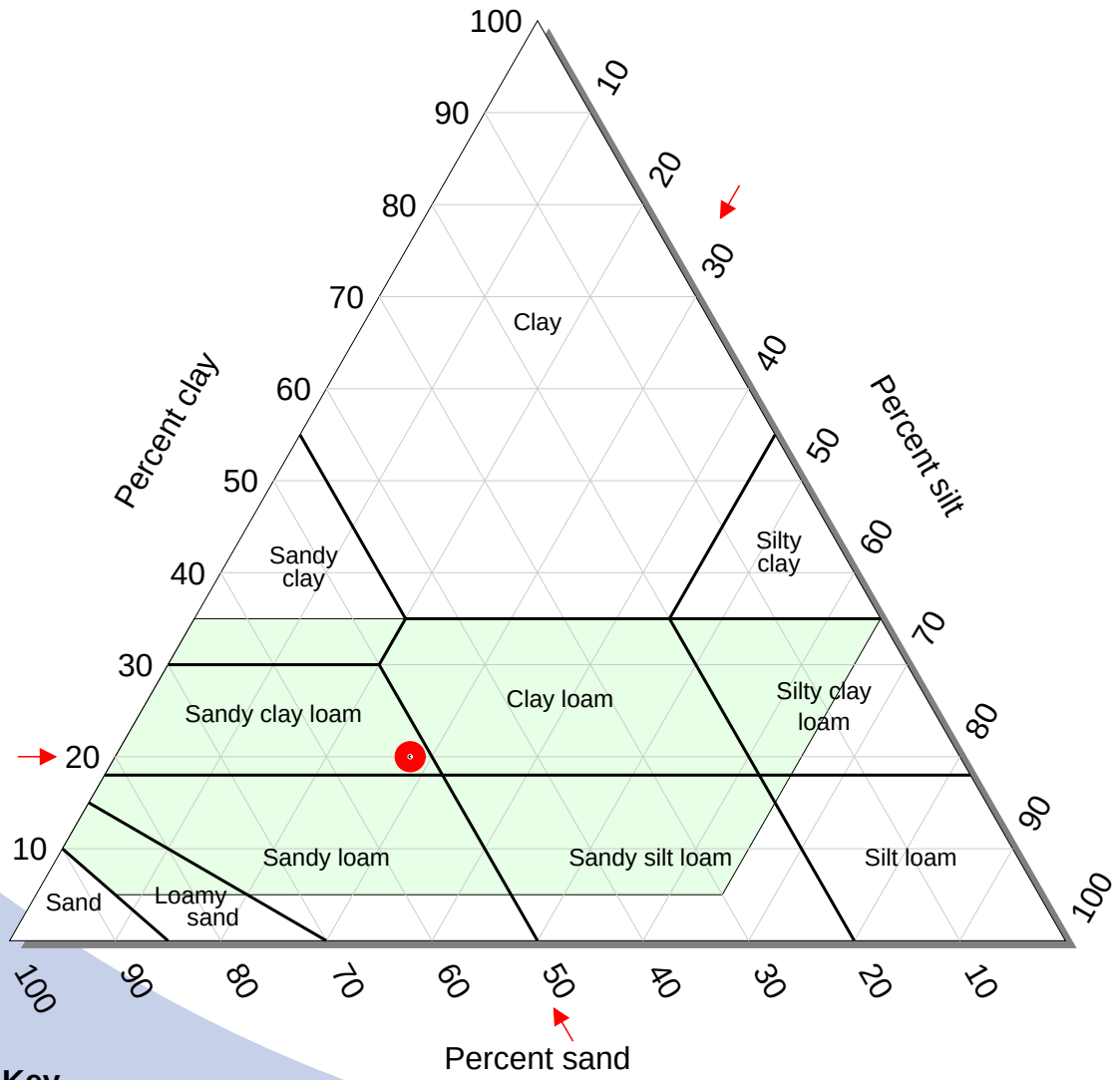
Client: [redacted]
(K754)

Originator: 1011139
A46
1011139

Lab ID: 17262 - 673670
Sample ID: PIT 2 TOPSOIL
Sample Weight: 2058g

Date Received: 12/01/2024
Date Reported: 24/01/2024

Fig. 1. Textural Class: Sandy Clay Loam (compliant)



Key

Area within which texture of topsoil is required to fall.

NRM Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS
Tel: +44 (0) 1344 886338 **Fax:** +44 (0) 1344 890972 **Email:** enquiries@nrm.uk.com **www**.nrm.uk.com

Certificate of Analysis

Client: [redacted]
(K754)

Originator: 1011139
A46
1011139

Lab ID: 17262 - 673671
Sample ID: PIT 3 TOPSOIL
Sample Weight: 2000g

Date Received: 12/01/2024
Date Reported: 24/01/2024

BS 3882 : 2015 SPECIFICATION FOR TOPSOIL
Specific Purpose: Low Fertility

					Compliant with range (Y/N)					
					Multi-P	Acid	Calc	Low-F	Low-F Acid	Low-F Calc
		Unit	Result							
Texture:	Clay	% w/w	8							
	Silt	% w/w	14			*See area of permitted soil textural*				
	Sand	% w/w	78			*classes in Fig. 1.*				
	Textural Class		Loamy Sand		Y	Y	Y	Y	Y	Y
Organic Matter:		% w/w	3.2		Y	Y	Y	Y	Y	Y
Coarse	>2 mm	% w/w	6.5		Y	Y	Y	Y	Y	Y
Fragment	>20 mm	% w/w	3.5		Y	Y	Y	Y	Y	Y
Content:	>50 mm	% w/w	0.0		Y	Y	Y	Y	Y	Y
Soil pH:			6.7		Y	N	N	Y	N	N
Carbonate:		% w/w	<1				N			N
Available	Nitrogen	% w/w	0.113		N	N	N			
Plant	Phosphorus	mg/l	15.8	(2)*	N	N	N	Y	Y	Y
Nutrients:	Potassium	mg/l	111.2	(1)*	N	N	N			
	Magnesium	mg/l	54.7	(2)*	Y	Y	Y			
Carbon:Nitrogen Ratio:		:1	16.5		Y	Y	Y	Y	Y	Y
Exchangeable Sodium Percentage:		%	0.3							
Phytotoxic	Total Zinc	mg/kg	38.6		Y	Y	Y	Y	Y	Y
Contaminants:	Total Copper	mg/kg	9.3		Y	Y	Y	Y	Y	Y
	Total Nickel	mg/kg	10.2		Y	Y	Y	Y	Y	Y
Visible	> 2mm	% w/w	0.00		Y	Y	Y	Y	Y	Y
Contaminants:	Plastics	% w/w	0.00		Y	Y	Y	Y	Y	Y
	Number of Sharps		0		Y	Y	Y	Y	Y	Y
Additional	Available Sodium	mg/l	4.8							
Analysis:	Available Calcium	mg/l	1064.2							
	Conductivity	uS/cm	2135		Y					
Compliancy:					**N**	**N**	**N**	**Y**	**N**	**N**

Results are expressed on a dry matter basis.
* Soil indices from RB209

Released by: [redacted]

DECLARATION: I certify that this sample has been analysed by NRM in accordance with BS 3882 Specification for Topsoil (2015).

NRM Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS
Tel: +44 (0) 1344 886338 **Fax:** +44 (0) 1344 890972 **Email:** enquiries@nrm.uk.com **www**.nrm.uk.com

Analytical Report

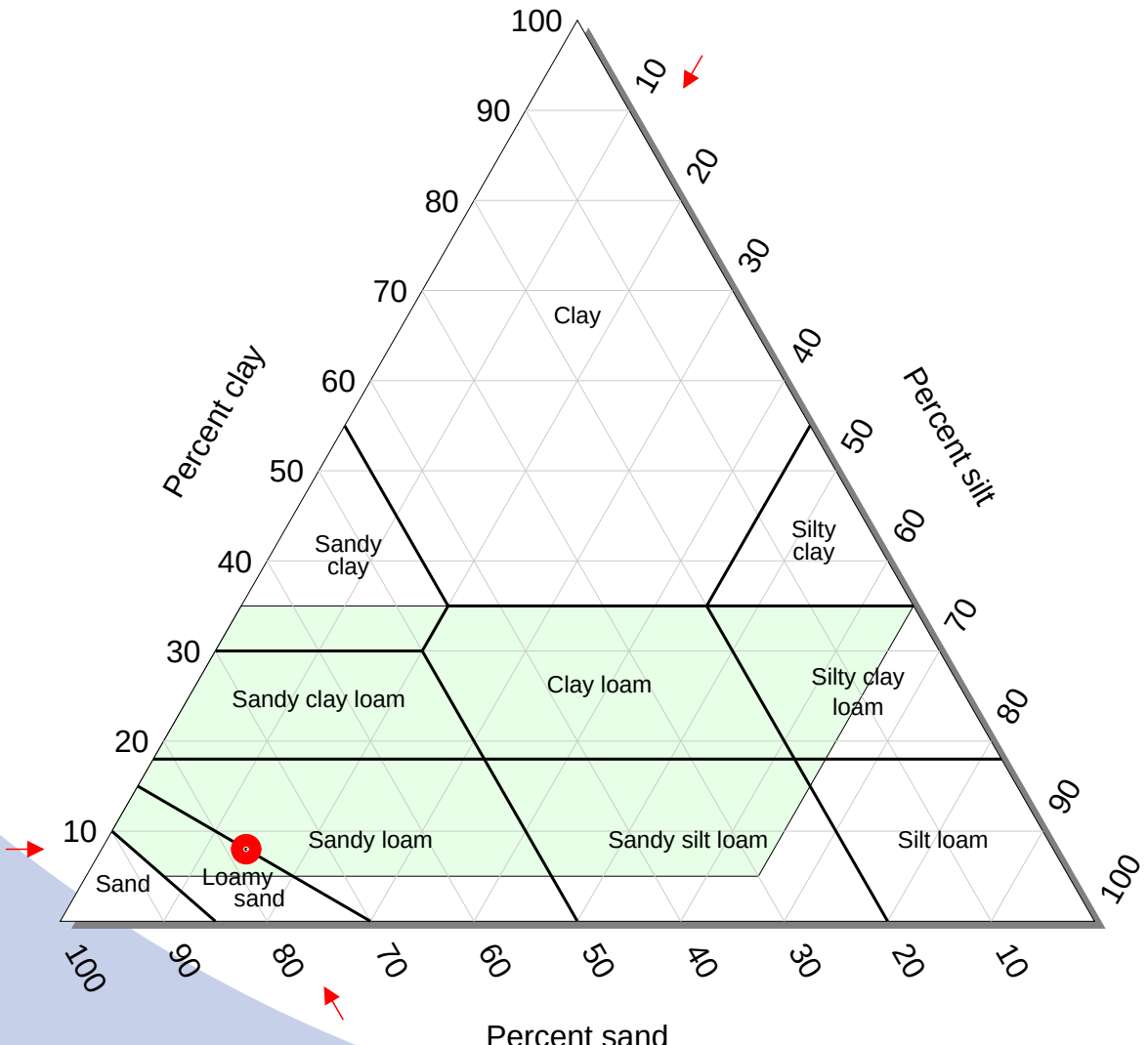
Client: [redacted]
(K754)

Originator: 1011139
A46
1011139

Lab ID: 17262 - 673671
Sample ID: PIT 3 TOPSOIL
Sample Weight: 2000g

Date Received: 12/01/2024
Date Reported: 24/01/2024

Fig. 1. Textural Class: Loamy Sand (compliant)



Key

Area within which texture of topsoil is required to fall.

NRM Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS
Tel: +44 (0) 1344 886338 **Fax:** +44 (0) 1344 890972 **Email:** enquiries@nrm.uk.com **www**.nrm.uk.com

Certificate of Analysis

Client: [redacted]
(K754)

Originator: 1011139
A46
1011139

Lab ID: 17270 - 673672
Sample ID: PIT 1 UP SUBSOIL
Fresh Sample Weight: 843 (g)

Date Received: 12/01/2024
Date Reported: 01/02/2024

BS 8601 : 2013 SPECIFICATION FOR SUBSOIL
Fails BS 8601

		Unit	Result		Compliant with range (Y/N) Multi-P	Acid	Calc
Texture:	Clay	% w/w	37				
	Silt	% w/w	49		*See area of permitted soil textural*		
	Sand	% w/w	14		*classes in Fig. 1.*		
	Textural Class		Silty Clay				
Mass Loss on Ignition:		% w/w	1.5		Y	Y	Y
Coarse	>2 mm	% w/w	0.4		Y	Y	Y
Fragment	>20 mm	% w/w	0.0		Y	Y	Y
Content:	>75 mm	% w/w	0.0		Y	Y	Y
Soil pH:			7.1		Y	N	N
Carbonate:		% w/w	2.5				Y
Exchangeable Sodium Percentage:		%	0.7		Y	Y	Y
Phytotoxic	Total Zinc	mg/kg	111		Y	Y	Y
Contaminants:	Total Copper	mg/kg	16.8		Y	Y	Y
	Total Nickel	mg/kg	41.7		Y	Y	Y
Visible	> 2mm	% w/w	0.00		Y	Y	Y
Contaminants:	Plastics	% w/w	0.00		Y	Y	Y
	Sharps	% w/w	0.00		Y	Y	Y
	Weight of Sharps	g	0.0				
Available	Phosphorus	mg/l	3.2	(0)*			
Plant	Potassium	mg/l	101.1	(1)*			
Nutrients:	Magnesium	mg/l	329.9	(5)*			
Additional	Available Sodium	mg/l	25.5				
Analysis:	Available Calcium	mg/l	2595.0				
	Conductivity	uS/cm	2082				
	Conductivity CaSO4 Adj.	uS/cm	122				
Compliancy:					**N**	**N**	**N**

Results are expressed on a dry matter basis.
* Soil indices from RB209

Released by: [redacted]

DECLARATION: I certify that this sample has been analysed by NRM. in accordance with BS 8601 Specification for Subsoil (2013).

t: +44(0)1344 886338 **w:** www.cawood.co.uk/nrm
NRM, Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS

Analytical Report

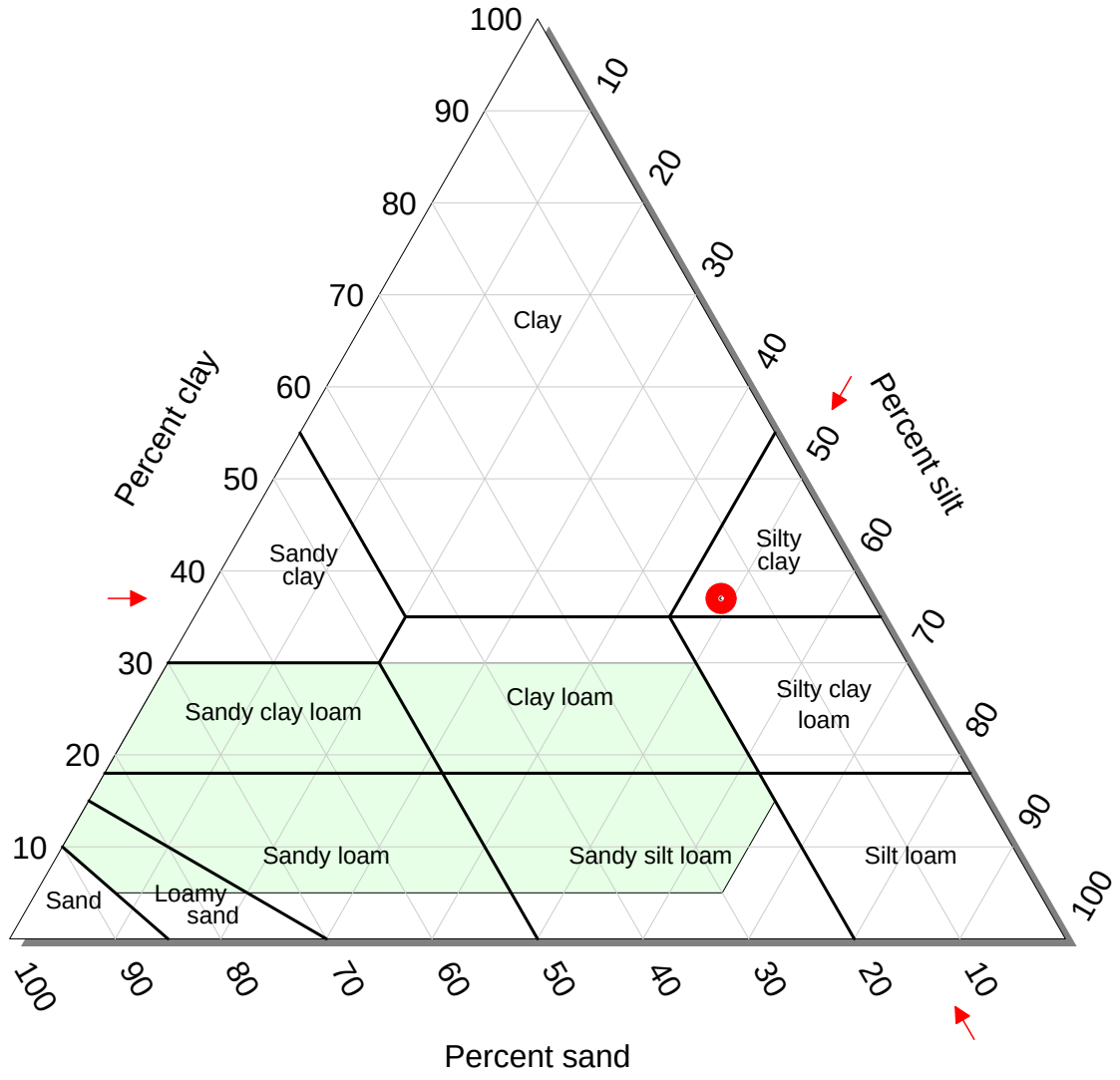
Client: [redacted]
(K754)

Originator: 1011139
A46
1011139

Lab ID: 17270 - 673672
Sample ID: PIT 1 UP SUBSOIL
Fresh Sample Weight: 843 (g)

Date Received: 12/01/2024
Date Reported: 01/02/2024

Fig. 1. Textural Class: Silty Clay (non-compliant)



Key

Area within which texture of subsoil is required to fall.

Certificate of Analysis

Client: [redacted]
(K754)

Originator: 1011139
A46
1011139

Lab ID: 17270 - 673673
Sample ID: PIT 1 LOWER SUBSOIL
Fresh Sample Weight: 789 (g)

Date Received: 12/01/2024
Date Reported: 01/02/2024

BS 8601 : 2013 SPECIFICATION FOR SUBSOIL
Fails BS 8601

		Unit	Result		Compliant with range (Y/N) Multi-P	Acid	Calc
Texture:	Clay	% w/w	16				
	Silt	% w/w	24		*See area of permitted soil textural*		
	Sand	% w/w	60		*classes in Fig. 1.*		
	Textural Class		Sandy Loam				
Mass Loss on Ignition:		% w/w	2.1		N	N	N
Coarse	>2 mm	% w/w	6.8		Y	Y	Y
Fragment	>20 mm	% w/w	5.5		Y	Y	Y
Content:	>75 mm	% w/w	0.0		Y	Y	Y
Soil pH:			7.2		Y	N	N
Carbonate:		% w/w	<1				N
Exchangeable Sodium Percentage:		%	0.7		Y	Y	Y
Phytotoxic	Total Zinc	mg/kg	50.4		Y	Y	Y
Contaminants:	Total Copper	mg/kg	9.7		Y	Y	Y
	Total Nickel	mg/kg	24.4		Y	Y	Y
Visible	> 2mm	% w/w	0.00		Y	Y	Y
Contaminants:	Plastics	% w/w	0.00		Y	Y	Y
	Sharps	% w/w	0.00		Y	Y	Y
	Weight of Sharps	g	0.0				
Available	Phosphorus	mg/l	8.2	(0)*			
Plant	Potassium	mg/l	124.5	(2-)*			
Nutrients:	Magnesium	mg/l	78.0	(2)*			
Additional	Available Sodium	mg/l	11.0				
Analysis:	Available Calcium	mg/l	1265.0				
	Conductivity	uS/cm	2065				
	Conductivity CaSO4 Adj.	uS/cm	105				
Compliancy:					**N**	**N**	**N**

Results are expressed on a dry matter basis.
* Soil indices from RB209

Released by: [redacted]

DECLARATION: I certify that this sample has been analysed by NRM. in accordance with BS 8601 Specification for Subsoil (2013).

Analytical Report

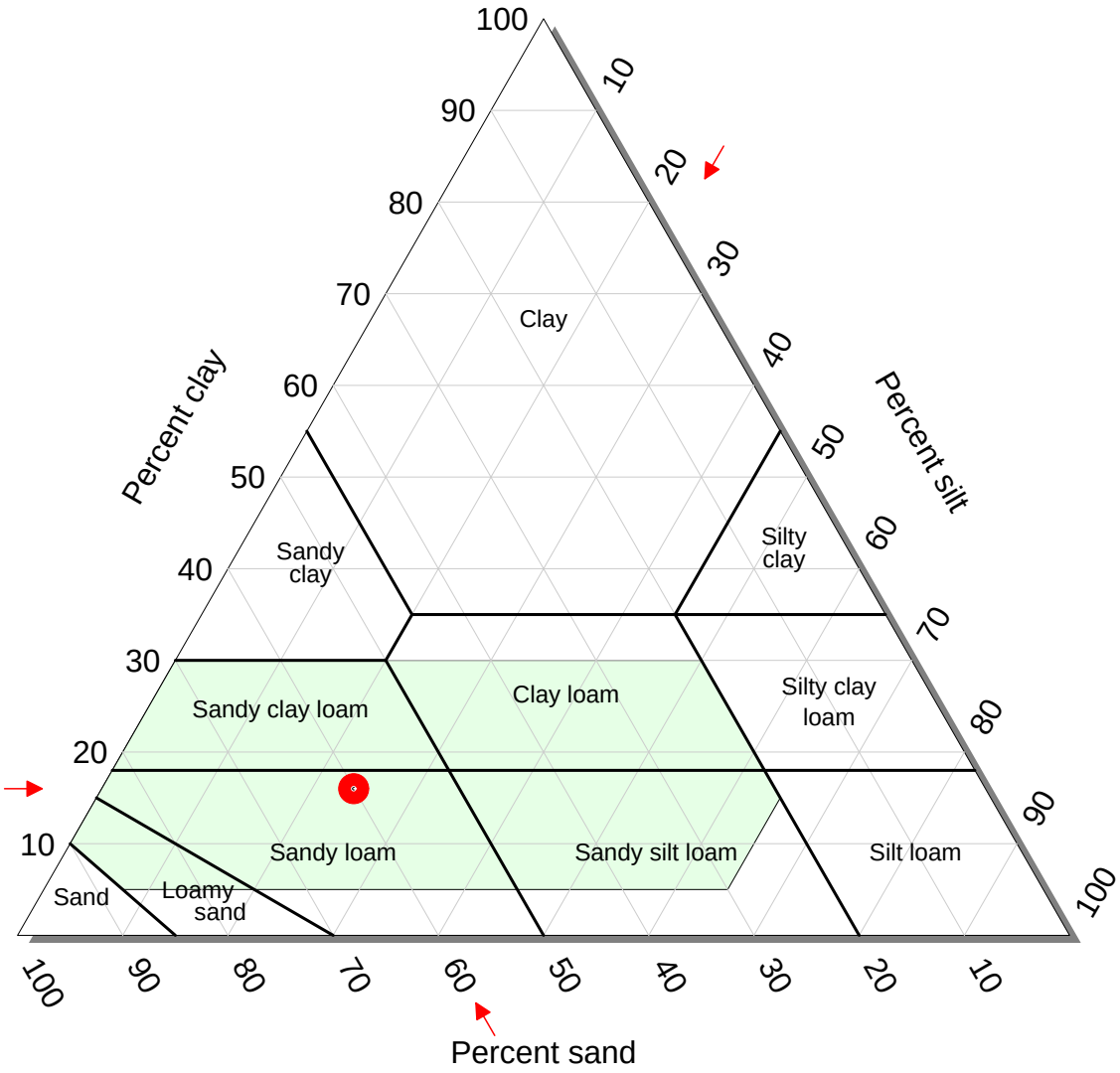
Client: [redacted]
(K754)

Originator: 1011139
A46
1011139

Lab ID: 17270 - 673673
Sample ID: PIT 1 LOWER SUBSOIL
Fresh Sample Weight: 789 (g)

Date Received: 12/01/2024
Date Reported: 01/02/2024

Fig. 1. Textural Class: Sandy Loam (compliant)



Key

Area within which texture of subsoil is required to fall.

Certificate of Analysis

Client: [redacted]
(K754)

Originator: 1011139
A46
1011139

Lab ID: 17270 - 673674
Sample ID: PIT 2 UP SUBSOIL
Fresh Sample Weight: 1798 (g)

Date Received: 12/01/2024
Date Reported: 01/02/2024

BS 8601 : 2013 SPECIFICATION FOR SUBSOIL
Multipurpose Grade

		Unit	Result		Compliant with range (Y/N) Multi-P	Acid	Calc
Texture:	Clay	% w/w	19				
	Silt	% w/w	32		*See area of permitted soil textural*		
	Sand	% w/w	49		*classes in Fig. 1.*		
	Textural Class		Clay Loam				
Mass Loss on Ignition:		% w/w	1.9		Y	Y	Y
Coarse	>2 mm	% w/w	6.3		Y	Y	Y
Fragment	>20 mm	% w/w	3.8		Y	Y	Y
Content:	>75 mm	% w/w	0.0		Y	Y	Y
Soil pH:			6.7		Y	N	N
Carbonate:		% w/w	<1				N
Exchangeable Sodium Percentage:		%	0.4		Y	Y	Y
Phytotoxic	Total Zinc	mg/kg	54.7		Y	Y	Y
Contaminants:	Total Copper	mg/kg	10.4		Y	Y	Y
	Total Nickel	mg/kg	18.9		Y	Y	Y
Visible	> 2mm	% w/w	0.00		Y	Y	Y
Contaminants:	Plastics	% w/w	0.00		Y	Y	Y
	Sharps	% w/w	0.00		Y	Y	Y
	Weight of Sharps	g	0.0				
Available	Phosphorus	mg/l	8.6	(0)*			
Plant	Potassium	mg/l	80.2	(1)*			
Nutrients:	Magnesium	mg/l	136.7	(3)*			
Additional	Available Sodium	mg/l	10.8				
Analysis:	Available Calcium	mg/l	1925.0				
	Conductivity	uS/cm	2019				
	Conductivity CaSO4 Adj.	uS/cm	59				
Compliancy:					**Y**	**N**	**N**

Results are expressed on a dry matter basis.
* Soil indices from RB209

Released by: [redacted]

DECLARATION: I certify that this sample has been analysed by NRM. in accordance with BS 8601 Specification for Subsoil (2013).

Analytical Report

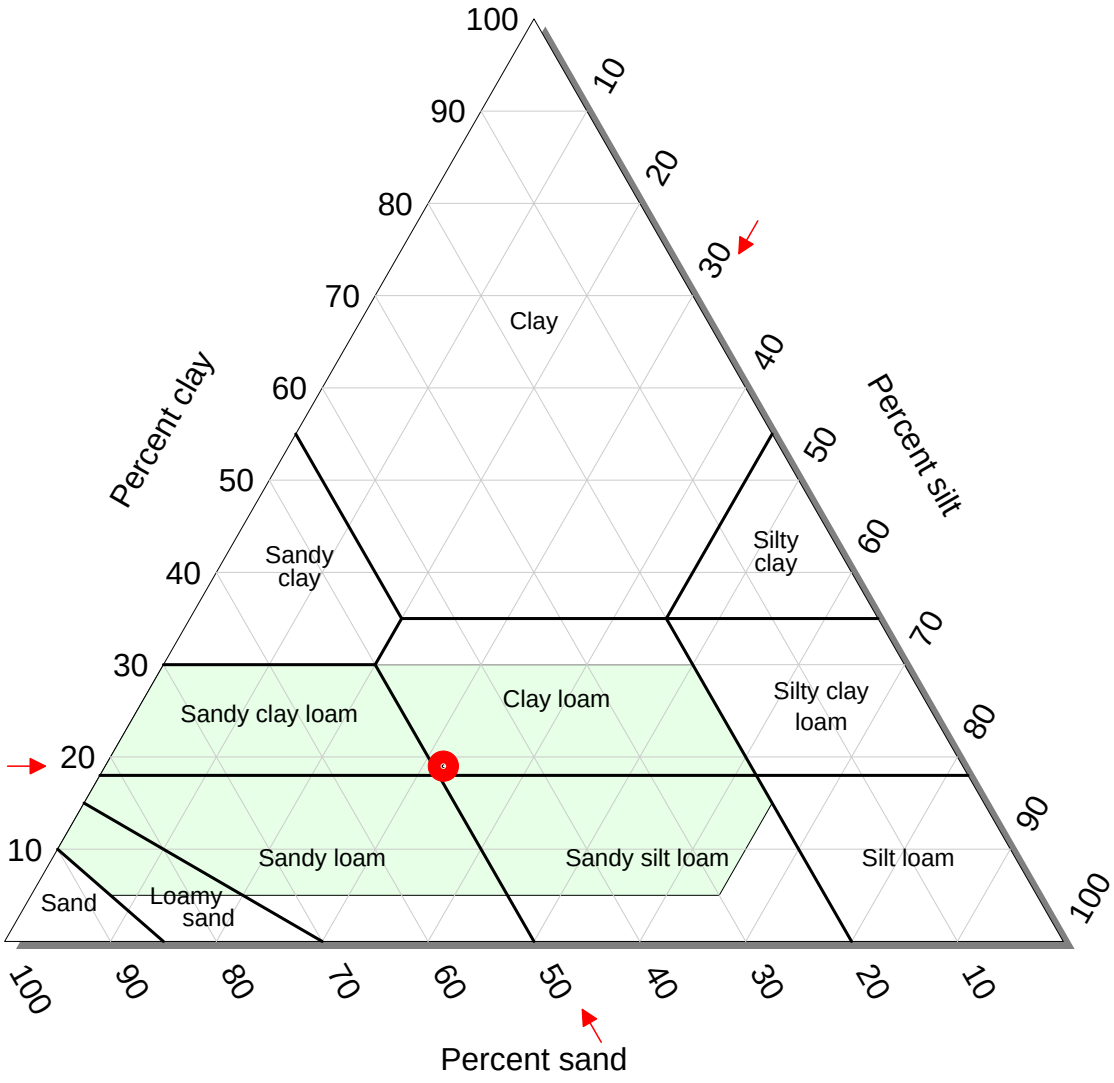
Client: [redacted]
(K754)

Originator: 1011139
A46
1011139

Lab ID: 17270 - 673674
Sample ID: PIT 2 UP SUBSOIL
Fresh Sample Weight: 1798 (g)

Date Received: 12/01/2024
Date Reported: 01/02/2024

Fig. 1. Textural Class: Clay Loam (compliant)



Key

Area within which texture of subsoil is required to fall.

Certificate of Analysis

Client: [redacted]
(K754)

Originator: 1011139
A46
1011139

Lab ID: 17270 - 673675
Sample ID: PIT 2 LOWER SUBSOIL
Fresh Sample Weight: 1620 (g)

Date Received: 12/01/2024
Date Reported: 01/02/2024

BS 8601 : 2013 SPECIFICATION FOR SUBSOIL
Multipurpose Grade

		Unit	Result		Compliant with range (Y/N) Multi-P	Acid	Calc
Texture:	Clay	% w/w	23				
	Silt	% w/w	30		*See area of permitted soil textural*		
	Sand	% w/w	47		*classes in Fig. 1.*		
	Textural Class		Clay Loam				
Mass Loss on Ignition:		% w/w	1.5		Y	Y	Y
Coarse	>2 mm	% w/w	5.9		Y	Y	Y
Fragment	>20 mm	% w/w	2.6		Y	Y	Y
Content:	>75 mm	% w/w	0.0		Y	Y	Y
Soil pH:			7.0		Y	N	N
Carbonate:		% w/w	<1				N
Exchangeable Sodium Percentage:		%	0.4		Y	Y	Y
Phytotoxic	Total Zinc	mg/kg	48.4		Y	Y	Y
Contaminants:	Total Copper	mg/kg	8.5		Y	Y	Y
	Total Nickel	mg/kg	19.0		Y	Y	Y
Visible	> 2mm	% w/w	0.00		Y	Y	Y
Contaminants:	Plastics	% w/w	0.00		Y	Y	Y
	Sharps	% w/w	0.00		Y	Y	Y
	Weight of Sharps	g	0.0				
Available	Phosphorus	mg/l	7.4	(0)*			
Plant	Potassium	mg/l	113.8	(1)*			
Nutrients:	Magnesium	mg/l	218.6	(4)*			
Additional	Available Sodium	mg/l	13.1				
Analysis:	Available Calcium	mg/l	2130.1				
	Conductivity	uS/cm	2027				
	Conductivity CaSO4 Adj.	uS/cm	67				
Compliancy:					**Y**	**N**	**N**

Results are expressed on a dry matter basis.
* Soil indices from RB209

Released by: [redacted]

DECLARATION: I certify that this sample has been analysed by NRM. in accordance with BS 8601 Specification for Subsoil (2013).

Analytical Report

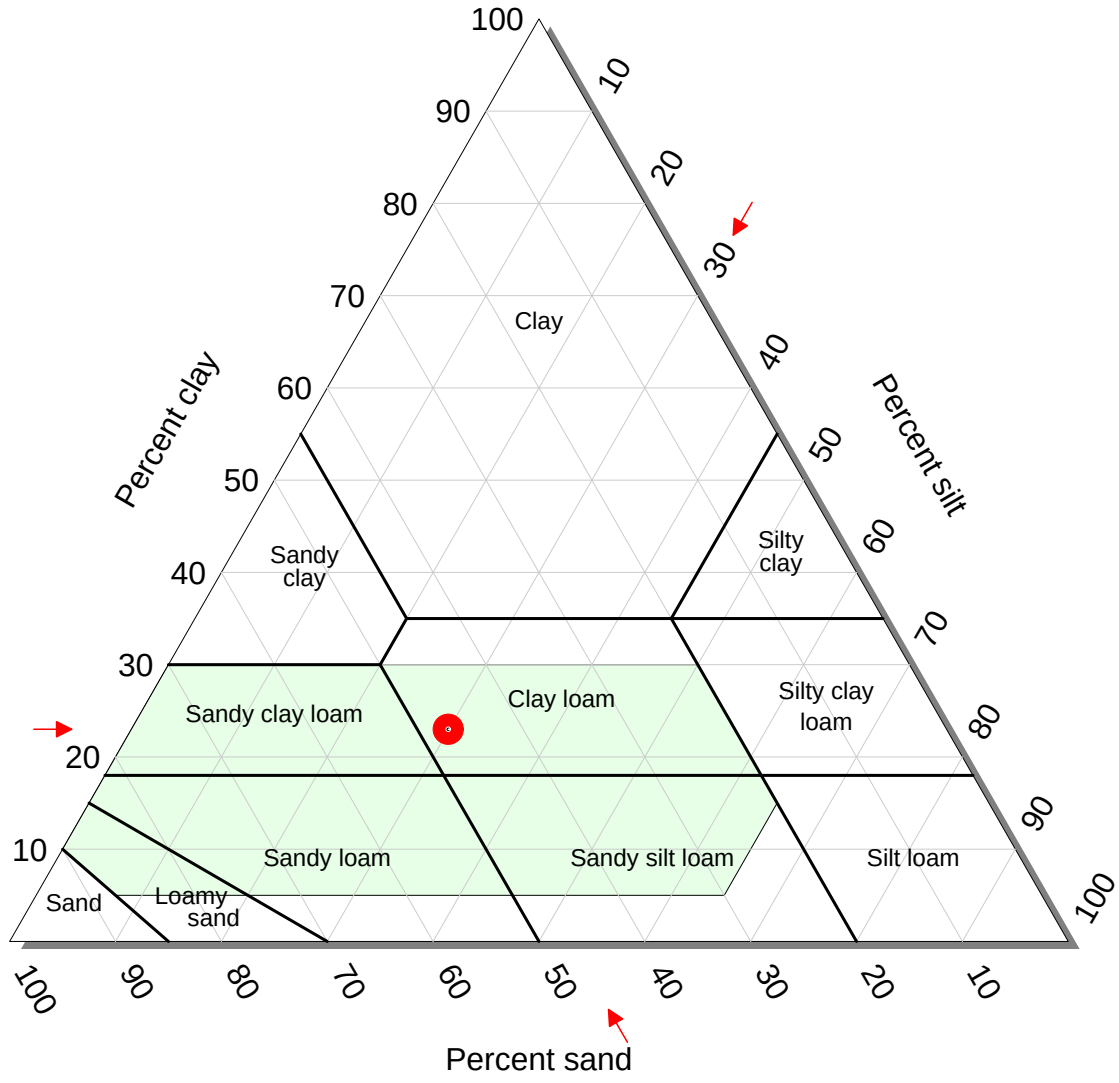
Client: [redacted]
(K754)

Originator: 1011139
A46
1011139

Lab ID: 17270 - 673675
Sample ID: PIT 2 LOWER SUBSOIL
Fresh Sample Weight: 1620 (g)

Date Received: 12/01/2024
Date Reported: 01/02/2024

Fig. 1. Textural Class: Clay Loam (compliant)



Key

Area within which texture of subsoil is required to fall.

Certificate of Analysis

Client: [redacted]
(K754)

Originator: 1011139
A46
1011139

Lab ID: 17270 - 673676
Sample ID: PIT 3 SUBSOIL
Fresh Sample Weight: 2302 (g)

Date Received: 12/01/2024
Date Reported: 01/02/2024

BS 8601 : 2013 SPECIFICATION FOR SUBSOIL
Fails BS 8601

		Unit	Result		Compliant with range (Y/N) Multi-P	Acid	Calc
Texture:	Clay	% w/w	9				
	Silt	% w/w	13		*See area of permitted soil textural*		
	Sand	% w/w	78		*classes in Fig. 1.*		
	Textural Class		Loamy Sand				
Mass Loss on Ignition:		% w/w	2.5		N	N	N
Coarse	>2 mm	% w/w	38.0		Y	Y	Y
Fragment	>20 mm	% w/w	33.6		N	N	N
Content:	>75 mm	% w/w	0.0		Y	Y	Y
Soil pH:			6.6		Y	N	N
Carbonate:		% w/w	<1				N
Exchangeable Sodium Percentage:		%	0.4		Y	Y	Y
Phytotoxic	Total Zinc	mg/kg	28.3		Y	Y	Y
Contaminants:	Total Copper	mg/kg	7.1		Y	Y	Y
	Total Nickel	mg/kg	<10		Y	Y	Y
Visible	> 2mm	% w/w	0.00		Y	Y	Y
Contaminants:	Plastics	% w/w	0.00		Y	Y	Y
	Sharps	% w/w	0.00		Y	Y	Y
	Weight of Sharps	g	0.0				
Available	Phosphorus	mg/l	11.8	(1)*			
Plant	Potassium	mg/l	87.0	(1)*			
Nutrients:	Magnesium	mg/l	44.0	(1)*			
Additional	Available Sodium	mg/l	4.8				
Analysis:	Available Calcium	mg/l	973.1				
	Conductivity	uS/cm	2047				
	Conductivity CaSO4 Adj.	uS/cm	87				
Compliancy:					**N**	**N**	**N**

Results are expressed on a dry matter basis.
* Soil indices from RB209

Released by: [redacted]

DECLARATION: I certify that this sample has been analysed by NRM. in accordance with BS 8601 Specification for Subsoil (2013).

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NRM, Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS

Analytical Report

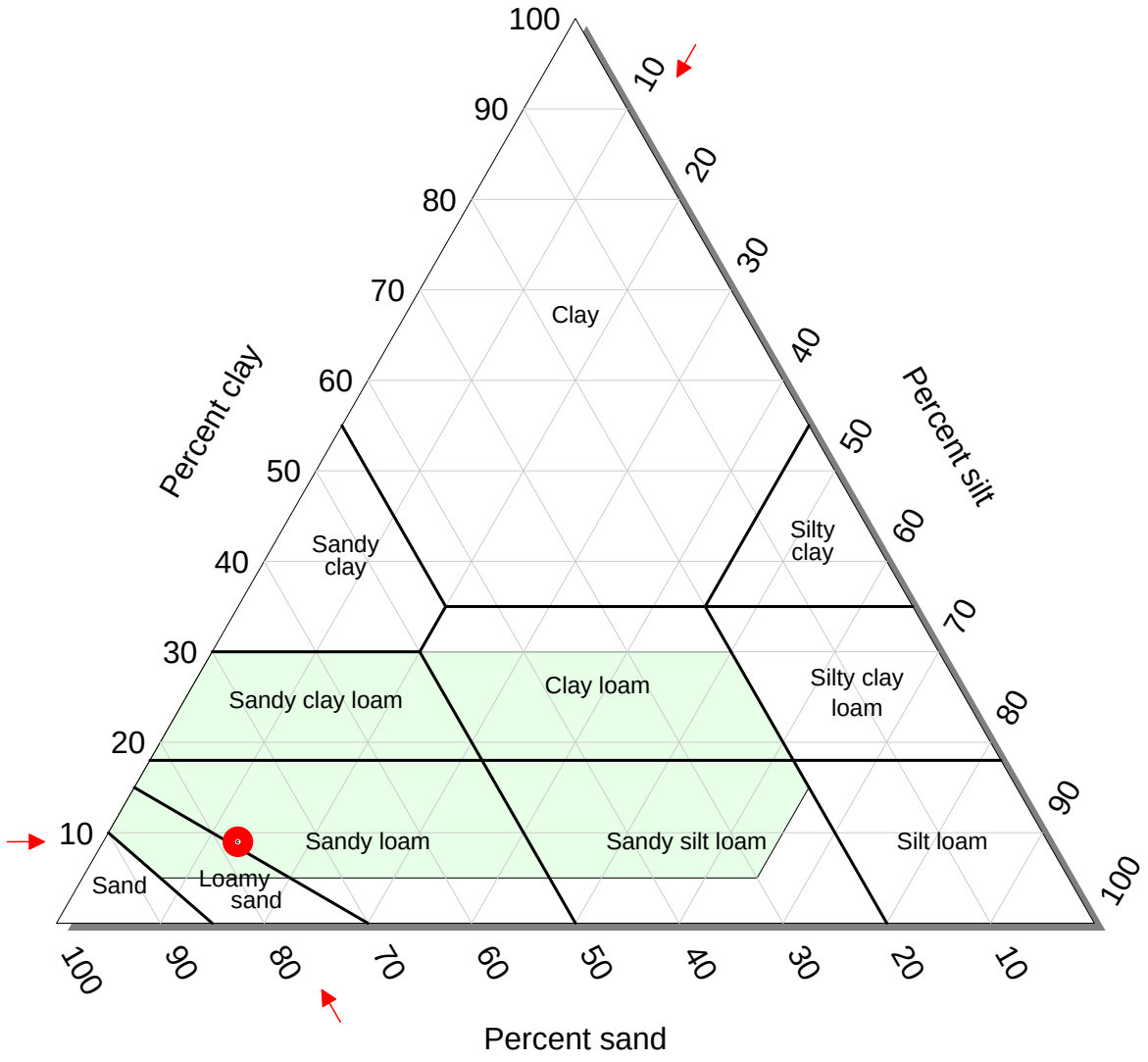
Client: [redacted]
(K754)

Originator: 1011139
A46
1011139

Lab ID: 17270 - 673676
Sample ID: PIT 3 SUBSOIL
Fresh Sample Weight: 2302 (g)

Date Received: 12/01/2024
Date Reported: 01/02/2024

Fig. 1. Textural Class: Loamy Sand (compliant)



Key

Area within which texture of subsoil is required to fall.

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