

GARDEN VALIDATION – ROYLE ROAD

Project Name: Royle Road

Project Number: 11-778

Client: Countryside Partnerships

Date: 20-06-2023

Project Manager: A. Garrity

E3P Engineer: R. Webster

Garden Validation Requirements: 600mm cover system (without break layer)

Plots: 31-53

OVERVIEW

An E3P engineer attended the above site to validate the thickness of the cover system placed within the rear garden of plots 31-53 at Royal Road, Rochdale.

In total 23 No. Hand-excavated trial pits were advanced, with the resulting strata detailed at the rear of this letter.

All trial pits were completed to highlight the required cover system of 600mm (150mm topsoil and 450mm subsoil).

E3P can confirm that our independent validation demonstrates that all gardens have been installed with 150mm of certified topsoil and at least 450mm subsoil under the NHBC requirements for a site of this nature.



Geo-Environmental



Acoustics



Remediation and
Enabling Earthworks
Design



Arboriculture



Compliance
& Due Diligence



Ecology



Industrial Permitting



Geotechnical

TOPSOIL

E3P attended the site on 15th February 2023, 24th April 2023, 16th May 2023 and 22nd May 2023 to obtain 12 samples of the stockpiled topsoil deposits which were analysed in accordance the E3P Remediation Strategy. Chemical analysis confirmed that these topsoil deposits were chemically suitable for use within the proposed garden areas.

The topsoil has been imported from Summerhill Farm, Maghull a greenfield site.

Analysis for topsoil undertaken by I2 Analytical Laboratory using UKAS accredited methods where applicable.

The chemical analysis suite comprises heavy metals, sulphates, phenols, speciated Polycyclic Aromatic Hydrocarbons (PAHs), speciated and total Petroleum Hydrocarbons (TPH) and asbestos. Sampling frequency following the agreed Remediation Strategy. Laboratory analysis certificates are attached to this validation certificate.

Chemical analysis results are included within lab report 23-18183, 23-30437, 23-34765 and 23-35593 (attached to this letter).

SUBSOIL

E3P attended the site on 13th December 2022 to obtain three samples of the stockpiled subsoil deposits and again on the 14th February 2023 which were analysed in accordance with the E3P Remediation Strategy. Chemical analysis confirmed that these subsoil deposits were chemically suitable for use within the proposed garden areas.

The subsoil has been imported from Marchington Stone Quarry, Glossop a greenfield site.

Site won naturally occurring sands have also been utilised as subsoil.

Analysis for subsoil undertaken by I2 Analytical Laboratory using UKAS accredited methods where applicable.

The chemical analysis suite comprises heavy metals, sulphates, phenols, speciated Polycyclic Aromatic Hydrocarbons (PAHs), speciated and total Petroleum Hydrocarbons (TPH) and asbestos. Sampling frequency following the agreed Remediation Strategy. Laboratory analysis certificates are attached to this validation certificate.

Chemical analysis results are included within lab report 23-18179 (imported) and 22-13385 (site won) (attached to this letter).

CHEMICAL ANALYSIS

TOPSOIL/SUBSOIL	SOURCE	LAB REFERENCE	SAMPLE REFERENCE	PASS/FAIL
Topsoil	off-site	23-18183	TS101– TS103	Pass
Subsoil	off-site	23-18179	SS101– SS103	Pass
Topsoil	off-site	23-30437	TS104–TS106	Pass
Subsoil	on site	22-13385	SS101– SS103	Pass
Topsoil	off-site	23-34765	TS107–TS109	Pass
Topsoil	off-site	23-35593	TS110– TS112	Pass

The cover system validation photographs are enclosed within this letter.

Garden Cover System Validation

Complete

Score	100%
Site Name	Royle barn road
Location	72 Broadbent Street Rochdale England OL11 3ET United Kingdom (53.59975349140349, - 2.1706803368778953)
Project Number	11778
Developer	Countryside
Project Manager	A. Garrity
Conducted By	Richard Webster
Date of visit	20 Jun 2023 2:45 PM BST

Plot Validation 1

Plot Number	31
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 1

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 2

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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Photo 3

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 2

Plot Number	32
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 4

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 5

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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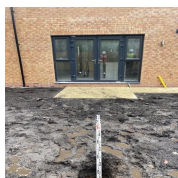


Photo 6

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 3

Plot Number	33
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 7

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 8

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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Photo 9

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 4

Plot Number	34
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 10

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 11

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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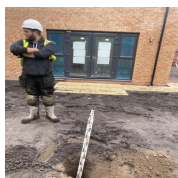


Photo 12

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 5

Plot Number	35
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 13

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 14

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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Photo 15

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 6

Plot Number	36
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 16

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 17

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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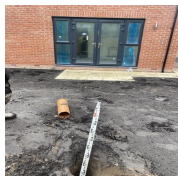


Photo 18

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 7

Plot Number	37
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 19

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 20

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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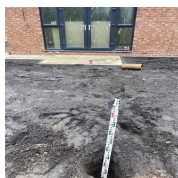


Photo 21

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 8

Plot Number	38
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 22

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 23

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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Photo 24

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 9

Plot Number	39
-------------	----

Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 25

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 26

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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Photo 27

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 10

Plot Number	40
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	650
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Photo 28

Depth of Topsoil (mm)	175
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Depth of Subsoil (mm)	475
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 29

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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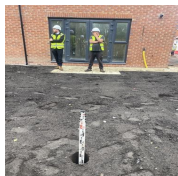


Photo 30

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 11

Plot Number	41
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 31

Depth of Topsoil (mm)	150
-----------------------	-----

Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 32

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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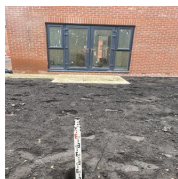


Photo 33

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 12

Plot Number	42
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 34

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 35

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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Photo 36

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 13

Plot Number	43
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 37

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 38

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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Photo 39

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 14

Plot Number	44
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 40

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 41

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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Photo 42

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 15

Plot Number	45
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 43

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 44

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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Photo 45

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 16

Plot Number	46
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 46

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 47

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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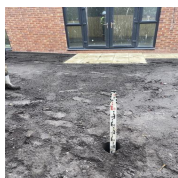


Photo 48

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 17

Plot Number	47
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 49

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 50

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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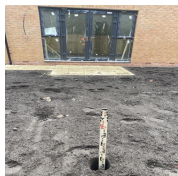


Photo 51

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 18

Plot Number	48
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 52

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 53

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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Photo 54

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 19

Plot Number	49
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 55

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 56

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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Photo 57

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 20

Plot Number	50
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 58

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 59

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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Photo 60

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 21

Plot Number	51
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 61

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 62

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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Photo 63

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 22

Plot Number	52
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Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 64

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 65

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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Photo 66

Soil suitable	Yes
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Geotextile membrane present	N/A
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Plot Validation 23

Plot Number	53
--------------------	----

Is Plot Ready	Yes
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Installation Standard	Pass
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Depth of Cover System Materials (record the depth and support with Photo down the hole)	600
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Photo 67

Depth of Topsoil (mm)	150
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Depth of Subsoil (mm)	450
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Depth of Cover System at Ground Level (Photo)	☒
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Photo 68

Depth of Cover System in Relation to Plot (Ensure the whole plot can be seen in the photo)	☒
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Photo 69

Soil suitable	Yes
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Geotextile membrane present	N/A
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Site Manager or Representative

Name

T. Martin

Signature

20 Jun 2023 3:13 PM BST

Media summary



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5

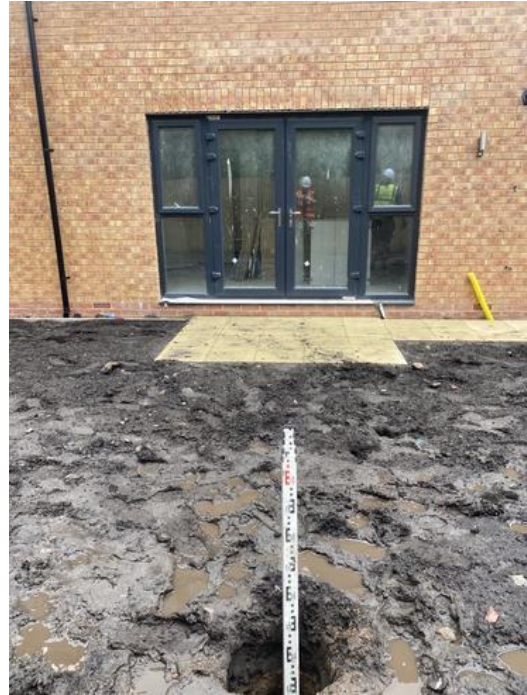


Photo 6



Photo 7



Photo 8



Photo 9



Photo 10



Photo 11



Photo 12



Photo 13



Photo 14



Photo 15



Photo 16



Photo 17



Photo 18



Photo 19



Photo 20



Photo 21



Photo 22



Photo 23



Photo 24



Photo 25



Photo 26



Photo 27



Photo 28



Photo 29



Photo 30



Photo 31



Photo 32



Photo 33



Photo 34



Photo 35



Photo 36



Photo 37



Photo 38



Photo 39



Photo 40



Photo 41



Photo 42



Photo 43



Photo 44



Photo 45



Photo 46



Photo 47



Photo 48



Photo 49



Photo 50



Photo 51



Photo 52



Photo 53



Photo 54



Photo 55



Photo 56



Photo 57



Photo 58



Photo 59



Photo 60



Photo 61



Photo 62



Photo 63



Photo 64



Photo 65



Photo 66



Photo 67



Photo 68



Photo 69