

DURAMEN CONSULTING LTD

CHARTERED FORESTERS

and CONSULTING ARBORICULTURISTS

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Topland Ltd
22 Lancaster Grove
London
NW3 4PB

Our Ref: 1586

9th September 2015

Dear Kat

Re: Tree Radar Report at 22 Lancaster Grove, NW3

Further to your instruction the results of the tree radar scanning are provided below.

The scans consisted of two sets of parallel runs, one on the gravel beside the existing building and the second set on the grass of the rear garden. As the radar has to be set up based on ground conditions, it was necessary to separate the two areas. The attached plan shows the locations of the scans

The scans give an indication of the depth of significant roots – the radar is unlikely to detect roots smaller than 1-1.5 cm in diameter – and their density. For this case the radar was adjusted to look for roots in the top 1.5 metres of soil. The initial scan scoped for roots down to 4 metres depth and was reduced to 1.5 metres due the lack of any useful data being collected below 1.5 metres.

The results described below should be interpreted taking the notes below into account.

Results:

The three scans running along the gravel beside tree T3 and close to the existing building show no signs of any roots above 50 cm depth; however, below 50 cm there are indications of roots in all three scans; some of these roots may be large; however, the ability of radar to determine root diameter is still in a trial phase and no reliance should be made on the prediction of tree root diameter.

The three scans running across the rear lawn show roots, some of which are closer to the surface than in the first three scans. The scans show the density of roots dropping off in the further most scan, beside a concrete strip located in the grass. The radar picked up that the concrete strip appears to be located to 0.4 metres depth thus should act as a root barrier.

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Notes on interpretation of scan diagrams:

- i) Scan lines 001, 002, 004 and 006 show green dotted vertical lines. These are manually set markers established during the scan corresponding to various features observed on the ground. These were as follows:
 - Scan 001: closest point of scan to two buttress roots of tree T3
 - Scan 002: as scan 001
 - Scan 004: man-hole cover in grass
 - Scan 006: end of concrete line in grass and man-hole cover in grass.
- ii) The depth of roots shown reflects the setup of the radar device; the set up assumes certain uniform soil conditions across the same setup area. As soil conditions can vary the depths shown should be interpreted knowing the limitations of the setup assumptions and the variability of soil conditions.
- iii) The plan provided is based on a scaled version of a plan provided. Locations are only approximate and no reliance for distances should be made.

Conclusions:

The radar scans were located in the area between the current building and trees at a distance from the trees of up to 3 metres. The scans showed possible roots throughout the scans, although a concrete strip running the partial length of the rear lawn may act as a root barrier.

Radar does not give a reliable indication of root diameter; however, there are indications that some of the roots found (red triangles surrounded with a blue line) may be larger than others.



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Disk Reference: 1586 - report

Enclosures:


Two sets of root radar results (6 pages)



Legend

T4 Tree location and reference from tree report

s1 Location and direction of radar scan (text is at start of scan)

 Location of concrete surface - possible pond edging

Drawing Based Upon: -

Status: **FINAL**

Notes:

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Client: Topland Ltd

Project: 22 Lancaster Grove

Title: Radar scan locations

Date: 9/9/15 Scale: 1:125 approx.: do not scale from this plan Original Paper Size: A3

Drawn: JH Checked: - Job Ref: 1586

Figure Number: **1586-1** Rev: **A**



Scan Lines

- ROOTS_001
- ROOTS_002
- ROOTS_003
- ROOTS_004
- ROOTS_005
- ROOTS_006

Detection Sensitivity

(Detect Least) 1.20 (Detect Most)

B-scan Data Background

Blank

Raw Data

Filtered (Detection Surface)

Hilbert Transform Data

Parameters

Analysis Gate

high (cm) low (cm) 0 111

Dielectric 10.0

Ground Couple (cm) 0

Detect

Root Depth Zones

Zone Depths 20.32 40.64

Total Detections = 56 (#/m = 6.16)

Zone 1: 0-20 cm

Detections = 0, #/m = 0.00

Zone 2: 20-41 cm

Detections = 0, #/m = 0.00

Zone 3: 41 cm -

Detections = 56, #/m = 6.16

Show ini Detections

Mirror Scan L-to-R

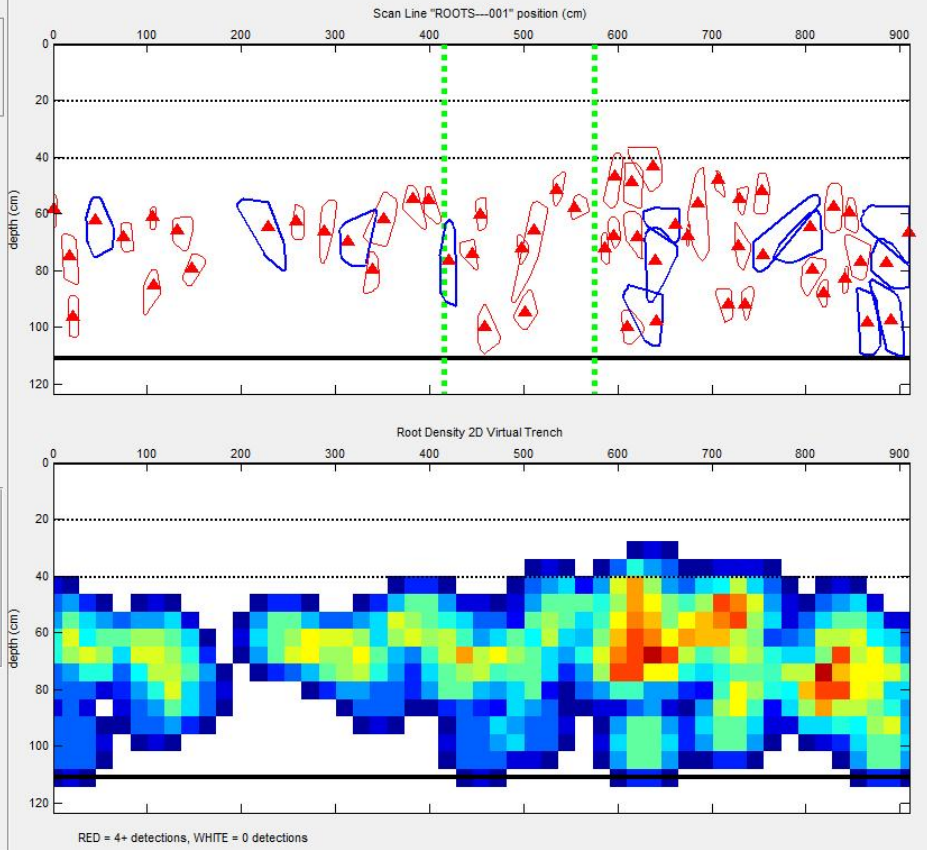
Remove Point

Add Point

Export -> File

Write new ini's

Return To Start



Scan Lines

- ROOTS_001
- ROOTS_002
- ROOTS_003
- ROOTS_004
- ROOTS_005
- ROOTS_006

Detection Sensitivity

(Detect Least) 1.20 (Detect Most)

B-scan Data Background

Blank

Raw Data

Filtered (Detection Surface)

Hilbert Transform Data

Parameters

Analysis Gate

high (cm) low (cm) 0 111

Dielectric 10.0

Ground Couple (cm) 0

Detect

Root Depth Zones

Zone Depths 20.32 40.64

Total Detections = 50 (#/m = 5.39)

Zone 1: 0-20 cm

Detections = 0, #/m = 0.00

Zone 2: 20-41 cm

Detections = 0, #/m = 0.00

Zone 3: 41 cm -

Detections = 50, #/m = 5.39

Show ini Detections

Mirror Scan L-to-R

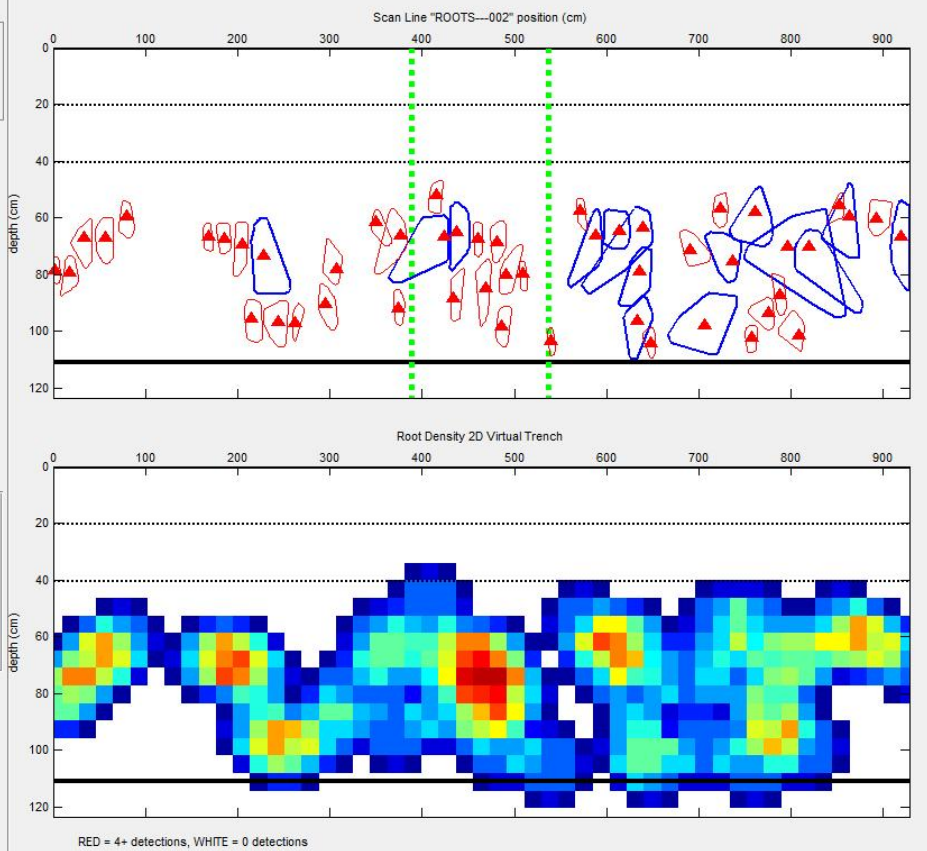
Remove Point

Add Point

Export -> File

Write new ini's

Return To Start



Scan Lines

- ROOTS_001
- ROOTS_002
- ROOTS_003
- ROOTS_004
- ROOTS_005
- ROOTS_006

Detection Sensitivity

(Detect Least) 1.20 (Detect Most)

B-scan Data Background

- Blank
- Raw Data
- Filtered (Detection Surface)
- Hilbert Transform Data

Parameters

Analysis Gate

high (cm) low (cm) 0 111

Dielectric 10.0

Ground Couple (cm) 0

Detect

Root Depth Zones

Zone Depths 20.32 40.64

Total Detections = 28 (#/m = 4.27)

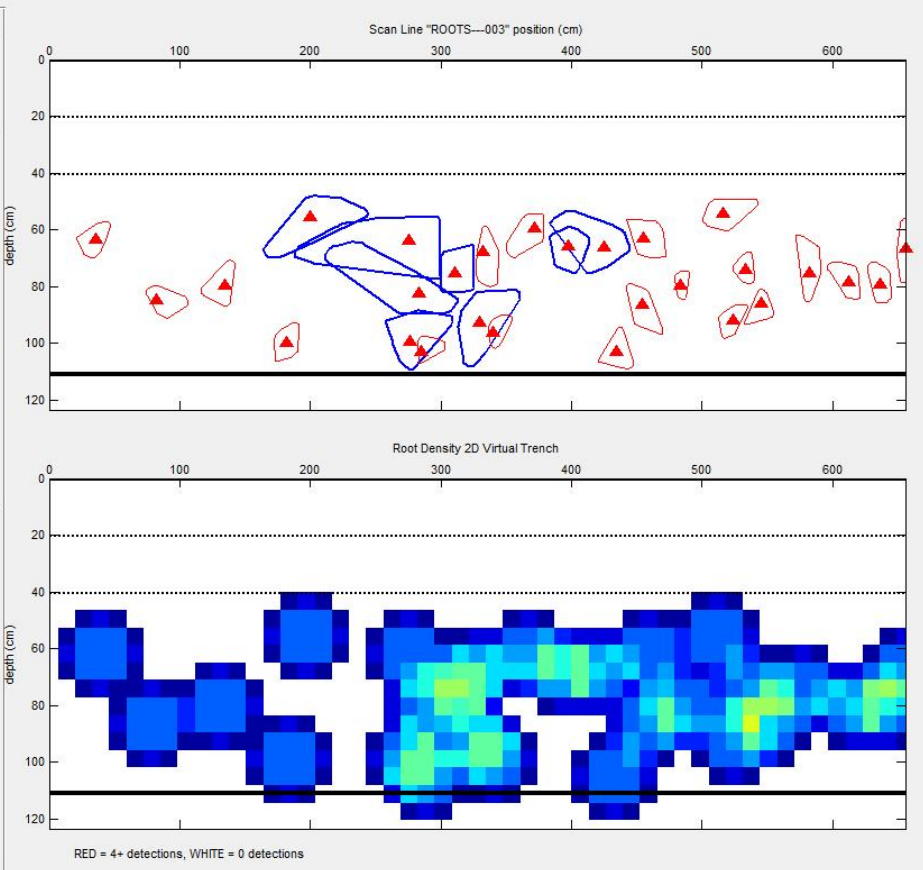
Zone 1: 0-20 cm
Detections = 0, #/m = 0.00

Zone 2: 20-41 cm
Detections = 0, #/m = 0.00

Zone 3: 41 cm -
Detections = 28, #/m = 4.27

Show ini Detections
 Mirror Scan L-to-R

Remove Point
Add Point
Export -> File
Write new ini's
Return To Start



Scan Lines

- ROOTS_001
- ROOTS_002
- ROOTS_003
- ROOTS_004
- ROOTS_005
- ROOTS_006

Detection Sensitivity

(Detect Least) 1.20 (Detect Most)

B-scan Data Background

- Blank
- Raw Data
- Filtered (Detection Surface)
- Hilbert Transform Data

Parameters

Analysis Gate

high (cm) low (cm) 0 111

Dielectric 10.0

Ground Couple (cm) 0

Detect

Root Depth Zones

Zone Depths 20.32 40.64

Total Detections = 68 (#/m = 5.68)

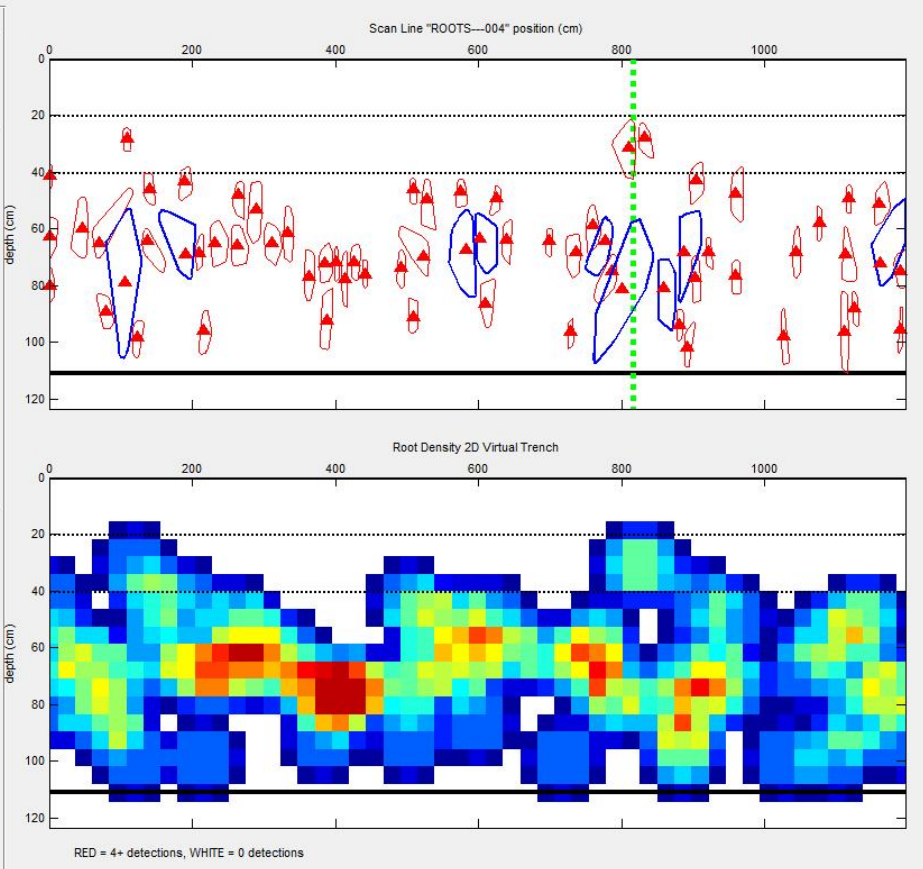
Zone 1: 0-20 cm
Detections = 0, #/m = 0.00

Zone 2: 20-41 cm
Detections = 3, #/m = 0.25

Zone 3: 41 cm -
Detections = 65, #/m = 5.43

Show ini Detections
 Mirror Scan L-to-R

Remove Point
Add Point
Export -> File
Write new ini's
Return To Start



Scan Lines

ROOTS_001
 ROOTS_002
 ROOTS_003
 ROOTS_004
 ROOTS_005
 ROOTS_006

Detection Sensitivity
 (Detect Least) 1.20 (Detect Most)

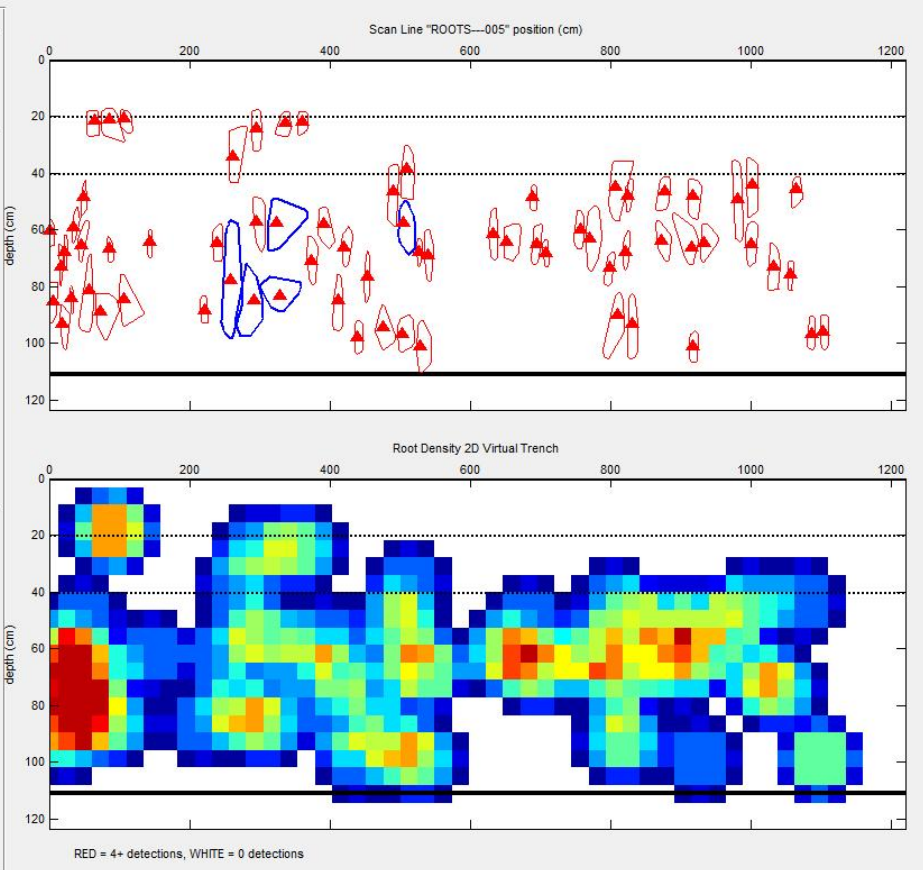
B-scan Data Background
 Blank
 Raw Data
 Filtered (Detection Surface)
 Hilbert Transform Data

Parameters
 Analysis Gate
 high (cm) low (cm) 0 111
 Dielectric 10.0
 Ground Couple (cm) 0
 Detect

Root Depth Zones
 Zone Depths 20.32 40.64
 # Total Detections = 69 (#/m = 5.65)
 Zone 1: 0-20 cm
 # Detections = 0, #/m = 0.00
 Zone 2: 20-41 cm
 # Detections = 8, #/m = 0.66
 Zone 3: 41 cm -
 # Detections = 61, #/m = 5.00

Show ini Detections
 Mirror Scan L-to-R

Remove Point
 Add Point
 Export -> File
 Write new ini's
 Return To Start



Scan Lines

ROOTS_001
 ROOTS_002
 ROOTS_003
 ROOTS_004
 ROOTS_005
 ROOTS_006

Detection Sensitivity
 (Detect Least) 1.20 (Detect Most)

B-scan Data Background
 Blank
 Raw Data
 Filtered (Detection Surface)
 Hilbert Transform Data

Parameters
 Analysis Gate
 high (cm) low (cm) 0 111
 Dielectric 10.0
 Ground Couple (cm) 0
 Detect

Root Depth Zones
 Zone Depths 20.32 40.64
 # Total Detections = 46 (#/m = 3.83)
 Zone 1: 0-20 cm
 # Detections = 0, #/m = 0.00
 Zone 2: 20-41 cm
 # Detections = 3, #/m = 0.25
 Zone 3: 41 cm -
 # Detections = 43, #/m = 3.58

Show ini Detections
 Mirror Scan L-to-R

Remove Point
 Add Point
 Export -> File
 Write new ini's
 Return To Start

