

# S J Johnson Associates Ltd

## Chartered Structural Engineers

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Wednesday, August 21, 2024 For The Current Owner ,

### **Foundation depth assessment report for tree (T1) identified as of concern by LABC**

**Building Control Ref.** [REDACTED]

#### **PRELIMINARIES**

Please note that this Report is solely for your use and your professional advisers, and no liability to anyone else is accepted

#### **INTRODUCTION**

The property owner we understand at the request of the LABC Officer has requested an opinion as to the suitability of the now constructed extension's foundations with respect to planting specifically the tree identified by the Officer as of concern referred to here as Tree (T1) in this report – for tree locations see **Appendix B**.

The foundation depth **advised(\*)** to us as “*observed by the Officer*” during his/her visits as 1.7m deep. This measurement further advised as taken from below the exterior stairs and the block work behind them with full 1.7m depth below the ground level observed below / to the side of the stairs – See Photo 2 – **Appendix C**.

(\*) - Note this report is offered in good faith with respect to the provided information specifically the foundation depth. LABC in reviewing this report should assess if the information provided to us aligns with their visit records and that it closes out all of their outstanding concerns, reverting to the home owner / ourselves as appropriate.

Foundation depths will be assessed in accordance with NHBC Chapter 4.2. The soil type in the absence of opening up / trial pit records Ref. BGS Mapping – **Appendix A** will be taken High Plasticity Alluvium Clay as deposits are mapped nearby.

#### **SYNOPSIS**

This survey / assessment as above is retrospective & a non-intrusive survey, the purpose of which is to assess what foundation depth would be required for the tree of concern to the BC Officer Tree (T1).

As stated later on from observations in **Appendix C**, Tree (T1) is likely of the Cypress species, it's features suggesting most likely a Lawson Cypress. This being the case this is most likely the worse case tree for foundation affects, the surveyor as a duty of care has also checked trees (T2) & (T3) – for locations see **Appendix B**.

## OBSERVATIONS / REQUIRED FOUNDATION DEPTHS

Ref. **Appendix B & C** observations suggest the trees are of the following species & height, and by assessment to NHBC Chapter 4 – the foundation depths required have been stated.

Tree Ref. Appendix B	Likely Species Appendix C	Current Height m (#)	Distance from Foundation m	Foundation Depth Req'd (#)	Mature Height m (*)	Foundation Depth Req'd m (*)
T1	Cypress Lawson	3.6	3.4	If removed a 1m deep foundation would be acceptable	18	A foundation > 2.5m would be required – most likely achieved by piling.
T2	Juniper likely Juniperus Communis	3.6	3.4	As a relative of the Cedar / Pine species removal recommended	10 Juniper Communis 20 Eastern Red Cedar	If considered as a Cedar at mature height – 1.62m
T3	Crab Apple	4.5	3.4	1.67	10	1.67

### Notes

Acceptable based on advised foundation depth

Not acceptable – removal or pollarding plan recommended

## CONCLUSIONS / RECOMENDATIONS

### CYPRESS LAWSON (T1)

**Requires removal to ensure the long term performance of the foundations.** After notifying LABC of these findings, recommend notifying your Buildings insurer, and commencing negotiations for its removal with the neighbour. If removal denied, try to agree to keep pollarded to current 3.6m height notifying your insurer and keeping a watching brief for cracking in the adjacent part of the extension.

### JUNIPER / CEDAR (T2)

So long as the foundations have achieved the advised 1.7m then the NHBC assessment shows this should be adequate. **Should however the current tree / shrub mature and in fact be a Cedar, one might not want such a large tree circa 20m mature height so close to a property. On this premise / outcome removal has been recommended in the table above should this mature height look likely at some future time – long term management essential.**

### CRAB APPLE (T3)

So long as the foundations have achieved the advised 1.7m then the NHBC assessment shows this should be adequate. **Should the tree be of the variety / sub species that grow to a mature height of 10m one might not want such a large tree so close to a property. On this premise / situation arising pollarding or removal recommended – long term management essential.**

## **REMOVAL OF ALL / ANY TREES.**

The removal of what are relatively small trees currently will not likely have any significant / adverse effect.

Should the removal or pollarding of any larger trees be planned in the future, then this requires careful planning to avoid adjusting ground water levels too quickly / adversely. Seek further advice at that time.

I trust the above clearly explains the assessment processes in addition to the recommendations to manage the current / observable planting.

As discussed please circulate this report to all interested parties to demonstrate that you have taken professional advice and to assist in taking this matter forwards.

Should further clarification be required on any matters discussed in this report then again please do come back to me.

Sincerely,

A handwritten signature in blue ink, appearing to read 'S. Johnson', with a long horizontal flourish extending to the right.

Steve Johnson MStructE CEng

Managing Director

### **References**

- 1 British Geological Survey - Mapping
- 2 British Trees – The Woodlands Trust
- 3 Collins Trees – ISBN 0-0-458803-7
- 4 NHBC Foundation Depth Calculator

### **APPENDICES**

- A – BGS – Soils Desk Study
- B – Visit - Photo & Tree Locations
- C- Visit Photos - Tree features

\*\*\*\*\* END \*\*\*\*\*

**BGS** British Geological Survey

**GeoIndex Onshore**

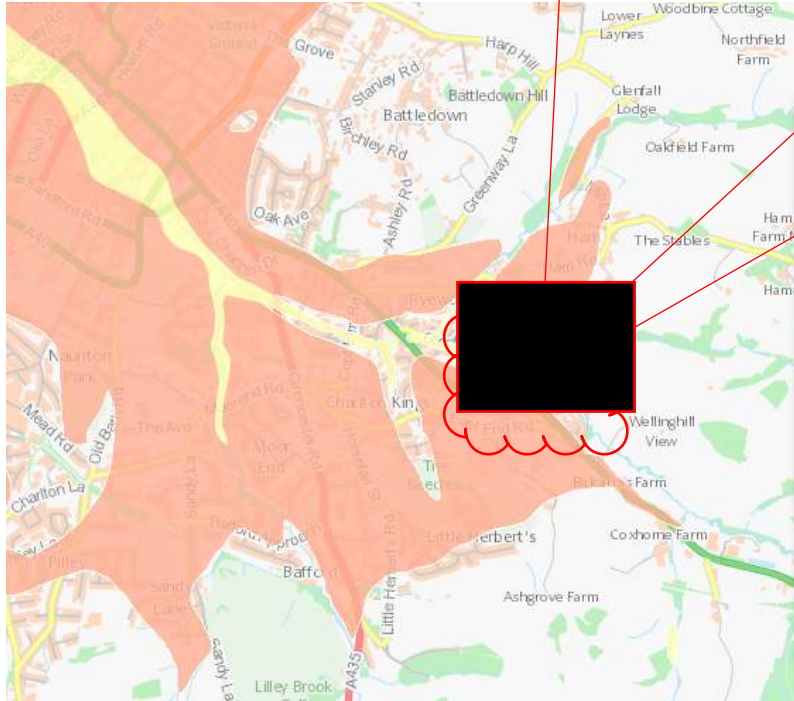
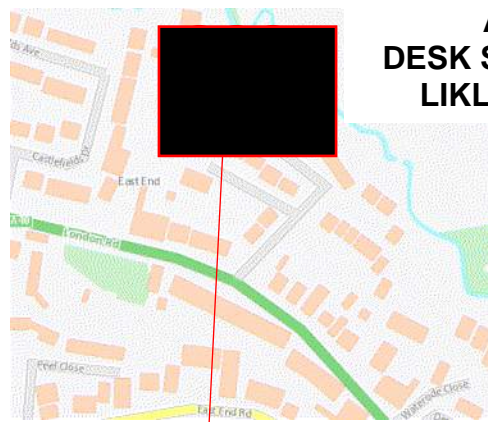
Enter location

Data

Superficial deposits 1:50,000 scale

Add Data Show Legend

**APPENDIX A  
DESK STUDY EXPECTED /  
LIKELY SOIL TYPES**



**Map Legend**

**Superficial deposits 1:50,000 scale**

- ALLUVIUM - CLAY, SILT, SAND AND GRAVEL**
- HEAD - CLAY, SILT, SAND AND GRAVEL**
- CHELTENHAM SAND AND GRAVEL - SAND AND GRAVEL**
- PEAT - PEAT**

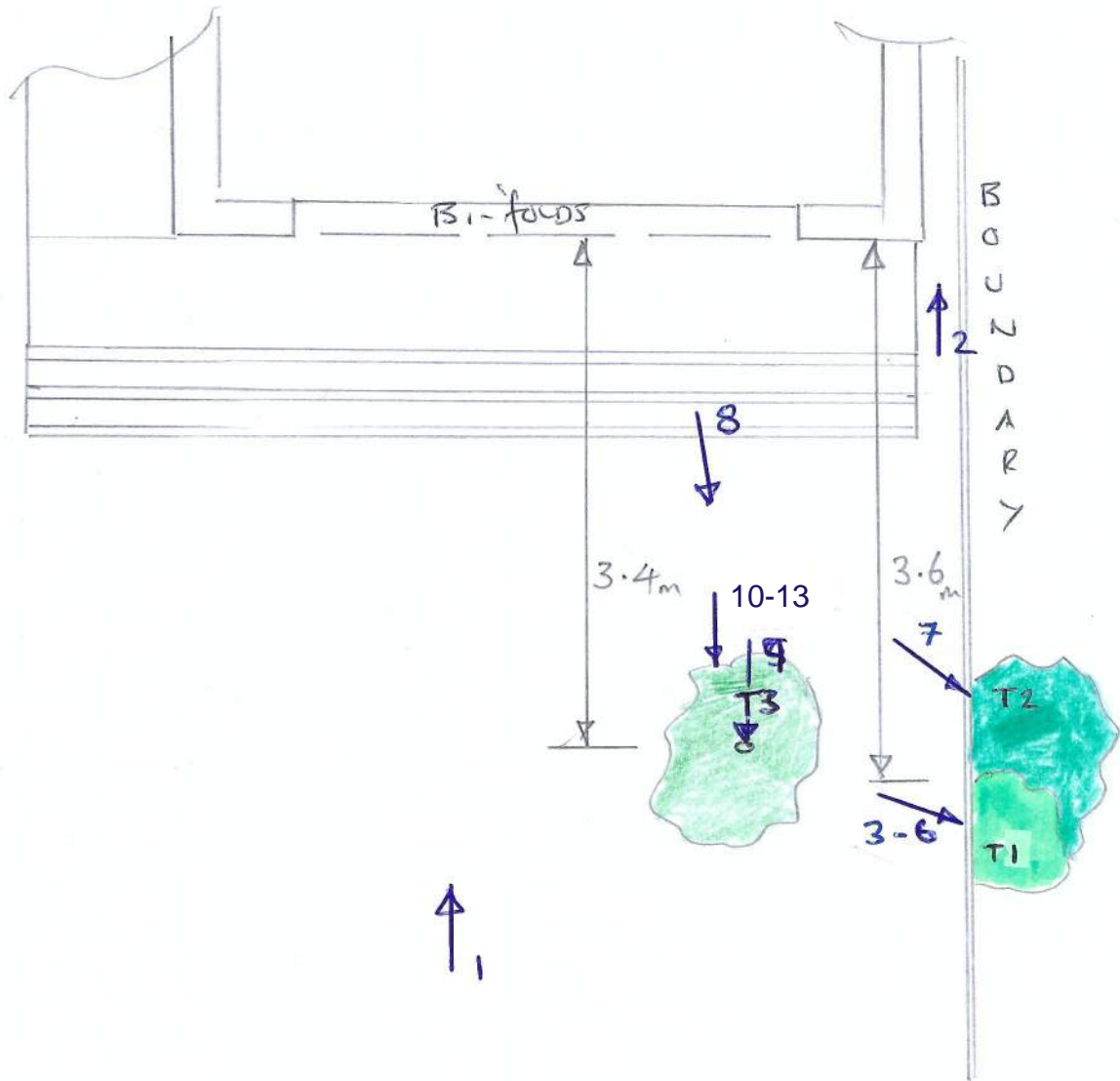
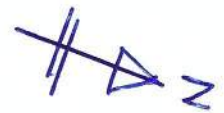
378 - 2024 - [REDACTED]



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APPENDIX B  
TREE & VISIT PHOTO  
LOCATIONS



NOTES:

T1 - T3 TREE REF No's

# PHOTO REF No's

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**APPENDIX C**  
**VISIT PHOTOS**  
(SEE APP B FOR LOCN'S)  
**GENERAL STRUCTURAL**  
**ARRANGEMENT**



PHOTO 1



PHOTO 2

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# TREE (T1)

FEATURES SUGGEST - CYPRESS  
LIKELY LAWSON CURRENT HEIGHT  
3.6m



PHOTO 3 - SCALE LIKE LEAVES



PHOTO 4



PHOTO 5



PHOTO 6 - IMATURE CONES

# TREE (T2)

FEATURES SUGGEST - JUNIPER  
CURRENT HEIGHT 3.6m



PHOTO 7 - NEEDLE LIKE LEAVES FLATENED WITH A POINT AT THE END.



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# TREE (T3)

FEATURES SUGGEST  
CRAB APPLE POSSIBLY GRAFTED  
FROM PLUMB CHERRY.  
CURRENT HEIGHT 4.5m



PHOTO 8



PHOTO 9



PHOTO 10



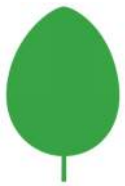
PHOTO 11 - CRAB APPLE FRUITS



PHOTO 12 - RADIAL STEPPED VEINS



PHOTO 13 - LINEAR STEEPED VEINS



OVATE  
LEAF  
TYPE

Ovate



LEAF VARIANCE - (7) THAT OF A  
CULTIVATED APPLE SUGGESTING  
CROSS BREEDING OR GRAFTING  
TREES - ISBN 0-00-458803-7

Bark type does not match, maybe due to  
immature tree, mature height depending  
on sub-species 10-12m

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Crab apple  
*Malus sylvestris*

Woodlands Trust  
Library Images



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