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**Arboricultural Report
Relating To:**

**Assessment Of Effects Of A Proposed Building On
Two Mature Oak Trees located on Hetana Street
Matamata**



**For
XYST Ltd
Attention: Anna McElrea**

**Prepared by: Philip Sale
B.Sc. (Tech)
Diploma in Arboriculture**

Date: December 2022

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Tree Assessment for Hetana Street Reserve



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Attention: Anna McElrea

1 Introduction

1.1 Brief

I have been asked to inspect the site and carry out an arborist assessment and report on a proposal to locate a building near two large mature English Oak trees.

The objective is to inspect the trees and carry out a visual tree assessment and an arborist assessment on the effects locating the building near the trees. I was also asked to provide a report outlining the findings and any recommendations.

1.2 Qualifications and Experience

I have based this report on the information provided to me along with my observations from the site.

My conclusions were made based on analysis and my interpretation of this information. My qualifications and experience are listed in Appendix 2

2 Site Visit and Observations

2.1 Site Visit

I visited the site on the 14th of December 2022 to meet with Anna McElrea from XYST Ltd and the Matamata Community Health Shuttle Trust (MSHST). During this site visit I also inspected the site and the trees.

2.2 Site Description and Location of the Trees

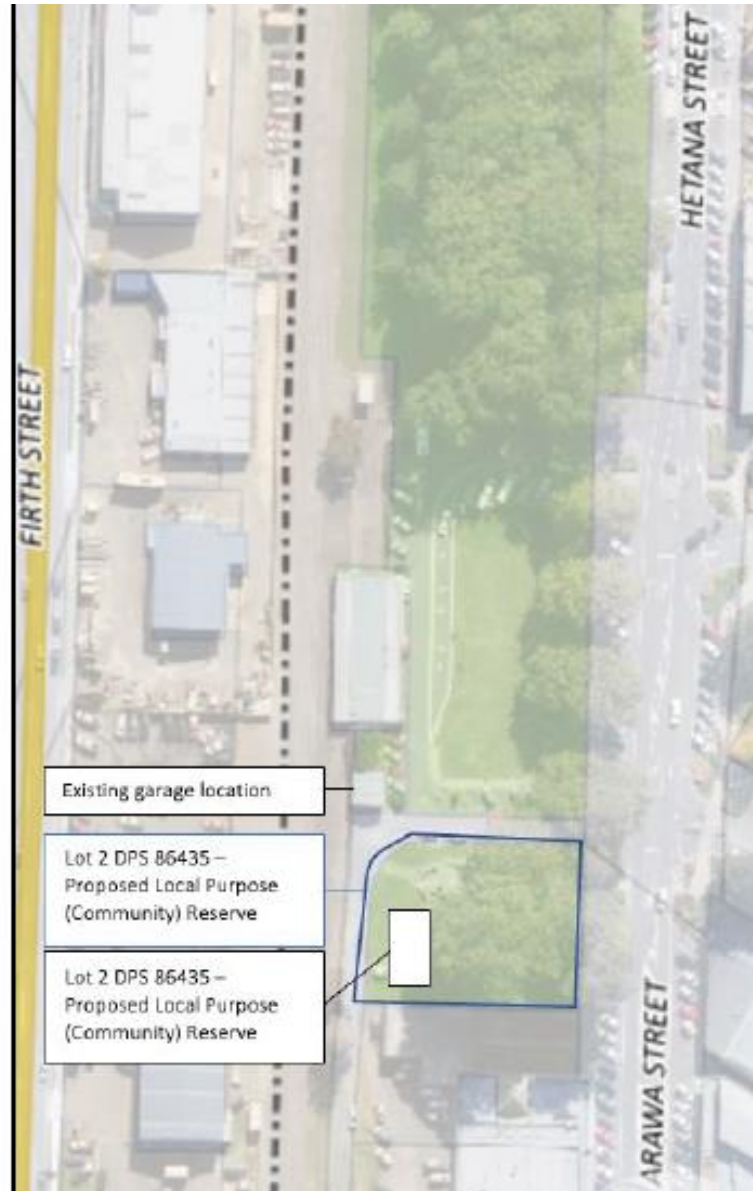
The site is an urban park environment with several 100+ year old Oak trees and a collection of stone sculptures. The park is on the western side of Hetana Street.

2.3 Tree Identification and Observations

- The trees are two English Oak trees (*Quercus robur*).
- There is some uncertainty around if these trees are protected under the Matamata Piako District Council District Plan however this is not crucial to my report on the effects. If these trees are protected the works would need a resource consent for excavation within the dripline of protected trees.
- These trees are mature healthy specimens with no signs of significant structural defects or disease.
- These trees are approximately 27 metres tall with trunk diameters at 1.5 metres (DBH) of 113cm and 85cm.

3 The Proposal

The proposal is to relocate the existing MSHST building and construct an extension to the building within the dripline of the two English Oak Trees as shown in the site map below.



The proposed building location is 12 metres off the Kiwi Rail fence and the building is about 7 metres wide. This will result in the building being approximately 9 metres from the trees trunk centre at the closest point.

The applicant confirmed; when asked on site; that there will be no services related to this building required beyond the building footprint on the tree side of the building and therefore no excavation beyond the proposed building footprint.

This will be between 1 and 1.5 metres within the dripline of these trees.

To calculate the structural root zone and the root protection area I have used the internationally recognised standards of 3 x the trunk diameter and 12 x the diameter. The structural root zone is a circle where no root damage should occur or the trees stability could be compromised. The tree protection area is the area around a tree that should be protected for the trees optimal development. This area can be adjusted in size and shape by an arborist depending on factors such as the site conditions, makeup, and slope.

- Structural root zone = 3.39m and 2.55m
- Root protection area = 13.56 and 11.05

The proposed building location is outside the structural root zone so there should be no effect on the trees stability with this proposed development.

The building will be located within a standard circular root protection area. The area around these trees is however relatively clear of paved non permeable surfaces and the building if proper care is taken during its construction should be able to be constructed without excessive root damage and a suitable root protection area should be able to be maintained away from the building.

The crown of these trees is quite low and the tree will require some crown lifting/side reduction pruning to allow for the construction of the building. See photo below for an indication of the required pruning to locate the building.



The minimum pruning required is very minor and will not adversely effect the health or life expectancy of these trees.

4 Discussion:

With a robust tree protection plan in place (see Appendix 1 for suggested conditions to be used within a tree protection plan) the proposed construction works will not have an adverse effect on these trees stability, health or life expectancy.

Factors that also need to be considered are:

- The building will be located under the canopy of mature trees.
- These canopies will continue to extend further over the building into the future.
- There will be annual leaf and acorn drops that will land on the roof of the building.
- There could be limb failures during storms in the future.

The construction and location of the building should take these factors into consideration.

5 Conclusion:

In conclusion if a robust tree protection plan is in place and construction is carried out under the direction of a suitably qualified and experienced arborist then the works will have no adverse effects on these trees health or life expectancy.

There are factors such as leaf and debris drop as well as potential limb failures that should be allowed for in the construction and location of the building.

Appendix 1 Suggested conditions for a Tree Protection Plan

The following is a list of conditions I suggest should be used in any tree protection plan for this site

- An arborist should be appointed well in advance of any physical works on site and a walkover inspection to identify any potential problem areas should be carried out with the site foreman and the arborist.
- Areas of the Tree protection area not required to be excavated should be protected during construction with robust fencing such as the sectional 1.8 metre high site fencing.
- The area within the dripline/Root Protection Area should not be used to park vehicles or for storage of materials or site waste. These activities should all be undertaken outside the Root Protection Area.
- Excavations within the dripline must be carried out by hand under the direction of the arborist. Roots should be avoided where possible but where it is not possible use the following procedure:
 - Roots less than approximately 30mm in diameter can be chopped cleanly with the spade.
 - Roots of 40mm in diameter or greater shall be cut with a sharp saw under the direction of the arborist
 - Where roots greater than 100mm in diameter need to be cut the work will pause and the arborist will discuss with the Matamata Piako District Council representative and a joint decision on how to proceed will be made.
 - The cut surface of the roots towards the trunk should be covered with moist soil as soon as practical or if needing to be exposed for more than an hour they should be covered with damp hessian cloth or similar and kept moist until they can be covered with soil
 - All spoil and materials should be stored outside of the dripline or if this is not possible then as far from the tree as practical and under the direction of the arborist.
 - Materials such as pipe that need to be stored within the dripline should be kept off the root plate as much as practical with wood blocks or similar.
 - Machinery should be operated outside the dripline where possible. Where machinery must be used within the dripline measures should be taken to protect the roots such as load spreading mats or plywood

Appendix 2 Qualifications and Experience

Philip Sale BSc. (TECH), Diploma in Arboriculture

Qualifications:

Bachelor of Science and Technology (Waikato University) 1995
Advanced Certificate of Arboriculture (Waikato Polytechnic) 1998
Diploma in Arboriculture with Distinction (Waikato Institute of Technology) 2007

NZArb:

Elected as a member on the Executive of the New Zealand Arboriculture Association from November 2003 to November 2005.

Publications:

“BPR/1059 – *Alectryon excelsus Titoki* ‘The Tapu Tree’” Autumn 2013 **Tree Matters** The Magazine of the New Zealand Arboricultural Association INC. Edition 57 Volume 15: Issue 1

“Tree Valuation: An Unofficial New Zealand History & Review” Autumn 2008 **Tree Matters** The Magazine of the New Zealand Arboricultural Association INC. Volume 10: Issue 1

“Decay and Deadwood - Are we too quick to make the final cut? The ecological importance of dead and dying trees should be considered by the Arborist.” Sept 2005 Issue 27 **Tree Matters** The Magazine of the New Zealand Arboricultural Association INC.

“Anthracnose rips through Hobbiton. Biological warfare in middle earth?” December 2003 Issue 20 **Tree Matters** The Magazine of the New Zealand Arboricultural Association INC.

NZAA Conferences:

Queenstown (2020)	Dunedin (2018)
Tauranga (2017)	Rotorua (2014)
Wellington (2012)	Auckland (2010)
Hamilton (2008)	Christchurch (2007)
North Shore (2005)	Queenstown (2004)
Tauranga (2003)	New Plymouth (2002)

Experience:

Arbor Care Limited: (2000 to present). I have been working as a consultant and project manager, working in all aspects of arboriculture. I have been undertaking tree inspections for councils, developers and private customers. I have prepared reports on structural integrity; Health and Safety; and for the purposes of obtaining resource consent for subdivisions and building projects.

I have appeared in the District Court, The Environment Court, the Disputes Tribunal, and at resource consent hearings as an expert witness.

Dryad Tree Specialists (United Kingdom): (1999 to 2000). I was employed as an arborist carrying out all aspects of practical arboriculture for Councils, Private Customers and the National Trust.

Hort Research: (1996 to 1998.) I was working as a Research Technician involved in projects developing natural controls for forestry and horticultural diseases.

Forest Research Institute: (1995). I was working as a research assistant involved in projects developing accurate carbon budgets for the New Zealand exotic forestry estate.