

**Before the Hearings Panel
At Porirua City Council**

Under Schedule 1 of the Resource Management Act 1991

In the matter of the Proposed Porirua District Plan

Between **Various**

Submitters

And **Porirua City Council**

Respondent

**Statement of evidence of Leon Saxon on behalf of Porirua City Council
(Arboriculture)**

Date: 1 November 2021

INTRODUCTION:

- 1 My full name is Leon Glen Saxon. I am employed as a consultant arborist by Arborlab Consultancy Services Ltd.
- 2 I have prepared this statement of evidence on behalf of the Porirua City Council (**Council**) in respect of technical related matters arising from the submissions and further submissions on the Proposed Porirua District Plan (**PDP**).
- 3 My role in the preparation of the Notable Tree Schedule was to carry out site visits and assess the list of possible trees provided by Porirua Council, utilising the Standard Tree Evaluation Method (STEM).
- 4 I also provided specialist advice on the provisions of Chapter TREE – Notable Trees.
- 5 Specifically, this statement of evidence relates to the matters in Chapter TREE – Notable Trees, and specific trees listed in SCHED5 – Notable Trees.
- 6 Following submissions and further submissions, site visits were carried out in October 2021 by Mr David Spencer of Tend Trees, on behalf of Arborlab due to limitations on travel, associated with Covid19 alert levels. Mr Spencer has provided evidence on site specific trees and I rely on that evidence.
- 7 I am authorised to provide this evidence on behalf of the Council.

QUALIFICATIONS AND EXPERIENCE

- 8 I hold a Diploma in Arboriculture from Waikato Institute of Technology and have been working in the arboricultural industry for more than 20 years. I spent six years working for Auckland Council as an arborist in the Consents and Compliance Department (North). Since leaving my role at Auckland Council I have continued to provide specialist input to resource consent applications on a consultancy basis to the Auckland Council Consents and Compliance Department as an employee of Arborlab. I have also provided advice to applicants for resource consents.
- 9 I was an executive committee member of the New Zealand Arboricultural Association for four years (up until November 2018). I am also a registered user of Quantified Tree Risk Assessment and a qualified International Society of Arboriculture Tree Risk Assessor.
- 10 I have been assessing and providing specialist input into resource consent applications, and preparing arboricultural reports to support resource consent applications for approximately 13 years.

Code of conduct

- 11 I have read the Code of Conduct for Expert Witnesses set out in the Environment Court's Practice Note 2014. I have complied with the Code of Conduct in preparing my evidence and will continue to comply with it while giving oral evidence before the Environment Court. My qualifications as an expert are set out above. Except where I state I rely on the evidence of another person, I confirm that the issues addressed in this statement of evidence are within my area of expertise, and I have not omitted to consider material facts known to me that might alter or detract from my expressed opinions.

SUMMARY

12 My name is Leon Glen Saxon.

13 I have been asked by the Council to provide arboricultural evidence in relation to the submissions on Chapter TREE – Notable Trees, which primarily relate to the provisions of the chapter and a number of specific trees in the schedule.

14 My statement of evidence addresses matters raised by submitters pertaining mainly to:

- The use of the Standard Tree Evaluation Method (STEM).
- How the Root Protection Area is determined.
- The definitions of Works Arborist and Technician Arborist
- Deletion of specific trees from the schedule for various reasons.

SCOPE OF EVIDENCE

15 This scope of evidence relates to the PDP: Trees – Notable Trees, and specific trees in SCHED5 – Notable Trees.

16 My statement of evidence addresses the following matters:

16.1 A summary of the methods and concepts for assessing the proposed trees.

16.2 Responses to submissions, including;

- The use of Standard Tree Assessment Methodology (STEM).
- Specific issues relating to the following rules; TREE-R2, TREE-R3 and TREE-R4 and Standard TREE-S1.
- Specific trees as follows; TREE-001, TREE-008, TREE-021, TREE-030 and a new tree proposed for inclusion

in the schedule located at 346B Paremata Haywards Road (SH58), Judgeford.

INVOLVEMENT WITH THE PROPOSED PLAN

- 17 I have been involved in the PDP since August 2018 when I was engaged to carry out site visits and assess a specific list of possible trees provided by Porirua Council, utilising the Standard Tree Evaluation Method (STEM).
- 18 I prepared a memorandum to Porirua City Council, dated August 2020 in which I provided an explanation of the STEM methodology, a summary of the assessments undertaken, an inventory providing details of the trees assessed and a recommendation on which trees should be scheduled.
- 19 I have also provided advice on specific aspects of the provisions of the Chapter TREE – Notable Trees when requested by Porirua City Council.

EVIDENCE

- 20 My evidence is principally to provide specialist advice regarding submissions on specific points of the Notable Trees Chapter of the Proposed Porirua District Plan, and also relates to specific trees in SCHED 5 – Notable Trees.
- 21 My response to submissions follows, where I outline the submission in italics, with my response below. I have attempted to group the submissions into subjects as follows; STEM method, Rules, Standards and Specific Trees. Some of the submissions do cross these subjects.

22 A number of submissions related to the use of STEM. As such I provide a brief explanation of the methodology below (22.1 – 22.8), which is taken verbatim from the Arborlab memorandum I prepared for the Council, dated August 2020.

General explanation of STEM threshold and method.

22.1 The Standard Tree Evaluation Method (STEM) was created by Ron Flook and published in 1996 and is the most common method utilised by regulatory bodies in New Zealand for assessing trees for inclusion within notable tree schedules.

22.2 There are two main sections in STEM including Condition (Health) and Amenity (Community benefit) as well as section for Notability (Distinction). All trees assessed must utilise the first two sections, while the third section is only used to qualify trees of major importance.

22.3 The Condition section is broken down into five sub-sections of criteria including; Form, Occurrence, Vigour and Vitality, Function and Age. The Amenity section is broken down into five sub-sections of criteria including; Stature, Visibility, Proximity, Role and Climate. Points are scored under each of the criteria and added together to provide an overall score. Only the point option scores set out on the form are to be used, i.e., 3, 9, 15, 21, or 27.

22.4 In using the Notability section, supporting information is generally required.

22.5 Prior to assessing the trees, Arborlab created an app within the Fulcrum data collection system in order to store the data digitally. The app basically replicates the STEM assessment field sheet and when downloaded provides a spreadsheet of the scores. In addition to the STEM scoring I also collected

more general information on the trees, including dimensions, health and photographs.

22.6 The scoring 'threshold' for trees that are to be included in any district plan schedule is to be set by each territorial authority. The threshold is not set within the STEM framework. This allows councils to set levels appropriate for their tree stock.

22.7 In my professional experience, a score of 120 is considered in most instances to be appropriate. This was the threshold for two other territorial authorities' notable tree schedule updates in which I have been involved. If too low a score is prescribed as the threshold, this dilutes the value of the list overall. While if too high a threshold is set, an insufficient number of trees will achieve the scheduling.

22.8 Sixteen of the forty-six trees assessed did not reach the threshold score to achieve scheduling. In my professional opinion, it is important that only trees worthy of being acknowledged as notable are added to the list.

Specific submissions were made on the use of STEM which are discussed as follows.

23 Submission point 103.5 from Jeremy Partridge sought relief on several matters pertaining to the STEM methodology. The submission points are provided in italics below for reference, and I provide comments following each point:

23.1 *“Council explains in detail using examples of actual trees assessed why trees which fall below Council’s STEM threshold are not suitable for protection, in the context of the subjective STEM criteria and how these may have affected total scores, and other Councils in the region which have STEM scores below the one recommended by Council.”*

23.2 A score threshold has been recognised to be an appropriate measure for tree inclusion or otherwise into a schedule. The score is what determines whether the tree is of sufficient significance to be protected.

23.3 An example of a tree which did not score sufficiently to reach the threshold is a golden totara (*Podocarpus totara* 'aurea'), seen below in Figure 1. The reason the tree did not score sufficiently, in my opinion, was that it scored low in the 'Function', 'Age', 'Stature', 'Visibility' and 'Climate' categories. Overall, the tree scored 108.



Figure 1 – Tree scoring less than 120 (Arborlab 2018)

23.4 While the tree is generally an attractive specimen, it has limited viewership and, in my experience, trees of a similar stature and characteristics are not generally found on a notable tree schedule.

23.5 Another example is of a Californian redwood tree (*Sequoia sempervirens*) which scored low in the 'Vigour', 'Function', 'Visibility', 'Proximity' and 'Climate' categories, refer Figure 2 below. The tree scored 102 overall.



Figure 2 - Tree scoring less than 120 (Arborlab 2018)

23.6 *“For trees which score below Council’s recommended STEM threshold, that STEM assessments where subjective criteria scores resulted in trees not reaching the required threshold, are peer reviewed by a third party Consultant Arborist”.*

23.7 Following the assessment, a memorandum was prepared for PCC. The memorandum, and the details contained within it, were peer reviewed by a Principal Arborist of Arborlab. The scores and photos of the trees were reviewed as a part of that peer review.

23.8 *“Council considers adopting a lower STEM threshold so that more trees can be protected.”*

23.9 The objective of the Notable Tree Schedule is to protect trees that are recognised to achieve regional or national historic heritage, amenity or ecological values. The schedule's aim is not to provide for as many trees being protected as possible. By lowering the threshold, the quality of the schedule could be diluted. I consider that at a lower score threshold, for example 100, trees could be added that do not achieve a notable distinction.

24 Submission 153.5 from Thomas Charles and Claire Louise Clarke requests amendments to the use of the STEM method, which are responded to as follows:

24.1 STEM does not take into account the negative impacts of trees. Because of this, when Arborlab were putting together the app for data collection, a section was added for 'Potential Conflicts' with a dropdown list as follows:

- Building
- Overhead Lines
- Road
- Footpath
- Underground Services
- Other

24.2 We also included a 'comments' section where any obvious negative attributes could be recorded. While the submitter has raised a number of perceived negative issues with the identified trees, these were not observed at the time of assessment. The issues around blocking of culverts and flooding of the general area are outside of my area of expertise.

24.3 The matters raised by the submitter regarding the use of STEM and the perceived negative effects caused by trees are generally considered to be fairly unique. Altering the methodology of assessment based on one site's unique characteristics is not considered appropriate.

Recommendation

25 STEM is considered to be an appropriate method for evaluating trees for inclusion to the notable tree schedule.

Rules

26 Submission point 103.3 from Mr Partridge requests three decisions, which are responded to as follows. The first point relates to **Rule 2**, but indirectly also relates to the **Standard TREE-S1** and the **definition of the Root Protection Area**. (Note: The third point of this submission is discussed in the Standards section).

27 *Council undertakes Cost Benefit Analysis of International best practice methods used to determine the area of roots which cannot be disturbed without consent. Council selects a methodology for Rule 2 which represents best practice in terms of tree root protection, which would ideally be the AS4970 or BS5837 method.*

27.1 Consideration was given to recommending the use of one of the International Standards but was discounted in preference of the simpler method as proposed. The reason for this was in order to make it easy for any person (and in particular non-arborists) to quickly calculate whether they are triggering any requirements of the District Plan, rather than actually undertaking a technical arboricultural assessment. It was considered that if the rules were too complex, laypersons such as home owners, or construction / infrastructure personnel would not understand them or engage in their requirements.

The simple nature of calculating the area based on the physical attributes of the tree combined with visual imagery makes it an easy and quick process for everybody to understand. It is not intended to ascertain potential adverse effects on the tree. To do so is a specialised area of expertise.

27.2 The Australian and British Standards use an allometric relationship between trunk diameter and root spread to determine a zone sufficient to protect the root system of trees to ensure there is no detrimental effect on health and structural viability. This is referred to as the 'Tree Protection Zone' (TPZ) in the Australian Standards. The calculation is based on a tree growing in open space surrounded by homogenous soil. Most trees in urban environments are not growing in such situations. There are predominantly root limiting factors in some portions of an urban tree's TPZ. This means that in order to accurately determine the TPZ of a tree, a skilled arborist needs to assess its growing conditions. It is not considered to be a reasonable response to determine an accurate TPZ for each notable tree and represent this in the PDP. In any event, as the tree continues to grow, the TPZ may require updating, again, unachievable for a council to manage in what is ultimately a static document for 10 years.

27.3 It is acknowledged that Standard TREE-S1-6 which states "The works shall not affect any more than 10% of the tree's protected root zone." is not based on modern standards. The 10% figure outlined in the PDP is based on the Root Protection Area definition and would potentially be different to the 10% thresholds that are outlined in modern standards' Tree Protection Zones that are used for determining effects.

27.4 The Standards TREE-S1-3 and TREE-S1-6 refer to the trees 'protected root zone'. This would appear to be a

typographical error and should be amended to 'Root Protection Area' to maintain consistency.

- 27.5 Putting aside Standard TREE-S1-6, in my experience, using the methodology for determining the 'Root Protection Area' as proposed in the PDP does not result in wholesale significant harm to protected trees. I have observed this over the past fifteen years or so, since my employment at, first North Shore City Council, then Auckland Council and now as a consultant arborist who deals with tree protection in all facets of the industry. In my experience, early engagement with a suitably qualified and experienced arborist is far more important than minor discrepancies between root protection areas.
- 27.6 Standard TREE-S1-1 requires that "the works are undertaken or supervised by a technician arborist." This requirement, combined with the other standards is considered sufficient to provide the required protective measures to ensure that trees are not adversely affected.
- 27.7 Figure 1 below provides an example of protection zones for four similarly sized street trees. The red circle identifies the structural root zone (SRZ) and the blue line identifies the tree protection zone (TPZ) based on the Australian Standards. The orange line identifies the protected root zone utilising the same method proposed in the PDP.



Figure 3 – Example of Tree Protection Zones.

Recommendation

- 27.8 The definition of the ‘Root Protection Area’ in the PDP is considered a suitable measure for identifying where the standards at TREE-S1 are required to be met.
- 27.9 The Standards TREE-S1-3 and TREE-S1-6 refer to the trees ‘protected root zone’. This should be amended to ‘Root Protection Area’.
- 27.10 There is merit in considering further limitations with regards to TREE-S1-6 and the 10% figure of the trees protected root zone. The submitter may wish to provide further information on this matter.
- 28 The second point of Submission point 103.3 from Mr Jeremy Partridge reads *“Council does not allow permitted works within the RPA of a Notable Tree.”*
- 28.1 I consider it appropriate to allow minor works within the Root Protection Areas of the Notable Trees as a Permitted Activity.

This is generally to allow for works to occur within road reserve for activities associated predominantly with maintenance, repair, upgrade of critical infrastructure such as power, comms, water (waste-water, storm-water, water-supply), roading etc. In most circumstances such services can be installed by way of trenchless methodologies such as directional drilling. Notwithstanding this, on occasion a small excavation may be required for entry and exit pits, connection points, exposing existing services, etc. In most instances, small excavations such as these can be carried out with negligible adverse effects to trees, provided they are suitably managed.

28.2 There may also be instances where a home owner may wish to undertake minor works, for example installing a letter box, or an above grade path or other such minor activity. Provided such activities are suitably managed, they are unlikely to have any adverse effect on a tree.

28.3 The Permitted Activities must meet the relevant standards, the first of which is that the works are undertaken or supervised by a technician arborist. This is considered to invariably be the most important aspect of any works within the vicinity of a tree.

Recommendations

28.4 Permitted activities within the Protected Root Zones of Notable Trees should remain in the PDP.

28.5 The wording of Standard TREE-S1-2 should be amended from 'earthworks' to simply 'works', as there may be machinery activities that are not relating to 'earthworks' as such.

29 Submission points 103.6 and 103.7 from Mr Partridge both relate to rule TREE-R3 and TREE-R4 and indirectly the levels of qualification for the definition of a Works Arborist and a Technician Arborist.

29.1 *Submission 103.6 and 103.7 - The requirement to engage a L6 qualified arborist to undertake, supervise or sign off works related to rule R3 and R4 are removed and replaced by the requirement to engage at least a L4 arborist. A requirement to possess an industry recognised tree risk assessment certification such as TRAQ, QTRA or VALID be added to the requirements.*

29.2 A lot of consideration was given to this when providing specialist advice on the PDP, and informal canvassing of the industry was undertaken. This particular issue is often a divisive one, due to the variances in levels of qualifications. Other District Plans within New Zealand were also referred to.

29.3 Given the complexities in ascertaining the area in which the root system of a tree is growing, and therefore potentially affected by a proposal, I consider that a high level of knowledge is required. In addition, by allowing Permitted Activities within the protected root zone of notable trees, council are relying on a high level of professionalism to ensure that any proposed activities are not going to harm a tree.

29.4 The definition of Technician Arborist includes the following wording; "has demonstrated proficiency in tree inspection and evaluating and treating hazardous trees including experience in the use of industry recognised risk-assessment methods;" The industry recognised risk assessment methods are generally those listed in the submission. It is not considered necessary to specifically name the methods in the PDP.

Recommendation

- 29.5 The definitions of Works Arborist and Technician Arborist are retained as proposed.
- 30 Submission Point 103.8 from Mr Partridge requests the following decision in relation to Rule TREE-R4;
- 30.1 *“Remove the term terminal decline, or add a definition of the term terminal decline which is definitive and leaves no room for misuse, or do not allow removal as a permitted activity on the basis of ‘terminal decline’.”*
- 30.2 I concur with Mr Partridge that trees that become very mature / post mature are still very valuable specimens. Such trees provide habitat value for many species and are a very important part of the ecosystem. Trees in this age bracket are referred to as ‘ancient’ trees, and more is becoming known about their importance. Such trees can naturally ‘retrench’ as they age, in order to reduce the overall size of their canopy and loading upon structural elements. While this may appear to a lay person as ‘dying’, the tree may in fact survive for many more years, providing benefits that younger trees do not. Such trees do not necessarily pose an unacceptable level of risk, as removal of dead portions of the tree which pose an unacceptable risk may be removed (as a Permitted Activity), while the rest of the tree remains.
- 30.3 What would be important to consider in situations such as this, is the reason for which the tree was scheduled. If a tree is scheduled for reasons relating to association (with a person / object / or place) or for cultural reasons, then the tree should be retained, unless it poses an unacceptable risk.

30.4 I consider that two options exist. Adding a definition for 'Terminal Decline' such as: "means a tree that has declined to such a state of health that it has lost the values for which it was scheduled." Or, simply remove the term 'terminal decline'.

Recommendation

30.5 I consider the simplest solution is to remove the words 'in terminal decline' from Rule TREE-R4 and TREE-P5 2. I see very few instances where the wording would be required.

Standards

31 Submission 103.9 from Mr Partridge seeks that *"Standard S1 is amended to specify that hydrovac is only undertaken at a specific depth."*

31.1 Hydro-excavation can cause damage as can any excavations, if not appropriately managed. When undertaking excavations within the root zones of trees, having multiple tools available in the 'toolbox' is useful. I agree that hydro-excavations *can* strip the bark from roots, causing damage to the cambium and therefore the flow of water and nutrients between the roots and the canopy. However, there is limited research available that I am aware of that has quantified this cause and effect.

31.2 There are also measures which can be employed to reduce the potential adverse effects resulting from hydro-excavations, including (but not limited to); reducing the pressure of the water jet, covering exposed roots with a protective layer such as Perspex paddles, off cuts of drainage pipe and operator training. It is not considered practicable to specify a depth at which hydro-excavation may be used.

31.3 Notwithstanding this, the wording of the Standard is considered to be slightly confusing, as it sounds as if all excavations must be undertaken at 1m below ground level. This is not the intention of the Standard, rather, it is only the directional drilling that should be undertaken at this depth.

31.4 The wording is currently as follows: "Any excavation must be undertaken by hand-digging, air spade, hydro excavation, or drilling machine where under the protected root zone at a depth of 1m or greater."

Recommendation

31.5 I recommend some minor re-wording of Standard TREE-S1-3. as follows:

"Any open cut excavations must be undertaken by hand-digging, air spade or hydro excavation. Directional drilling shall be undertaken at a depth of 1m or greater when within the Root Protection Area of a notable tree."

32 Submission Point 153.7 from Thomas Charles and Claire Louise Clark on specific provision TREE-S1 seeks that "*Machinery should be able to be used without the need for protective surfaces.*" and "*New impermeable surfaces should be permitted subject to 50% maximum coverage.*"

32.1 Various modern standards would suggest that anything above 10 – 20 % of a tree's root zone (defined by 12 x dbh) would be considered a major encroachment, with potential to have an adverse effect on the tree. Therefore, by allowing 50% of a tree's Protected Root Zone to be covered by impermeable surfacing, this could result in adverse effects to the trees long term health.

32.2 With regards to machinery operating without protective surfaces; again, this does not appear to be based on any best

practice guidelines. This standard is a very common tree protection measure and is not considered to be overly onerous.

Recommendation

32.3 I recommend that the amendments sought are not made.

33 Contrary to the submission from Mr Partidge on the definition of the RPA, submission 153.2 from Thomas Charles and Claire Louise Clark was received which wants to see the definition of the root protection area (RPA) amended to restrict the size.

Recommendation

33.1 For the reasons discussed at section 27 above, I consider the proposed definition of the RPA as the most appropriate method.

34 Submission point 153.8 opposes the requirement that trimming and pruning (of notable trees) must be restricted to maximum branch diameters of 50mm.

34.1 The submission states that the restriction is excessive relative to the policy of not compromising the long term health of the tree.

34.2 Pruning of larger diameter branches create a larger wound site, which takes a tree longer to occlude than a smaller diameter wound. The tree therefore must use energy resources to carry out this 'occlusion and compartmentalisation*' of wound wood which could otherwise be used for other purposes, such as new growth of roots/leaves/branches, or laying down adaptive growth on a point of structural loading. A larger wound site also increases

the potential for decay to enter structural branches/trunks of a tree (mostly fungal infections). The removal of larger branches can also open a trees canopy up to wind loading to which it is unaccustomed to, resulting in an increased potential for failures of remaining stems/branches. While there may be occasions when a branch greater than 50mm in diameter could be removed without an adverse effect on a tree, this would need to be determined on a case by case basis. Any decision on removal of a larger diameter branch would need to be assessed by an arborist, and would take into account the trees age, health, species profile, wind dynamics (predominant wind loading), recent changes to growing environment, location of wound and more. While the standard limits the extent of pruning allowable as a Permitted Activity, a resource consent can be applied for where greater pruning may be required.

*Occlusion refers to the tree laying down new wood incrementally over and around a wound, ultimately enveloping the wound internally. Trees do not 'heal' damaged tissues in the same way humans do. The wound will always be there, but will become enveloped within the wood. Compartmentalisation is a term used to describe how a tree 'walls off' decay and restricts its spread through the wood.



Figure 4 – Occluding wound.

34.3 The submission goes on to state that “S2 requires all trimming or alteration to retain the natural shape, form and branch habit of the tree. Those requirements would preclude any re-development of the remaining 80% of the property at 24 Whanake Street.” Redevelopment of a specific site is a separate matter to maintaining the values of a tree which has scored sufficiently under the STEM system to become a notable tree.

34.4 It is my professional opinion that the standards allow for reasonable, regular maintenance of the protected trees, whilst ensuring that the values for which they have been scheduled are maintained.

Recommendation

34.5 Standard TREE-S2 is retained as proposed.

Specific trees

- 35 A submission was received (Submission 2.1) regarding TREE-01, 2 Norfolk Island Pine trees at 26 Tireti Road, requesting that the trees not be included in Schedule 5.

Following the submission, the trees have been reassessed by Mr Spencer of Tend Trees, who determined a STEM score of 138.

Recommendation

The trees are retained in Sched5 – Notable Trees.

- 36 Submission 153.4 was received regarding TREE 08 at 22 Whanake Street, Titahi Bay. The submission requests that the group of trees is deleted from Schedule 5.

The site has been revisited by an independent arborist (David Spencer of Tend Trees Ltd) on behalf of Arborlab to reconfirm the values of the group of trees. This site inspection was undertaken in October 2021.

Referring to Mr Spencer's evidence, it is apparent following the most recent site inspection, that there are now 6 Nikau palms in the referenced grove, and that the pūriri has been pruned, potentially affecting its score under the STEM methodology.

If the pūriri were removed from the listing, the six nikau palms, assessed as a group, would meet the threshold for inclusion in Schedule 5.

Recommendation

The pūriri included in the group listing TREE-008 is removed from the listing. The six nikau palms are retained in the listing.

- 37 Submission 38.1 was received regarding Tree 021, at 4 Paekākāriki Hill Road, Pāuatahanui, which is a large *Macrocarpa* (*Cupressus*

macrocarpa). The submission seeks to have the tree deleted from the schedule as the submitter considers the tree to be coming to the end of its life and wish to be able to remove the tree without having to apply for resource consent.

The site has been revisited by an independent arborist (David Spencer of Tend Trees Ltd) on behalf of Arborlab to reconfirm the values of the trees. This site inspection was undertaken in October 2021.

Mr Spencer inspected the tree using the Quantified Tree Risk Assessment methodology, which is an industry accepted method of risk assessment. Referring to Mr Spencer's evidence, the level of risk posed by the tree was found to be 'Broadly Acceptable' under the QTRA framework.

From my assessment of the tree in 2018, there was nothing to indicate that the tree was nearing the end of its life.

Recommendation

The tree is retained in Schedule 5.

- 38 Submission 81.894 relates to Tree 030, a group of Eucalyptus trees growing within a council reserve at Mungavin Avenue, Ranui. The submission requests that the group of trees is deleted from Schedule 5 due to issues primarily relating to development potential rights.

During my initial assessment of the trees in 2018, a fungal fruiting body was noted on one of the trees. Such fruiting bodies can indicate the presence of decay within a tree. Following the submission, it was considered that the trees should be reinspected to confirm that any risk posed by the group is not unacceptable. Mr Spencer has assessed this particular group of trees several times in recent years. I refer to Mr Spencer's evidence that the trees pose either a Broadly Acceptable, or

Tolerable risk under the QTRA framework, and that no further actions are required to reduce the risk.

Recommendation

The listing Tree 030 is retained in Schedule 5.

- 39 Submission 43.2 suggested that a new tree should be added to Schedule 5. This is a Tulip tree (*Liriodendron tulipifera*) located at 346B Paremata Haywards Road (SH58) Judgeford.

The site has been visited by an independent arborist (David Spencer of Tend Trees Ltd) on behalf of Arborlab to assess the tree using the STEM method. This site inspection was undertaken in October 2021.

Mr Spencer's assessment scored the tree at 174 points, thus achieving the threshold for inclusion in Schedule 5.

Recommendation

The tree is added to Schedule 5.

Details to be added to the schedule are:

Botanical Name: *Liriodendron tulipifera*

Common Name: Tulip tree

Location: 346B Paremata Haywards Road (SH58) Judgeford

Coordinates: -41.11952313, 174.9465445

Single/Group: Single

Number of trees: 1

Description and Values: Locally prominent feature, with very large trunk girth.

Date: 1 November 2021

A handwritten signature in black ink, consisting of several overlapping loops and strokes, positioned above a horizontal dotted line.