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ARBORICULTURAL ASSESSMENT REMUERA PRECINCT PLAN CHANGE

Client:	Fletcher Residential Ltd
Site Address:	Remuera Precinct – 79 Ladies Mile, Remuera, Auckland
Proposal:	Residential Plan Change.
Compiled by:	Stuart Barton
Date of Report:	19 December 2023

Arbor Connect Ltd.

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- 1.1 Auckland Thoroughbred Racing and Fletcher Residential Limited (FRL) propose a plan change as part of the development of 'The Hill' area of the Ellerslie Racecourse at 79 Ladies Mile, Remuera, Auckland (the site).
- 1.2 This report has been commissioned to assess how the Proposal will impact trees on the site.
- 1.3 I have undertaken several site visits for the subdivision and development project that is currently underway, including meeting with Dan Tipping, the former Auckland Council Urban Forest Specialist, and Paul Hansen, Auckland Council Arborist Resource Consents Department. The latest site visit was on 8 July 2022. I am also the monitoring arborist for the construction and regularly visit the site.
- 1.4 Early in the subdivision's design process, I identified significant trees within the site and protected trees adjacent to the site. I subsequently produced an arboricultural assessment report dated 18/08/2022. The subdivision and development have obtained resource consent and tree owner approval.
- 1.5 The following report is based upon the findings of those visits and the conditions found and deals only with the trees to be retained.
- 1.6 This report deals only with those trees to be retained as part of the development and are specified in Appendix A. The approximate location of each tree has been indicated on a location plan attached as Appendix B. The documentation supplied, on which I have based this assessment, is attached as Appendix C.
- 1.7 All assessments were from ground level. While the tree dimensions are measured, they should be considered approximate.

2.0 Site description

- 2.1 The site is the eastern hill area of the Ellerslie Racecourse. This area is bounded by Ladies Mile to the northeast, residential properties and Derby Downs Domain to the east and south and the Ellerslie Racecourse to the west. The land slopes down from Ladies Mile (refer Figure 1).

3.0 Tree protection rules

- 3.1 The Proposal has been assessed under the Auckland Unitary Plan Operative in Part (AUP OiP).
- 3.2 Under the AUP OiP, there are no protected trees within the site. However, trees within the legal road and public reserve adjacent to the site require removal or works within the protected root zone and required resource consent and tree asset owner approval.
- 3.3 The trees implicated by the Proposal located within Derby Downs Domain and Ladies Mile are protected by the rules under Infrastructure "E26.4. Network utilities and electricity generation – Trees in roads and open space zones and the Notable Trees Overlay".



Figure 1 – hatched area showing the proposed precinct.

4.0 The Proposal

4.1 The site is currently zoned as Major Recreational Facility under the AUP OiP. A plan change is proposed to change the zoning to a mix of Terraced Housing Apartment and Mixed Housing Urban (refer Figure 2).

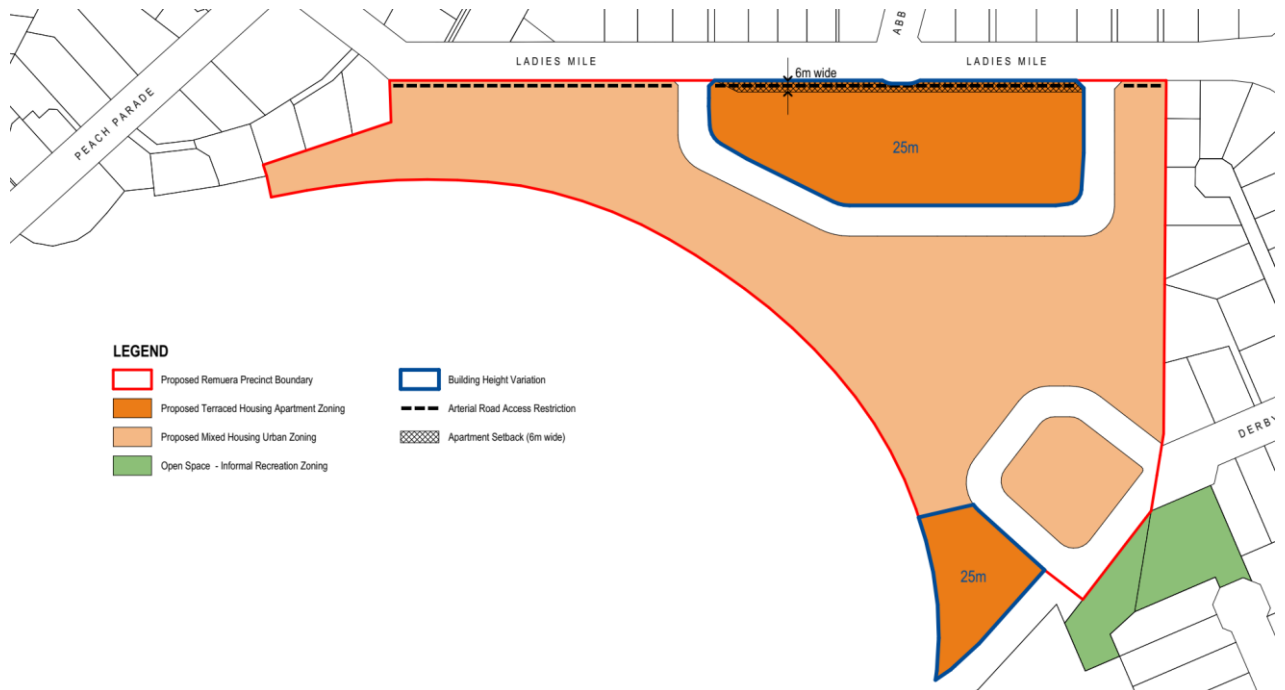


Figure 2 – Proposed zoning.

- 4.2 The construction of the subdivision is underway. Vegetation removal has been completed as outlined in the arboricultural assessment report. The pōhutukawa trees along the Ladies Mile boundary are to remain.

5.0 Arboricultural Assessment

General

- 5.1 The southeast end of the site shares a boundary with Derby Downs Domain. Four trees are located within the domain just off the boundary fence within a strip of vegetation (Trees 1 – 3 and 18) and two trees (Trees 19 and 20) are towards the south of the domain.
- 5.2 Along the Ladies Mile boundary is a row of 11 pōhutukawa trees (Trees 5 – 15), covering a 150 m strip.
- 5.3 On the Ladies Mile side of the boundary, there is a flowering cherry street tree (Tree 16) and an area of vegetation that is mostly pest weed species, including one tree privet (Tree 17).
- 5.4 Trees 1 – 3, 5 – 15, 18 and 19 will be retained as part of the development.

Trees 1 – 3, 18 - 20

- 5.5 These six trees are located within Derby Downs Domain along the site's boundary. There are three black poplar trees (Trees 1, 3 and 18), one Sydney blue gum (Tree 2), one golden elm (Tree 19) and one melia (Tree 20).
- 5.6 The Lower Loop Road runs along this boundary and connects to the Derby Downs Place entrance and affects Trees 1 – 3 and 18. A wastewater line from the site will connect to the manhole riser located within the domain and affect Trees 18, 19 and 20.
- 5.7 A temporary metalled surface on top of the existing asphalt road that currently runs along the domain boundary has been installed. The Lower Loop Road has been positioned as far from the boundary as practically possible. The kerb will run parallel to the boundary before turning away from the trees. The kerb will be 5.5 m or more from Trees 1 – 3 and 18. A landscape strip and public footpath will be between the boundary and the kerb. The landscape strip can be left relatively undisturbed, and the 1.8 m wide footpath will require excavation to approximately 0.25 m deep. The existing boundary fence will be removed. No fence is necessary between the new road reserve and the domain.
- 5.8 The proposed footpath and road construction will disturb up to 26 % of the protected root zone of these trees. The disturbance closest to the trees up to the kerb will be to a depth of 0.25 m for the footpath. Potentially there will be roots over 80 mm in diameter that will require removal. However, they are unlikely to be numerous as the existing road would not provide favourable conditions for root development. These roots will not be removed unless no practical methods are available to retain them. It is unlikely that roots over 80 mm in diameter are encountered during the excavation for the road.
- 5.9 The wastewater line proposed to connect to the manhole riser in the southern corner of Derby Downs Domain will pass on the edge of the protected root zone of Trees 18 and 19. The manhole riser that this line will connect into is 1.6 m from the trunk of Tree 20.
- 5.10 The excavation for the line will be approximately 0.5 m wide. It will be about 6.0 m from the trunk of Tree 19. Less than 20 % of the protected root zone will be disturbed, and no roots over 80 mm in diameter will be encountered. The line will be approximately 3.6 m from the

trunk of Tree 18. When combined with the root disturbance of the Lower Loop Road, less than 10 % of the protected root zone of Tree 18 will be disturbed.

- 5.11 For Tree 20, the trench will enter into the protected root zone, and excavation of approximately 4.0 m² will be required to facilitate the connection to the riser. This excavation will be 0.8 m at the closest point to the trunk. While it is possible to retain the tree, it has lost a significant stem and has a poor structure. At a site meeting with Dan Tipping, it was agreed that the tree could be removed.
- 5.12 Resource consent has been obtained for the works within the protected root zone of Trees 1 – 3 and the removal of Tree 20. The work within the root zone of Trees 18 and 19 is a permitted activity. The proposed works will be within the tolerances of the trees to remain.

Trees 5 – 15

- 5.13 These 11 pōhutukawa trees are an important line of trees along the Ladies Mile boundary. It is proposed that these trees are retained. Inside the site, a garden strip will run parallel to the boundary that will vary in width but is a minimum of 6 m wide. The low-growing vegetation under these trees was removed and will be replaced with low-growing native vegetation and the area mulched.
- 5.14 The apartments have been sited as far from the trees as practical. To construct the Apartment precinct, there will be excavation within the root zone of the pōhutukawa trees. This excavation will be to build a steep batter. The closest point the excavation comes to each tree varies and is outside the structural root zone of every tree other than Tree 10, which has a slight incursion.
- 5.15 Over the boundary, on Ladies Mile, a public footpath will be constructed on the existing grass berm. This footpath will be outside or on the edge of the structural root zone of the pōhutukawa trees. The path will be constructed as far from the boundary as possible and be designed to be as least invasive to the root zone as possible. In a worst-case scenario, there will be an excavation of approximately 250 mm.
- 5.16 The proposed excavations will be removing roots over 80 mm in diameter, but with the tree protection methodology proposed, the damage to the roots will be minimised. The landscape strip will not change the ground level and will be mulched. This will encourage root development, allowing the trees to maintain vigour.
- 5.17 Pruning of large branches to provide clearance for the erection of scaffolding and allow for a practical clearance of the building following construction will be required for Trees 10 and 15. Minor pruning of the Trees 8, 9 and 14 will also be needed.
- 5.18 The proposed works will be within the tolerances of these trees. No tree protection rules apply to these trees.

Trees 16 and 17

- 5.19 Tree 16 is a 3.0 m high flowering cherry in poor condition. Tree 17 is tree privet, a pest plant located in a strip of vegetation that is mostly pest plant species. These two trees and the strip of vegetation will need to be removed to construct the public path within the grass berm on Ladies Mile. As Tree 16 is in poor condition, it is not practical to look at alternative designs for the footpath to allow it to be retained.
- 5.20 Resource consent has been obtained to remove Tree 16 as it has a trunk girth greater than 400 mm. Tree 17 can be removed as a permitted activity as it is a pest plant.

6.0 Recommendations for Mitigation

- 6.1 In mitigation for removing Trees 16, 17 and 20, three 45 ltr grade trees will be planted in Derby Downs Domain or within the road reserve grass berm near the site. The Auckland Council Urban Forest Specialist will agree on the exact location and species. The trees will be planted by council approved company. The trees will be maintained for three years before being passed to the Auckland Council.
- 6.2 The effect of this Proposal on the trees to remain is considered to be minor in the short term if the proposed Tree Protection Methodology outlined in section 8.0 is implemented to mitigate any potential adverse effects. These measures will ensure the successful retention of these trees and maintain their long-term health and vitality.

7.0 Tree Owner Approval (TOA)

- 7.1 TOA has been obtained for the proposed works within the Tree Protection Zone (TPZ) of Trees 1 – 3, 18 and 19 and the removal of Trees 16, 17 and 20.
- 7.2 For Trees 1 – 3 and 18, the excavation for the footpath and road is outside the Structural Root Zone (SRZ). The excavation for the path will be 250 mm deep and require removing any surface roots encountered. The existing asphalt road will be carefully lifted under arborist supervision, and roots within the landscape strip will be left intact.
- 7.3 The disturbance of the TPZ is significant for these trees, but I believe it will be within the tolerances of the species.
- 7.4 The removal of Trees 16 and 17 is required for the construction of a public footpath. Tree 16 is in poor condition, and Tree 17 is a pest plant.
- 7.5 Tree 20 has poor structure, and it was agreed with Dan Tipping that it should be removed.

8.0 Tree Protection Methodology

- 8.1 The following recommendations were considered appropriate to mitigate the potential adverse effects on the trees to be retained and are part of the resource consent conditions.
- 8.2 A suitably experienced, council approved arborist ('nominated arborist') shall be employed by the consent holder, at the consent holder's expense, to monitor, supervise and direct all works within the root zone or in the vicinity of those protected trees to be retained, for the duration of the works.
- 8.3 Before any site works commence, including demolition, a pre-commencement site meeting shall be held so that the nominated arborist can explain the conditions of consent that pertain to the retained vegetation to all contractors or sub-contractors who will be working on-site within the root zone of or adjacent to any protected trees that are covered by the consent. The meeting minutes, including the attendees' names, shall be forwarded to the Council Compliance Officer as soon as practicable. At this meeting, the trees to be removed shall be identified and marked.
- 8.4 Before the pre-commencement meeting, the final design of the footpath along Ladies Mile is to be agreed upon with the nominated arborist.
- 8.5 A copy of this report shall be held on-site at all times.

- 8.6 A fundamental requirement for protecting the retained trees will be the continued and documented monitoring of the consent conditions during the construction process. The nominated arborist shall maintain a log of visits to the site that shall include works undertaken on those visits with photographs. A copy of this log shall be made available to the Council Compliance Officer if requested.
- 8.7 Installing any silt control shall utilise filter socks rather than dug-in materials in the protected root zone of any trees.
- 8.8 All tree pruning and removals shall be carried out by council health and safety approved arborists using accepted arboricultural standards and practice, including tree dismantling procedures that control stem and branch fall by using approved lowering techniques to avoid damage to any trees that are to remain.
- 8.9 Any excavation work within the protected root zone of any tree to be retained shall be undertaken by hand to a depth of 300 mm or until the nominated arborist is satisfied no more roots will be encountered. This excavation shall be under the supervision of the nominated arborist.
- 8.10 All roots encountered during excavations that require severance shall be cleanly cut back to the excavation face using a handsaw or secateurs by the nominated arborist.
- 8.11 All exposed roots and root ends shall be covered to prevent them from drying out by a Hessian covering (or acceptable alternative). This covering is to be kept damp until the excavated area can be backfilled. Any exposed roots that are likely to contact wet concrete shall be covered with a permanent barrier, e.g. polythene, to protect them from this occurring.
- 8.12 Temporary protective fencing to protect the trees to be retained should be installed before any site works commence. The temporary protective fencing aims to provide an area around the retained trees to facilitate their successful retention during construction. The exact extent and location of the temporary protective fencing shall be finalised on-site before works begin by the consent holder's nominated arborist. Although temporary, the fence shall be constructed, so it is not easily moved. Signage (minimum size 600mm x 450mm) shall be attached to the fence stating that it is a tree protection area and there should be no unauthorised entry.
- 8.13 The area within the temporary protective fencing is to be considered a total exclusion zone as follows:
- No storage of diesel, cement, building materials, site huts, spoil etc. within the delineated area;
 - No spillages of substances likely to be harmful to tree health within seepage distance of the delineated area;
 - No alteration to the dimensions of the delineated area without the prior approval of the nominated arborist; and
 - No access into or works within the delineated area without the prior approval of the nominated arborist.
- 8.14 The consent holder is responsible for maintaining the condition of the temporary protective fencing. The temporary protective fencing's condition, repair, and location shall be regularly inspected as part of the routine tree-monitoring programme.

- 8.15 The nominated arborist shall undertake all remedial pruning works necessary, including pruning tree roots uncovered during excavations, following documented arboricultural standards.
- 8.16 During the construction process, the consent holder's arborist may recommend installing irrigation systems, mulch, or remedial pruning works if required to improve the trees' health.

9.0 Conclusion

- 9.1 A plan change is proposed for the site at 79 Ladies Mile, Remuera. A row of non-protected pōhutukawa trees will be retained.
- 9.2 A comprehensive set of tree protection measures has been prescribed in the Tree Protection Methodology in Section 8.0 of this report to minimise the effect of the development on trees that are to remain.
- 9.3 I consider that, with careful management, the effect on the trees identified for retention should be minor and short-term in nature, subject to the tree protection measures as detailed within this report being followed and appropriate construction methodologies being implemented.
- 9.4 If the recommendations, as specified in Sections 6.0 (Recommendations for Mitigation) and 8.0 (Tree Protection Methodology) of this report, are adhered to, I can support the plan change from an arboricultural perspective.

For **Arbor Connect Ltd**



Stuart Barton
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Cert. in Arboriculture, Dip. Hort.,
Dip.P&G. Tech., NCH (Amenity)

Attachments:

- Appendix A – Tree Survey Data**
- Appendix B – Tree Location Plan**
- Appendix C – Document List**

Appendix A

Tree Survey Data Table

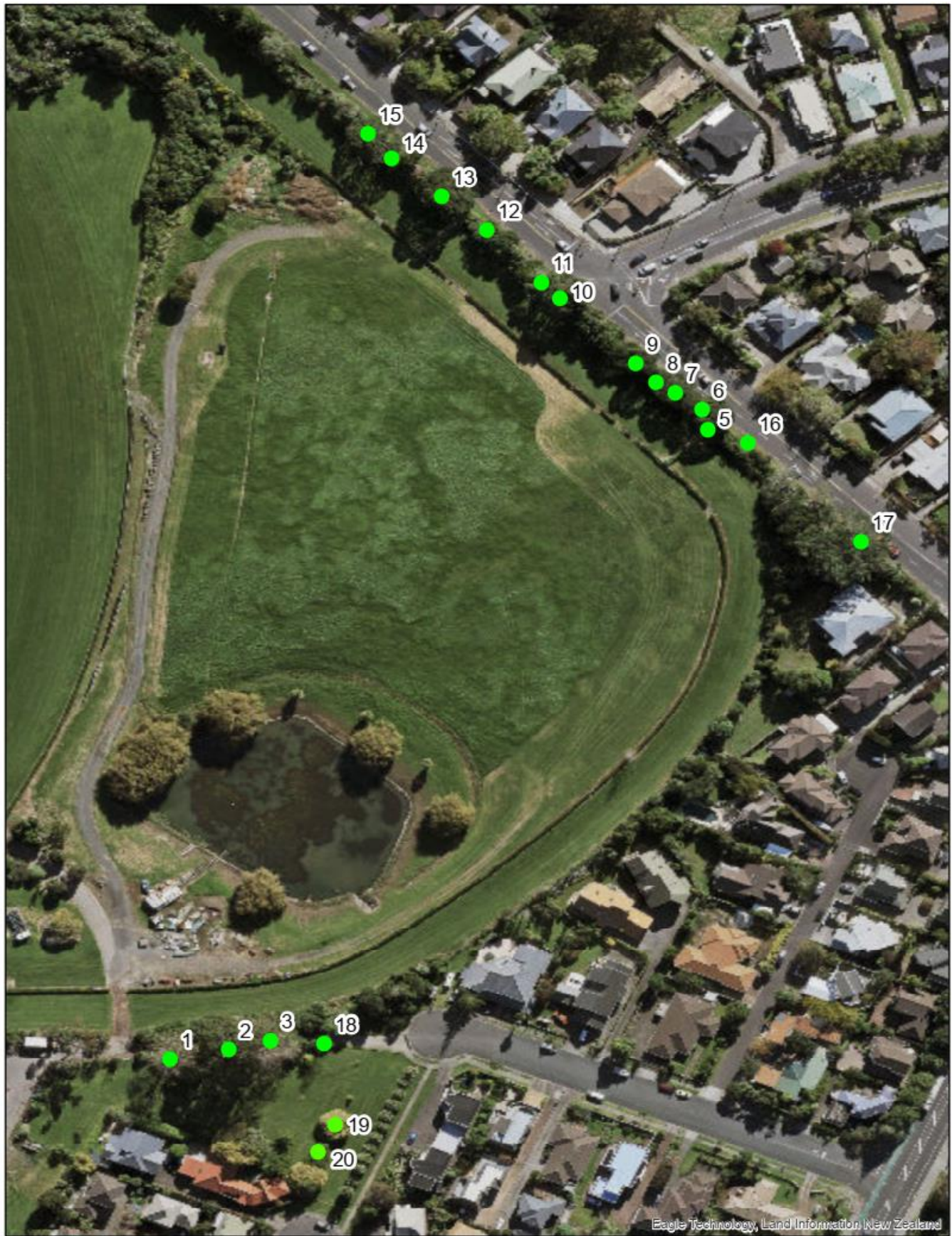
Tree Number	Species	Height (m)	Canopy Spread (m)	Trunk Girth @ 1.4 (m)	Trunk Diameter @ base (m)	TPZ Radius (m)	SRZ Radius (m)	Condition	Comments
1	Black poplar	23.5	18	2.3	0.86	8.8	3.1	Good	Works within the protected root zone required. Located within Derby Downs Domain. 0.3 m from the boundary fence.
2	Sydney blue gum	26.6	20	3.7	1.40	13.9	3.8	Good	Works within the protected root zone. Located within Derby Downs Domain. 1.1 m from the boundary fence.
3	Black poplar	26.8	20	2.8	1.00	10.7	3.3	Good	Works within the protected root zone. Located within Derby Downs Domain. 0.6 m from the boundary fence.
5	Pōhutukawa	7.3	8	1.3	0.54	5.1	2.6	Fair	Dominated by Tree 6.
6	Pōhutukawa	9.0	12	3.0 (5 stems)	1.12	11.4	3.5	Good	Some dieback in the canopy.
7	Pōhutukawa	9.5	13	2.7 (3 stems)	1.06	10.1	3.4	Fair	Some dieback in the canopy.
8	Pōhutukawa	8.8	13	1.9 (4 stems)	0.92	7.4	3.2	Good	
9	Pōhutukawa	10.2	13	2.7 (2 stems)	1.10	10.1	3.4	Good	
10	Pōhutukawa	12.8	15	4.5 (5 stems)	1.99	15	4.4	Fair	A big tree that lacks vigour.

Tree Number	Species	Height (m)	Canopy Spread (m)	Trunk Girth @ 1.4 (m)	Trunk Diameter @ base (m)	TPZ Radius (m)	SRZ Radius (m)	Condition	Comments
11	Pōhutukawa	9.2	15	2.2 (2 stems)	0.88	8.4	3.1	Fair	
12	Pōhutukawa	9.8	6	0.7	0.30	2.7	2	Good	
13	Pōhutukawa	14.6	17	3.9 (2 stems)	1.51	14.9	3.9	Good	
14	Pōhutukawa	10.7	7	1.8	0.60	6.9	2.7	Poor	Significant dieback in the canopy.
15	Pōhutukawa	10.4	15	2.6 (2 stems)	0.86	9.7	3.1	Fair	Trunk dimensions include ivy growing on the trunk.
16	Flowering cherry	3.0	7.2	0.4	0.14	1.6	1.5	Poor	Removal required for the footpath.
17	Tree privet	5.5	5	0.3	0.14	1.2	1.5	Fair	Removal required for the footpath. Pest plant.
18	Black poplar	14.4	8.2	0.9	0.33	3.5	2.1	Good	Works within the protected root zone. Located within Derby Downs Domain. 0.6 m from the boundary fence.
19	Golden elm	7.8	12.2	3.0 (4 stems)	0.51	5.8	2.5	Good	Located within Derby Downs Domain. The wastewater line is within the protected root zone.
20	Melia	5.8	9.2	1.0	0.34	3.8	2.1	Fair	Located within Derby Downs Domain. Poor structure.

Tree Number	Species	Height (m)	Canopy Spread (m)	Trunk Girth @ 1.4 (m)	Trunk Diameter @ base (m)	TPZ Radius (m)	SRZ Radius (m)	Condition	Comments
									Removal is required for the wastewater line connection.

Table Definitions

Tree Number	This is a unique number attached to the tree and functions as a reference point on site plans.
Tree Species	The common name of the tree is given.
Height	A measured height of the tree in metres.
Canopy Spread:	Calculated as the greatest radial spread of the canopy from the trunk x 2. This distance is also the protected root zone.
Trunk Girth @ 1.4	The trunk's measured girth in metres taken at 1.4m from ground level.
Trunk Diameter @ base	The measured diameter of the trunk in metres taken at the base above the root flare.
Tree Protection Zone (TPZ):	The protected root zone as calculated in Australian Standard 4970 – 2009 Protection Of trees on Development sites as required by Auckland Council Tree Owner Approval.
Structural Root Zone (SRZ)	Protected root zone required for stability if a major encroachment into the TPZ zone as calculated in Australian Standard 4970 – 2009 Protection Of trees on Development sites as required by Auckland Council Tree Owner Approval.
Condition:	Good - A healthy specimen with good vigour, form, long life expectancy and no significant defects. Fair - Tree of average vigour and form. Minor defects may be present but not significant structural stability. Poor - Tree with low vigour or poor form, significant defects and possible limited life expectancy.
Comments	Relevant comments regarding the tree.



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Tree Positions Remuera Precinct Plan Change

Title	Dated	Revision
Remuera Precinct Plan 1 – Zoning & Building Controls by Brewer Davidson	11/10/2023	04
Remuera Precinct Plan 2 – Open Space & Features by Brewer Davidson	11/10/2023	04