



GREENSCENZ

ENHANCING AND PROTECTING
LIVING ENVIRONMENTS

Arboricultural Assessment

Tamaki Paths Project



**Report compiled
by:**

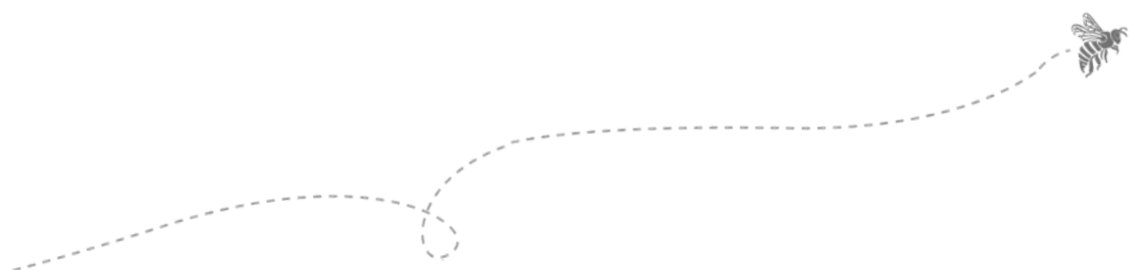
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21 July 17



EXECUTIVE SUMMARY

GreensceneNZ Limited has been engaged by *Morphum Environmental Limited* to prepare an Arboricultural Assessment in relation to the proposed Tamaki Paths project along the coastal fringes between Panmure Wharf, Point England Reserve and Wai O Taiki Bay.

The proposal involves works to form 3.9 km of path which include but are not limited to the formation and construction of concrete paths, boardwalks, retaining walls and bridges.

The works are to be carried out within the protected root zone of notable and generally protected trees. The works involve works within the protected root zone, pruning and the removal of protected trees for which resource consent must be obtained. This report has been prepared in support of such application.

A site specific tree protection methodology and recommended conditions of consent are provided at Sections 7.0 and 8.0. Adherence to these provisions will ensure that the affects of the proposed works on the notable and protected trees can be minimised.

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1.0 INTRODUCTION

- 1.1 *GreensceneNZ Limited* has been commissioned by *Morphum Environmental Limited* to prepare an Arboricultural Assessment report relating to the proposed Tamaki Paths Project.
- 1.2 The proposed work involves the construction of a network of approximately 3.9 kilometres of paths within Auckland Council reserves along the coastal fringes between Panmure Wharf, Point England Reserve and Wai O Taiki Bay.
- 1.3 This report provides an arboricultural assessment of the potential adverse effects on the trees affected by the proposal, tree protection methodologies which minimise those effects and recommended conditions of consent that may be utilised by Council in its determination of the resource consent application.
- 1.4 This report has been compiled with reference to the site plans prepared by *GHD* in collaboration with *Morphum* and *Resiliostudio*, which were supplied to *GreensceneNZ Limited* for the purpose of this resource consent application.
- 1.5 Site inspections to carry out the required assessment were carried out both in 2016 & 2017 as part of the design, constraints and finalisation process.
- 1.6 As delegated asset owners, consultation with Auckland Council Senior Arboricultural & Eco Specialist Advisor, Mr Simon Cook and Heritage Arborist Mr Nick Stott was also undertaken in compilation of this report. Their written approvals and recommendations are attached in Appendix F.

2.0 SITE DESCRIPTION

- 2.1 The subject site is located between Panmure Wharf, Point England and Wai O Taiki Bay. Figure 1 provides an aerial view of the site and the location of the proposed works area. Once complete, the Tāmaki Path will make a significant contribution to the Maungakiekie Tāmaki Greenways (Local Path) network which includes connections to the local centres at Glen Innes and Panmure with links to public transport, schools and parks.
- 2.2 The site is generally characterised by its relevantly flat topography, streams and coastal vegetation adjacent to the Tamaki ngutuawa which feeds into the Waitamata whanga.
- 2.3 Historically and presently the entire length of the proposed works area has been highly modified by past land use activities from Maori settlement, agricultural and food gathering to more recent activities such as farming and urbanisation which has resulted in the loss of most of the native vegetation. The vegetation on site is therefore represented mainly by large exotic specimen trees such as Monterey pine (*Pinus radiata*), Monterey Cypress (*Cupressus macrocarpa*) and English Oak (*Quercus robur*). Most of the native vegetation on site is the result of more recent plantings and community based 'ecological restoration' apart from some fine coastal



Figure 1 - Shows an aerial view of the subject site and the location of the proposed works area.

pohutukawa (*Metrosideros excelsa*). Exotic weed species also dominate parts of the proposed work areas.

3.0 PROPOSED WORKS

3.1 The proposal is depicted in the reference plans. Generally it is proposed to construct a 3m wide pedestrian/cycle path from Wai O Taiki Bay in the north to Panmure wharf in the south, predominately through Reserve land adjacent to the Tamaki ngutuawa.

3.2 In the most part, there is conflict with trees and works within the protected root zone, pruning and removal is unavoidable in order to complete the proposal. Design development has led to various adjustments in path alignment, width and grade to accommodate both protected and notable trees.

3.3 Where conflicts have been highlighted changes in construction methodology has resulted in the reduction in path wide to 2.5m and the construction of boardwalks to span over important root systems.

3.4 The proposed works require:

- Ground stabilization to provide temporary access for machinery;
- Works within the protected root zone, pruning and removal of protected trees;
- Works within the protected root zone and pruning of notable trees;
- Excavations to form level base in which to form 3m wide concrete paths;
- Excavations to form retaining walls, boardwalks and bridge foundations;
- The re-formation and widening of existing shell tracks.

4.0 ARBORICULTURAL PLANNING ASSESSMENT

- 4.1 For information pertaining to the planning assessment of the rules regarding tree protection refer to the Assessment of Environmental Effects (AEE) report prepared by GHD. The arboricultural assessment has been generally split into separate sections in order to inform two separate resource consent applications for the North and South sections of the path project.
- 4.2 It is relevant to note that there is a notable tree potentially affected by the proposed construction activity. The pohutukawa is growing within the private property at No.194 Riverside Avenue with a large canopy spread over the proposed path alignment. All other trees within the site are subject to the general provisions relating to trees within the Auckland Unitary Plan – Operative in parts.

5.0 ARBORICULTURAL ASSESSMENT

- 5.1 A site visit to undertake an arboricultural assessment of the developed design alignment was carried out in July 2017. Details relating to the individual and groups of trees identified as being potentially affected by the proposed works and their locations are attached in Appendix A, B, C & D.

Wai O Taiki Bay to Point England Road Car Park (North)

- 5.2 The start of the northern section begins at the Omaru Bridge. It is proposed to construct a new 3m wide 50m long curved bridge over the Omaru awa. In order to provide the necessary access for large machinery (including but not limited to cranes and excavators up to 20 tonne) a temporary wide access way of up to 8m will be formed. It has been assessed that three pohutukawa (Appendix A, Tree 16-18) and a number of native and exotic trees will require removal on the northern and southern side of the awa.
- 5.3 From the Omaru Bridge the path generally follows the coastal edge and it is proposed to widen the existing shell path to 3m. The works will generally be within the protected root zone of coastal pohutukawa and the pruning of a number of trees and shrubs will be required to form the necessary clearance. Exotic pest plants species have also been identified for removal.
- 5.4 The path enters the Northern side of the Point England Road car park where it is proposed to widen the concrete path to 2.5m. The path will run along the northern side of the car park until it crosses the road to link to the Southern section.
- 5.5 For details pertaining to trees and groups of tree potentially affected by the works see Appendix A & C.

Point England Road Car Park to Panmure Wharf (South)

- 5.6 The start of the Southern section follows the narrow coastal strip between private properties from Point England car park. A number of pohutukawa have been identified in this area as growing between the reserve and private property. In order

to preserve the roots of these trees it is proposed to reduce the path width to 2.5m and build the path above grade.

- 5.7 Of significance is the notable pohutukawa growing at No.194 Riverside Avenue (Appendix B, Tree 5). The tree is a large old specimen that was distinct on the 1940 aerial photos and is typical of coastal pohutukawa. The tree has a number of issues associated with high end weight failure, fibre buckling and historic mechanical damage to lower laterals. In order to provide the necessary overhead clearance the removal of small branches and two large limbs to the point of bifurcation will be required. The location at which the limbs (250 & 150mm diameter) would require pruning is displayed in Appendix E. The adjacent branch has a high reliance on the private fence as a weight support. Long term the exposure of the other branches could evidentially lead to the limb failing near the base.
- 5.8 It is anticipated the tree will continue dropping limbs (due to the high end weight) and layering (producing roots) off the stem into the ground on the downhill coastal side.
- 5.9 A number of construction conditions and pruning methodologies have been discussed in accordance with Auckland Council Heritage arborist, Mr Nick Stott :
- All works associated with the protected root zone of the notable tree shall be undertaken by way of hand including the excavations of foundations.
 - The boardwalk width is to be reduced to 2.5m with 2-3m long spans.
 - The boardwalk is to start at least 6 m from the trees trunk in a north and south direction
 - A 1.5m zone around the large exposed roots east and south of the private property fence is to be covered with compost and mulch and excluded from construction.
 - The extent and location of the final point of severance for all pruning works is to be agreed at the pre construction meeting in conjunction with Mr Nick Stott.
- 5.10 From the notable pohutukawa the path generally follows the coastal edge with a bridge proposed to cross Dunkirk awa where the path alignment is generally on the edge of the protected root zone of protected trees.
- 5.11 Another pinch point on the path alignment is the Marist rugby club and associated car park and access way. It is proposed to form the path within the existing hard surface of the access way on the western side of the group of old mature Monterey Pines (Appendix B, Tree 28.1-28.3). The purpose of this is to retain all the roots in the relatively restricted rooting environment due to the proximity to the coast and access way.
- 5.12 Due to the narrow strip of available land behind the rugby club and conflicts with the adjacent large gum trees (Appendix B, Tree 30.1-30.2.3); it is proposed to construct a 2.5m wide boardwalk. A number of karo will either require pruning and or removal to provide the necessary access and overhead clearance.
- 5.13 The path continues to follow the coastal edge from the Marist rugby club to Panmure wharf set back 5m from the edge of the Mount Wellington War Memorial Reserve

sports fields. The coastal edge has a number of large mature pohutukawa. The paths will generally weave in and out of the protected root zone and the pruning of a number of trees is required to provide the necessary access and overhead clearance.

- 5.14 The Connection to Dunkirk Road will be formed between the edge of the southern aspects of the sports fields, playground and private property. In order to form the desired alignment one willow myrtle (Appendix B, Tree 63) will require removal. The presence of kauri (*Agathis australis*) and associated excavations will require the implementation of hygiene methods to reduce the spread of kauri dieback.
- 5.15 For details pertaining to trees and groups of tree potentially affected by the works see Appendix B & D.

6.0 ASSESSMENT OF ARBORICULTURAL EFFECTS

- 6.1 A range of activities carried out as part of the proposed works have the potential to cause disturbance of the trees' root systems and damage to above-ground parts of the affected trees, resulting in adverse tree health and aesthetic effects. The tree protection methodologies provided in Section 7.0 of this report aim to address and mitigate these issues.
- 6.2 Additionally, tree removals and pruning is to be carried out in accordance with correct arboricultural practices to reduce conflicts between the trees' canopies and moving plant, as well as to provide overhead clearance for pedestrians/cyclists utilising the paths.
- 6.3 The proposed removals shall be mitigated in the form of pest plant removal, extensive landscape planting and large grade replacement plants in accordance with mitigation plans provided by *Morphum Environmental Limited*. All removals, pruning and mitigation planting shall be carried out according to the directions of the planting schedule and Council's arborists.

7.0 TREE PROTECTION METHODOLOGY

- 7.1 The trees affected by the proposed works shall be protected from damage for the duration of the works. This is to be achieved by compliance with the following specific tree protection methodologies:
- 7.2 A suitably qualified arborist (appointed arborist) is to be employed by the applicant to monitor, supervise and direct all works within the root zone of protected trees for the duration of the proposed works.
- 7.3 The appointed arborist shall implement tree protection measures in accordance with Section 5.0 of this report and the methodologies below and provide feedback and guidance to the contractors in respect to construction methodologies and machinery requirements in relation to all works within the protected root zone of the trees.
- 7.4 Prior to works commencing, a meeting shall be arranged by the consent holder so that the Tree Protection Methodology and Conditions of Consent are explained by the

appointed arborist to all contractors, sub-contractors and work site supervisory staff that are carrying out any works within the driplines of protected trees. All aspects of the works that may affect the canopy or dripline of protected trees shall be discussed and recorded and methodologies agreed with the appointed arborist.

- 7.5 The Council officer responsible for the public and notable tree asset shall be invited to the pre-commencement meeting. The consent holder shall give Council's officer ten (10) working days prior notice of the meeting.
- 7.6 A copy of the minutes of the pre-commencement meeting shall be provided on request to the attendees and to Council's Resource Consents Monitoring Team Leader.
- 7.7 A copy of the Conditions of Consent and the tree protection methodology shall be available at all times on the work site.

Site Specific Tree Protection Methodology: Protected Root Zone

- 7.8 Protected Root Zone" is defined by the Unitary Plan as the "circular area of ground around the trunk of a protected tree, the radius of which is the greatest distance between the trunk and the outer edge of the canopy. For columnar crown species the protected root zone is half the height of the tree."
- 7.9 Having regard to the nature of the works and prior to any works commencing on site, the appointed arborist shall determine the practicality and necessity of protective fencing. Where fencing is considered appropriate it shall consist of 1.8 metre high pole/wire mesh fencing material with ground anchor spikes (or accepted alternative), to the extent of the Protected Root Zone (or building line, where this is within the Protected Root Zone) of the trees. The protective fencing shall remain in place for the duration of the works. The appointed arborist shall monitor the condition of the protective fencing for the duration of the works.
- 7.10 Additional protection measures will be necessary where the protective fencing is deemed impractical or the Protected Root Zone extends past perimeter fencing. This may include ground protection measures which address compaction and root damage such as geotextile fabric, mulch, track-mats or similar materials to the satisfaction of the appointed arborist. Provision must also be made to protect the trunk and low branches from mechanical damage, including stem and branch wraps.
- 7.11 Within the Protected Root Zone the following provisions shall apply:
- a) No site huts or other temporary structures.
 - b) No machinery shall be stored or operated within the protected root zone of any tree and no materials, spoil, fill soil or equipment will be stored or temporarily placed within the drip line of any tree unless it can be kept wholly within the bounds of an existing load bearing surface such as concrete or asphalt.

- c) No fuel or any other substance detrimental to plant health shall be stored within seepage range of any Protected Root Zone, including the refuelling of equipment.
 - d) No access within any areas fenced off for tree protection without the prior approval of the appointed arborist.
 - e) No adjustments to the tree protection fencing without prior consultation and agreement from the appointed arborist.
 - f) Within the Protected Root Zone and fenced area only those works specified in consent conditions and shown on the approved plans are to be carried out, and only under the direct supervision of the appointed arborist.
- 7.12 Any tree pruning works required to facilitate works shall be carried out by Council approved arborists in accordance with correct arboricultural practices.
- 7.13 All excavations within the protected root zone shall be carried out under the direct supervision of the appointed arborist.
- 7.14 The preferred method of excavation within Protected Root Zones shall be initially by hand digging until the appointed arborist is satisfied no significant roots will be affected.
- 7.15 Root remediation associated with works within the protected root zone of the protected trees which are to be retained shall be undertaken in the following manner:
- a) All roots must be retained where possible. Where root retention is unfeasible, approval for the removal of roots must be obtained from the appointed arborist prior to removal;
 - b) Root pruning should only occur once the full extent of the roots within the excavation has been revealed;
 - c) All root pruning is to be undertaken either by the appointed arborist or under the direction of the appointed arborist;
 - d) In any instance where roots are removed, the appointed arborist must be satisfied that (taking into consideration the tree species, age, condition and tolerance to root pruning) the long term health and stability of the tree will not be compromised.
 - e) Where the proposed works necessitate the removal of all roots encountered during open cuts within a protected root zone, the face of the excavation nearest any adjacent tree shall be hand dug or exposed carefully to 600mm (or the finished depth, whichever is the lesser depth). All roots encountered shall be cleanly cut back to the face of the excavation using a sharp implement such as a handsaw or secateurs. The excavation may then be completed by a machine

- excavator fitted with a straight-bladed bucket. The root containing face must be covered and kept damp for the duration of works or until soil is replaced.
- f) Once roots in the line of works have been identified and either pruned or worked around and protected, excavations may be completed by a machine excavator fitted with a straight bladed bucket.
 - g) Records of all root pruning, including size of roots removed and photographs, must be maintained by the appointed arborist and supplied to the Council's Resource Consents Monitoring Team Leader and delegated Council Arborist Advisor upon request.
- 7.16 All exposed roots and root ends shall be protected from drying out. This shall be done by covering the excavated roots and root ends immediately with hessian (or similar), ensuring that the material is kept damp until backfilling occurs.
- 7.17 Backfilling exposed roots must be undertaken by hand and limited to hand tamping for the first 200mm. Priority must be given to utilising site spoil (preferably that removed from the protected root zone) unless it is deemed unsuitable by the appointed arborist.
- 7.18 Unless permitted by the appointed arborist, only hand-operated plate compacters shall be used for compaction of materials when operating within the root zone of trees.
- 7.19 Excavations shall be lined with plastic prior to any concrete pour. The plastic is to remain in place as a permanent root barrier.
- 7.20 Where concrete is to be placed above exposed tree roots, a 50mm layer of coarse sand or top soil shall be used to cover the root before plastic is laid. In the case of concrete, a geotextile fabric should be used in place of plastic.
- 7.21 No washing of equipment or machinery shall be undertaken within the root zone or within seepage range of any protected tree. Special attention shall be paid to concrete products and petrol/diesel operated machinery so as to not contaminate the soil within the root zone of any protected tree.
- 7.22 A comprehensive plan for the use, delivery and disposal of concrete and all concrete products should be developed to ensure that no adverse effects of concrete use occur.
- 7.23 Where the grade is increased within the protected root zone of trees, the following protection methodologies shall be employed:
- a) Priority must be given to utilising site spoil unless it is deemed unsuitable by the appointed arborist.

- b) Any substrate, including any membrane, forming a component of the grade increase is to consist of a porous and permeable medium conducive to oxygen diffusion and the movement of water within the root zone.
- c) Compaction of mediums within the protected root zone of the affected trees is to be avoided beyond any level specified by engineering requirements.

Site Specific Tree Protection Methodology: Tree Trimming / Removal

- 7.24 All tree removals and tree pruning must be completed by a Council Approved arborist in accordance with accepted best practice methodologies.
- 7.25 All removals must ensure that adjacent vegetation, including root zones are not damaged or subject to mechanical compaction, including restricting vehicle access and use of track mats or similar ground protection.

Best practises for preventing the spread of kauri dieback disease caused by *Phytophthora agathidicida* shall be adhered to when working within close proximity of New Zealand kauri (*Agathis australis*)

- a) Ensure that all equipment to be used on site has been thoroughly cleaned of any soil and associated material potentially carrying kauri dieback before it enters site.
- b) Where works are to occur within three times the radial spread of a kauri, all equipment and machine including but not limited to hand tools, excavator buckets, tracks and attachments to be sprayed with Trigene disinfectant before and after excavations.
- c) Excess excavated material in some instances can be used on site e.g. behind retaining walls. As long as this material is not distributed widely over the site.
- d) Any excess excavated material that cannot be used on site within three times the radial spread of a kauri must be taken from site and disposed of at an approved landfill.
- e) Where works occur within three times the radial spread of a kauri, arboricultural monitoring is required to ensure that best practises have been adhered to.

8.0 RECOMMENDED CONDITIONS OF CONSENT

- 8.1 All works associated with the proposed Tamaki Paths Project should be carried out in accordance with the Arboricultural Assessment report *GreensceneNZ Ltd*, dated 21 July 2017, submitted with the application.
- 8.2 Protected trees and vegetation should be protected from damage for the duration of the works. This is to be achieved by compliance with the Tree Protection Methodology provided in Sections 7.0 of the Arboricultural Assessment report by *GreensceneNZ Ltd* dated 21 July 2017.

- 8.3 The consent holder shall employ an arborist (appointed arborist) to monitor, direct and supervise all works within the protected root zone of all protected vegetation for the duration of the works.
- 8.4 All tree removals and pruning shall be undertaken by Council approved arborists in accordance with arboricultural best practices.
- 8.5 Prior to works commencing there shall be a pre-commencement meeting on site with the consent holder, the project manager/site foreman and the consent holder's appointed monitoring arborist. This meeting shall discuss the proposed work, how it is to be done, conditions of consent, tree protection, protective fencing requirements and installation.
- 8.6 The relevant Council Arborists responsible for the tree asset shall be invited to the pre-start meeting. The consent holder shall give Council's Arborists ten (10) working days prior notice of the intended date of the meeting.
- 8.7 All works within the protected root zone of notable and protected trees shall be in accordance and consistent with the written approvals and recommendations provided by Mr Simon Cook and Mr Nick Stott.
- 8.8 The consent holder should ensure that all contractors, sub-contractors and work site supervisory staff who are carrying out works covered by this consent are advised of the conditions of consent should be available at all times on the work site when works are occurring.
- 8.9 A copy of the resource consent and Arboriculture Assessment report by *GreensceneNZ Ltd* dated 21 July 2017 submitted with the application shall be available at all times on the work site.
- 8.10 The mitigation measures described at section 6.0 of the submitted Arboricultural Assessment report by *GreensceneNZ Ltd* dated 21 July 2017 are to be completed in accordance with the conditions imposed in the report by *Morphum Environmental Limited*.

9.0 CONCLUSION

- 9.1 The proposed works involve the construction of a network of approximately 3.9 kilometres of paths within Auckland Council reserves along the coastal fringes between Panmure wharf, Point England Reserve and Wai O taiki Bay.
- 9.2 In order to complete the path project works will be required within the protected root zone of protected and notable trees. A number of trees have also been identified for pruning and /or removal to provide the necessary access for construction and path users.
- 9.3 The proposed works have the potential to adversely affect the health, structure and lifespan of the trees. The tree protection methodology has been developed to

minimise the impact of the path project on protected and notable trees. It is considered that if the works are carried out in accordance with this report the impact on the tree asset can be minimised.

APPENDIX A - WAI O TAIKI TO POINT ENGLAND CAR PARK (NORTH)

Tree No.	Species	General Health & Structure	Dimensions			Comments	Proposed works
	Common name (Botanical name)		Height (m)	Girth (mm)	C/S (PRZ)(m)		
1	Monterey pine (<i>Pinus radiata</i>)	Poor	18	3000	18	Group of trees part of historic shelter belt present in the 1940s.	Potential for an access way to be formed from Kotae Road within the PRZ for temporary access for bridge construction. Retain and protect.
2	3 x Monterey pine (<i>Pinus radiata</i>) Monterey cypress (<i>Cupressus macrocarpa</i>)	Fair	Up to 14	*	*	Group of trees part of historic shelter belt present in the 1940s.	Potential for an access way to be formed from Kotae Road within the PRZ for temporary access for bridge construction. Retain and protect.
3	3 x pohutukawa (<i>Metrosideros excelsa</i>) karamu (<i>Coprosma robusta</i>)	Good	Up to 4	*	*	Group of semi mature trees planted on slumping bank.	Potential for an access way to be formed from Kotae Road within the PRZ for temporary access for bridge construction. Retain and protect.
4	karamu (<i>Coprosma robusta</i>) karo (<i>Pittosporum crassifolium</i>)	Good	Up to 4	*	*	Group of semi mature trees growing on the western side of bridge. Large old poplar log lying near track.	Potential for an access way to be formed from Kotae Road within the PRZ for temporary access for bridge construction. Retain and protect.



Tree No.	Species	General Health & Structure	Dimensions			Comments	Proposed works
	Common name (Botanical name)		Height (m)	Girth (mm)	C/S (PRZ)(m)		
5	karamu (<i>Coprosma robusta</i>)	Good	Up to 4	*	*	Group of semi mature trees growing on the eastern side of bridge.	Potential for an access way to be formed from Kotae Road within the PRZ for temporary access for bridge construction. Minor pruning required. Retain and protect.
6	totara (<i>Podocarpus totara</i>)	Good	4	800	4	Good specimen growing on the eastern side of existing path.	Potential for an access way to be formed from Kotae Road within the PRZ for temporary access for bridge construction. Retain and protect.
7	totara (<i>Podocarpus totara</i>)	Good	5	1000	5	Good specimen growing on the eastern side of existing path. Large exposed surface roots growing through path.	Potential for an access way to be formed from Kotae Road within the PRZ for temporary access for bridge construction. Retain and protect.
8	pohutukawa (<i>Metrosideros excelsa</i>)	Good	4	1500	4	Good specimen growing on the western side of existing path.	Potential for an access way to be formed from Kotae Road within the PRZ for temporary access for bridge construction. Retain and protect.
9	pohutukawa (<i>Metrosideros excelsa</i>)	Good	6	2000	6	Good specimen growing on the western side of existing path.	Potential for an access way to be formed from Kotae Road within the PRZ for temporary access for bridge construction. Retain and protect.
10	pohutukawa (<i>Metrosideros excelsa</i>)	Good	5	1600	5	Good specimen growing on the eastern side of existing path.	Potential for an access way to be formed from Kotae Road within the PRZ for temporary access for bridge construction. Retain and protect.



Tree No.	Species	General Health & Structure	Dimensions			Comments	Proposed works
	Common name (Botanical name)		Height (m)	Girth (mm)	C/S (PRZ)(m)		
11	Monterey cypress (<i>Cupressus macrocarpa</i>)	Fair	16	2500	24	Fair specimen growing on the eastern side of existing path overhanging estuary.	Potential for an access way to be formed from Kotae Road within the PRZ for temporary access for bridge construction. Retain and protect.
12	Monterey cypress (<i>Cupressus macrocarpa</i>)	Fair	18	5000	22	Fair specimen growing on the eastern side of existing path overhanging estuary.	Potential for an access way to be formed from Kotae Road or Kiano Place within the PRZ for temporary access for bridge construction and to form new path. Fill proposed to be placed within the PRZ. Retain and protect.
13	pohutukawa (<i>Metrosideros excelsa</i>)	Good	6	2000	6	Good specimen growing on the western side of existing path.	Potential for an access way to be formed from Kotae Road or Kiano Place within the PRZ for temporary access for bridge construction and excavations and fill to form new path. Retain and protect.
14	karo (<i>Pittosporum crassifolium</i>)	Good	Up to 3	*	*	Small newly established plants.	Should remain unaffected. Retain and protect.
15	pohutukawa (<i>Metrosideros excelsa</i>)	Fair	6	2300	6	Fair specimen growing on the eastern side of existing path.	Potential for an access way to be formed from Kotae Road or Kiano Place within the PRZ for temporary access for bridge construction and excavations and fill to form new path. Retain and protect.



Tree No.	Species	General Health & Structure	Dimensions			Comments	Proposed works
	Common name (Botanical name)		Height (m)	Girth (mm)	C/S (PRZ)(m)		
16	pohutukawa (<i>Metrosideros excelsa</i>)	Fair	5	2500	8	Fair spreading specimen growing on the eastern side of existing path.	Potential for an access way to be formed within PRZ for temporary access for bridge construction and excavations and fill to form new path. Remove and replace if necessary to facilitate works.
17	pohutukawa (<i>Metrosideros excelsa</i>)	Good	5	1100	7	Fair specimen growing on the eastern side of existing path.	Potential for an access way to be formed within PRZ for temporary access for bridge construction and excavations and fill to form new path. Remove and replace if necessary to facilitate works.
18	pohutukawa (<i>Metrosideros excelsa</i>)	Fair	5	2500	6	Fair specimen growing on the western side of existing path.	Potential for an access way to be formed within PRZ for temporary access for bridge construction and excavations and fill to form new path. Remove and replace if necessary to facilitate works.
19	pohutukawa (<i>Metrosideros excelsa</i>)	Good	6	2200	6	Fair specimen growing on the western side of existing path.	Potential for an access way to be formed within PRZ for temporary access for bridge construction and excavations and fill to form new path. Minor pruning required. Retain and protect.



Tree No.	Species	General Health & Structure	Dimensions			Comments	Proposed works
	Common name (Botanical name)		Height (m)	Girth (mm)	C/S (PRZ)(m)		
20	3 x ti kouka (<i>Cordyline australis</i>)	Good	Up to 4	*	*	Good specimens growing on the western side of existing path.	Potential for an access way to be formed within PRZ for temporary access for bridge construction and excavations and fill to form new path. Retain and protect.
21	pohutukawa (<i>Metrosideros excelsa</i>)	Good	6	2300	6	Fair specimen growing on the western side of existing path.	Potential for an access way to be formed within PRZ for temporary access for bridge construction and excavations and fill to form new path. Retain and protect. Remove adjacent tree privet.
22	Mix of native and exotic species including but not limited to :- mapou (<i>Myrsine australis</i>) karamu (<i>Coprosma</i> spp.) hebe (<i>Veronica stricta</i>) ti kouka (<i>Cordyline australis</i>) karo (<i>Pittosporum crassifolium</i>) Japanese spindle (<i>Euonymus japonicus</i>) hawthorn (<i>Crataegus monogyna</i>)	*	Up to 6	*	*	Various species growing on northern Omaru Stream bank	Vegetation is proposed to be removed up to an 8m wide footprint on the northern side of Omaru Stream to form temporary access to construct Omaru Bridge. Remove where necessary to facilitate works.



Tree No.	Species	General Health & Structure	Dimensions			Comments	Proposed works
	Common name (Botanical name)		Height (m)	Girth (mm)	C/S (PRZ)(m)		
23	karo (<i>Pittosporum crassifolium</i>)	Good	6	1600	4	Fine specimen growing near edge of Omaru Stream with a large mapou.	Retain and protect.
24	Mix of native and exotic species including but not limited to :- karamu (<i>Coprosma</i> spp.) karo (<i>Pittosporum crassifolium</i>) kawakawa (<i>Piper excelsum</i>) tree privet (<i>Ligustrum lucidum</i>) locust (<i>Robinia pseudoacacia</i>) African boxthorn (<i>Lycium ferocissimum</i>)	*	Up to 6	*	*	Various species growing on Southern Omaru Stream bank	Vegetation is proposed to be removed up to an 8m wide footprint on the southern side of Omaru Stream to form temporary access to construct Omaru Bridge. Remove where necessary to facilitate works.
25	brush wattle (<i>Paraserianthes lophantha</i>)	*	Up to 6	*	*	A number of failing exotic pest plants on eastern side of the existing path.	Remove where necessary to facilitate works.
26	pohutukawa (<i>Metrosideros excelsa</i>)	Good	*	*	*	Group of pohutukawa growing on the estuary fringe. Large roots observed extending towards proposed path alignment.	Retain and protect all roots.
27	ngaio (<i>Myoporum laetum</i>)	Good	5	2000	12	Fine specimen growing on the eastern side of the existing path.	Prune to allow access. Retain and protect.



Tree No.	Species	General Health & Structure	Dimensions			Comments	Proposed works
	Common name (Botanical name)		Height (m)	Girth (mm)	C/S (PRZ)(m)		
28	brush wattle (<i>Paraserianthes lophantha</i>)	*	Up to 6	*	*	A number of failing exotic pest plants on eastern side of the existing path.	Remove where necessary to facilitate works.
29	ngaio (<i>Myoporum laetum</i>)	Good	5	1800	8	Fine specimen growing on the eastern side of the existing path.	Prune to allow access. Retain and protect.
30	karamu (<i>Coprosma</i> spp.)	Good	Up to 4	*	*	Group of semi mature trees growing on the eastern side of the existing path.	Prune to allow access. Retain and protect.
31	2 x ngaio (<i>Myoporum laetum</i>)	Good	Up to 5	*	*	Good specimens growing on the eastern side of the existing path.	Prune to allow access. Retain and protect.
32	5 x pohutukawa (<i>Metrosideros excelsa</i>)	Good	Up to 4	*	*	Good semi juvenile specimens growing on the western side of the existing path.	Tree located a sufficient distance from the proposed works. Retain and protect.
33	gum (<i>Eucalyptus</i> spp.)	Good	16	2000	18	Good specimen growing within park near car park.	Excavation within the PRZ to widen path. Retain and protect.
34	Norfolk Island Pine (<i>Araucaria heterophylla</i>)	Good	14	1800	12	Good specimen growing within park near car park.	Excavation within the PRZ to widen path. Retain and protect.
35	gum (<i>Eucalyptus</i> spp.)	Good	20	1950	20	Good specimen growing within park near car park.	Excavation within the PRZ to widen path. Retain and protect.
36	Silver dollar gum (<i>Eucalyptus cinerea</i>)	Good	18	3900	20	Good specimen growing within park near car park.	Excavation within the PRZ to widen path. Retain and protect.

APPENDIX B - POINT ENGLAND CAR PARK TO PANMURE WHARF (SOUTH)

Tree No.	Species	General Health & Structure	Dimensions			Comments	Proposed works
	Common name (Botanical name)		Height (m)	Girth (mm)	C/S (PRZ)(m)		
1	English oak (<i>Quercus robur</i>)	Good	5	1200	6	Good specimen growing on edge of coastal bank.	Excavation within the PRZ to form path. Retain and protect.
2	ti kouka (<i>Cordyline australis</i>) harakeke (<i>Phormium tenax</i>)	Good	Up to 4	*	*	Good specimens growing on edge of coastal bank.	Excavation within the PRZ to form path. Retain and protect.
3	7 x pohutukawa (<i>Metrosideros excelsa</i>)	Fair	Up to 8	*	*	Fair specimens that are partially owned by the Council and private property owners with a fence through the trees trunks.	Excavation within the PRZ to form path. Build on grade where possible. Retain and protect.
4	willow myrtle (<i>Agonis flexuosa</i>)	Fair	6	2500	12	Fair specimen overhanging park from private property.	Excavation within the PRZ to form path. Canopy lift to avoid conflict with path. Retain and protect.
5	pohutukawa (<i>Metrosideros excelsa</i>)	Fair	13	> 30 stems > 100	25	Large multiple stem notable specimen growing within private property that was present on site in 1940.	Excavation within the PRZ to form boardwalk. Canopy lift to avoid conflict with path. Refer to Section 5 and Appendix E & F for further information. Retain and protect.
6	Norfolk Island Pine (<i>Araucaria heterophylla</i>)	Good	20	3000	18	Good specimen growing in park.	Excavation to form path should be outside the PRZ. Retain and protect.



Tree No.	Species	General Health & Structure	Dimensions			Comments	Proposed works
	Common name (Botanical name)		Height (m)	Girth (mm)	C/S (PRZ)(m)		
7	Norfolk Island Pine (<i>Araucaria heterophylla</i>)	Fair	18	2500	12	Good specimen with multiple leaders growing in park.	Excavation to form path should be outside the PRZ. Retain and protect.
8	pohutukawa (<i>Metrosideros excelsa</i>)	Good	5	1500	6	Good specimen growing on the western side of proposed Dunkirk bridge alignment.	Excavation to form path should be outside the PRZ. Retain and protect.
9	pohutukawa (<i>Metrosideros kermadecensis</i>)	Fair	3	1500	3	Fair specimen growing on the eastern side of proposed Dunkirk bridge alignment.	Excavation to form path should be outside the PRZ. Retain and protect.
10	pohutukawa (<i>Metrosideros excelsa</i>)	Good	5	1500	5	Good specimen growing on the western side of proposed Dunkirk bridge alignment.	Excavation to form path should be outside the PRZ. Retain and protect.
11	pohutukawa (<i>Metrosideros excelsa</i>)	Good	4	1600	6	Good specimen growing on the western side of proposed Dunkirk bridge alignment.	Excavation to form path should be outside the PRZ. Retain and protect.
12.1	Tasmanian ngaio (<i>Myoporum insulare</i>)	Fair	8	2350	14	Good specimen growing on the western side of proposed Dunkirk bridge alignment.	Excavation to form path should be outside the PRZ. Retain and protect.
12.2	karaka (<i>Corynocarpus laevigatus</i>)	Fair	8	1100	10	Good specimen growing on the western side of proposed Dunkirk bridge alignment.	Excavation within the PRZ to form path. Retain and protect.



Tree No.	Species	General Health & Structure	Dimensions			Comments	Proposed works
	Common name (Botanical name)		Height (m)	Girth (mm)	C/S (PRZ)(m)		
13	Titoki (<i>Alectryon excelsus</i>)	Poor	4	*	*	Very poor specimen that has failed and breaking apart.	Excavation to form path should be outside the PRZ. Retain and protect.
14	Norfolk Island Pine (<i>Araucaria heterophylla</i>)	Fair	8	2000	8	Fair specimen with large mechanical wound growing on the western side of the proposed path.	Excavation to form path should be outside the PRZ. Retain and protect.
15	pohutukawa (<i>Metrosideros excelsa</i>)	Good	6	3000	13	Good specimen growing near estuary edge.	Excavation to form path should be on the edge of the PRZ but roots are anticipated to extend some distance on the landward side. Retain and protect.
16	2 x pohutukawa (<i>Metrosideros excelsa</i>)	Fair	Up to 6	*	*	Fair specimens growing near estuary edge.	Excavation to form path should be on the edge of the PRZ but roots are anticipated to extend some distance on the landward side. Retain and protect.
17	pohutukawa (<i>Metrosideros excelsa</i>)	Fair	6	2200	10	Good specimen growing near estuary edge.	Excavation to form path should be on the edge of the PRZ but roots are anticipated to extend some distance on the landward side. Retain and protect.
18	2 x pohutukawa (<i>Metrosideros excelsa</i>)	Fair	Up to 10	*	*	Good specimen growing near estuary edge.	Excavation to form path should be on the edge of the PRZ but roots are anticipated to extend some distance on the landward side. Retain and protect.



Tree No.	Species	General Health & Structure	Dimensions			Comments	Proposed works
	Common name (Botanical name)		Height (m)	Girth (mm)	C/S (PRZ)(m)		
19-23	Mexican fan palm (<i>Washingtonia robusta</i>)	Good	Up to 15	Up to 2000	Up to 4	Good specimens growing on the eastern side of road bollards.	Excavations to form new path in the PRZ. Reduce width to 2.5m if required. Retain and protect.
24	Norfolk Island Pine (<i>Araucaria heterophylla</i>)	Good	22	2000	18	Large mature specimen.	Excavations to form new path in the PRZ. Reduce width to 2.5m if required. Retain and protect.
25	Norfolk Island Pine (<i>Araucaria heterophylla</i>)	Good	22	2500	20	Large mature specimen.	Excavations to form new path on the edge of the PRZ. Retain and protect.
26	pohutukawa (<i>Metrosideros excelsa</i>)	Good	5	2500	10	Good specimen growing near estuary edge.	Excavation to form path should be on the edge of the PRZ but roots are anticipated to extend some distance on the landward side. Retain and protect.
27	pohutukawa (<i>Metrosideros excelsa</i>)	Good	7	2800	12	Good specimen growing near estuary edge.	Excavation to form path should be on the edge of the PRZ but roots are anticipated to extend some distance on the landward side. Retain and protect.
28.1	Monterey pine (<i>Pinus radiata</i>)	Fair	19	5900	27	Fair specimens growing between car park access and estuary edge. Group of trees part of historic shelter belt present in the 1940s.	Excavations to form new path and re configure access way within the PRZ. The path alignment to be shifted westward to avoid roots. Multiple failures in canopy identified including cracks in stems and large hangers. Retain and protect.



Tree No.	Species	General Health & Structure	Dimensions			Comments	Proposed works
	Common name (Botanical name)		Height (m)	Girth (mm)	C/S (PRZ)(m)		
28.2	Monterey pine (<i>Pinus radiata</i>)	Fair	18	3000	20	Fair specimens growing between car park access and estuary edge. Group of trees part of historic shelter belt present in the 1940s.	Excavations to form new path and re configure access way within the PRZ. The path alignment to be shifted westward to avoid roots. Retain and protect.
28.3	Monterey pine (<i>Pinus radiata</i>)	Fair	14	2100	15	Fair specimens growing between car park access and estuary edge. Group of trees part of historic shelter belt present in the 1940s.	Excavations to form new path and re configure access way within the PRZ. The path alignment to be shifted westward to avoid roots. Retain and protect.
29	karo (<i>Pittosporum crassifolium</i>) & ngaio (<i>Myoporum insulare</i>)	Good	Up to 4	*	*	Group of vegetation growing on coastal bank beneath and surrounding gums.	Excavations within the PRZ to construct 2.5m boardwalk behind rugby club. Pruning required to facilitate works and provide access. Retain and protect.
30.1	gum (<i>Eucalyptus</i> spp.)	Fair-Poor	21	2300	24	Large specimens growing on coastal bank.	Excavations within the PRZ to construct 2.5m boardwalk and reconstruct boundary fence behind rugby club. Retain and protect.
30.2	gum (<i>Eucalyptus</i> spp.)	Fair-Poor	21	3800	24	Large specimens growing on coastal bank.	Excavations within the PRZ to construct 2.5m boardwalk and reconstruct boundary fence behind behind rugby club. Retain and protect.
31	pohutukawa (<i>Metrosideros excelsa</i>)	Good	6	1000	8	Good multi stemmed specimen.	Excavations within the PRZ to construct 2.5m boardwalk. Retain and protect.



Tree No.	Species	General Health & Structure	Dimensions			Comments	Proposed works
	Common name (Botanical name)		Height (m)	Girth (mm)	C/S (PRZ)(m)		
32	karo (<i>Pittosporum crassifolium</i>)	Poor	4	*	*	Poor specimen growing within the alignment of path.	Remove.
33	pohutukawa (<i>Metrosideros excelsa</i>)	Good	9	2800	12	Good multi stemmed specimen.	Excavations on the edge of PRZ to form new path. Retain and protect.
34	pohutukawa (<i>Metrosideros excelsa</i>)	Good	9	3500	12	Good multi stemmed specimen.	Excavations on the edge of PRZ to form new path. Retain and protect.
35	pohutukawa (<i>Metrosideros excelsa</i>)	Good	9	4000	9	Good multi stemmed specimen.	Excavations on the edge of PRZ to form new path. Retain and protect.
36	pohutukawa (<i>Metrosideros excelsa</i>)	Good	8	2000	9	Good multi stemmed specimen.	Excavations on the edge of PRZ to form new path. Retain and protect.
37	pohutukawa (<i>Metrosideros excelsa</i>)	Good	9	3000	10	Good multi stemmed specimen.	Excavations on the edge of PRZ to form new path. Retain and protect.
38	pohutukawa (<i>Metrosideros excelsa</i>)	Fair	8	1200	6	Fair single stem specimen.	Excavations on the edge of PRZ to form new path. Retain and protect.
39	pohutukawa (<i>Metrosideros excelsa</i>)	Fair	8	2000	10	Multi stemmed specimen generally in good health despite a few areas of crown dieback.	Excavations on the edge of PRZ to form new path. Retain and protect.
40	pohutukawa (<i>Metrosideros excelsa</i>)	Good	8	2000	8	Multi stemmed specimen generally in good health.	Excavations on the edge of PRZ to form new path. Retain and protect.
41	pohutukawa (<i>Metrosideros excelsa</i>)	Fair	7	2600	10	Multi stemmed specimen generally in good health despite a few areas of crown dieback.	Excavations on the edge of PRZ to form new path. Retain and protect.



Tree No.	Species	General Health & Structure	Dimensions			Comments	Proposed works
	Common name (Botanical name)		Height (m)	Girth (mm)	C/S (PRZ)(m)		
42	pohutukawa (<i>Metrosideros excelsa</i>)	Fair	8	3000	10	Multi stemmed specimen generally in good health despite a few areas of crown dieback.	Excavations on the edge of PRZ to form new path. Retain and protect.
43	pohutukawa (<i>Metrosideros excelsa</i>)	Fair	6	2600	10	Multi stemmed specimen of typical form. Structural sub surface roots visible.	Excavations on the edge of PRZ to form new path. Retain and protect.
44	pohutukawa (<i>Metrosideros excelsa</i>)	Good	7	3000	12	Multi stemmed specimen generally in good health.	Excavations on the edge of PRZ to form new path. Retain and protect.
45	pohutukawa (<i>Metrosideros excelsa</i>)	Poor	8	3000	10	Multi stemmed specimen in poor health. Crown with die back likely associated with pooling water.	Excavations on the edge of PRZ to form new path. Retain and protect.
46	pohutukawa (<i>Metrosideros excelsa</i>)	Poor	6	1600	6	Multi stemmed specimen in poor health. Crown with die back likely associated with pooling water.	Excavations on the edge of PRZ to form new path. Retain and protect.
47	pohutukawa (<i>Metrosideros excelsa</i>)	Poor	6	1600	10	Multi stemmed specimen in poor health. Crown with die back likely associated with pooling water.	Excavations on the edge of PRZ to form new path. Retain and protect.
48	pohutukawa (<i>Metrosideros excelsa</i>)	Fair	5	1000	6	Multi stemmed specimen in fair health. Crown confined to the upper section of the tree.	Excavations on the edge of PRZ to form new path. Retain and protect.
49	pohutukawa (<i>Metrosideros excelsa</i>)	Fair	7	1600	8	Multi stemmed specimen in fair health.	Excavations on the edge of PRZ to form new path. Retain and protect.



Tree No.	Species	General Health & Structure	Dimensions			Comments	Proposed works
	Common name (Botanical name)		Height (m)	Girth (mm)	C/S (PRZ)(m)		
50	pohutukawa (<i>Metrosideros excelsa</i>)	Good	8	1800	8	Multi stemmed specimen in good health.	Excavations on the edge of PRZ to form new path. Retain and protect.
51	pohutukawa (<i>Metrosideros excelsa</i>)	Good	9	2000	10	Multi stemmed specimen in good health.	Excavations on the edge of PRZ to form new path. Retain and protect.
52	pohutukawa (<i>Metrosideros excelsa</i>)	Good	8	2500	10	Single stemmed specimen in good health.	Excavations on the edge of PRZ to form new path. Retain and protect.
53	pohutukawa (<i>Metrosideros excelsa</i>)	Good	9	3000	14	Multi stemmed specimen in good health.	Excavations within the PRZ to form new path. Minor canopy lift pruning may be required. Retain and protect.
54	pohutukawa (<i>Metrosideros excelsa</i>)	Good	8	2000	9	Multi stemmed specimen in good health.	Excavations within the PRZ to form new path. Minor canopy lift pruning may be required. Retain and protect.
55	pohutukawa (<i>Metrosideros excelsa</i>)	Good	10	3000	11	Multi stemmed specimen in good health.	Excavations within the PRZ to form new path. Minor canopy lift pruning may be required. Retain and protect.
56	2 x pohutukawa (<i>Metrosideros excelsa</i>)	Good	Up to 6	Up to 3000	Total 26	Good specimens growing near shoreline.	Excavations on the edge of PRZ to form new path. Minor canopy lift pruning may be required. Retain and protect.
57	2 x pohutukawa (<i>Metrosideros excelsa</i>)	Good	Up to 6	Up to 2800	Total 20	Good specimens growing near shoreline.	Excavations on the edge of PRZ to form new path. Minor canopy lift pruning may be required. Retain and protect.



Tree No.	Species	General Health & Structure	Dimensions			Comments	Proposed works
	Common name (Botanical name)		Height (m)	Girth (mm)	C/S (PRZ)(m)		
58	pohutukawa (<i>Metrosideros excelsa</i>)	Good	7	3500	18	Good specimen growing on western side of proposed alignment.	Excavations on the edge of PRZ to form new path. Retain and protect.
59	pohutukawa (<i>Metrosideros excelsa</i>)	Good	7	1000	6	Good single stem specimen on the shoreline side of the proposed path. Associated with karo and flax.	Excavations on the edge of PRZ to form new path. Retain and protect.
60	pohutukawa (<i>Metrosideros kermadecensis</i>)	Good	6	3500	15	Good specimen growing on western side of proposed alignment.	Excavations on the edge of PRZ to form new path. Retain and protect.
61	pohutukawa (<i>Metrosideros excelsa</i>)	Good	6	2500	14	Good specimen growing with in private property overhanging the proposed path alignment.	Excavations on the edge of PRZ to form new path. Retain and protect.
62	English oak (<i>Quercus robur</i>)	Good	8	2000	16	Good specimen growing on southern side of proposed alignment.	Excavations on the edge of PRZ to form new path. Retain and protect.
63	willow myrtle (<i>Agonis flexuosa</i>)	Fair	6	1800	6	Fair specimen growing within the proposed path footprint.	Remove and replace to facilitate works.
64	pohutukawa (<i>Metrosideros excelsa</i>)	Good	6	2000	8	Good specimen growing on southern side of proposed alignment.	Excavations within the PRZ to form new path. Build on grade where possible. Retain and protect.
65	4 x willow myrtle (<i>Agonis flexuosa</i>)	Fair-Poor	Up to 6	Up to 2500	Up to 6	Group of relatively poor specimens.	Excavations within the PRZ to form new path. Retain and protect.



Tree No.	Species	General Health & Structure	Dimensions			Comments	Proposed works
	Common name (Botanical name)		Height (m)	Girth (mm)	C/S (PRZ)(m)		
66	2 x kanuka (<i>Kunzea robusta</i>) karo (<i>Pittosporum crassifolium</i>) Bull bay (<i>Magnolia grandifolia</i>) taupata (<i>Coprosma repens</i>)	Fair	Up to 6	*	*	Group of specimen and self seeded trees and shrubs.	Should remain unaffected by the proposed works. Retain and protect.
67	English oak (<i>Quercus robur</i>)	Good	20	4000	30	Large fine notable specimen.	The tree should remain unaffected by the proposed works. Potential conflict if the existing access is utilised for construction works. Retain and protect.
68	5 x English oak (<i>Quercus robur</i>)	Fair	Up to 12	Up to 3000	Total 30	Group of specimens near existing asphalt access way.	The trees should remain unaffected by the proposed works. Potential conflict if the existing access is utilised for construction works. Retain and protect.
69	kauri (<i>Agathis australis</i>)	Good	6	1000	5	Good specimen growing within open area of reserves north of access road.	Excavations on the edge of PRZ to form new path. Hygiene procedures to be implemented by the appointed arborist. Retain and protect.
70	tulip (<i>Liriodendron tulipifera</i>)	Good	10	2000	14	Good specimen growing on the southern side of access way.	Excavations within the PRZ to form new path. Retain and protect.



Tree No.	Species	General Health & Structure	Dimensions			Comments	Proposed works
	Common name (Botanical name)		Height (m)	Girth (mm)	C/S (PRZ)(m)		
71	3 x pohutukawa (<i>Metrosideros excelsa</i>)	Good	Up to 8	Up to 2800	Total 40	Group of good specimens growing between the existing access way and playground.	Excavations within the PRZ to form new path. Retain and protect.
72	<i>Corkia</i> spp. hedge	*	Up to 4	*	*	Hedge on southern side of existing access way.	Excavations within the PRZ to form new path. Retain and protect.
73	karo (<i>Pittosporum crassifolium</i>) 2 x karaka (<i>Cornynocarpus laevigatus</i>)	Good	Up to 5	Up to 2000	Total 12	Group of good specimens growing on the northern edge of the existing access way.	Excavations within the PRZ to form new path. Retain and protect.
74	pohutukawa (<i>Metrosideros kermadecensis</i>)	Good	6	4000	26	Group of good specimens growing between the existing access way and playground.	Excavations within the PRZ to form new path. Retain and protect.

APPENDIX C - TREE LOCATION PLAN (NORTH)



R14507 - Arboricultural Assessment - July17



R14507 - Arboricultural Assessment - July17



R14507 - Arboricultural Assessment - July17



R14507 - Arboricultural Assessment - July17

APPENDIX D - TREE LOCATION PLAN (SOUTH)





R14507 - Arboricultural Assessment - July17



R14507 - Arboricultural Assessment - July17



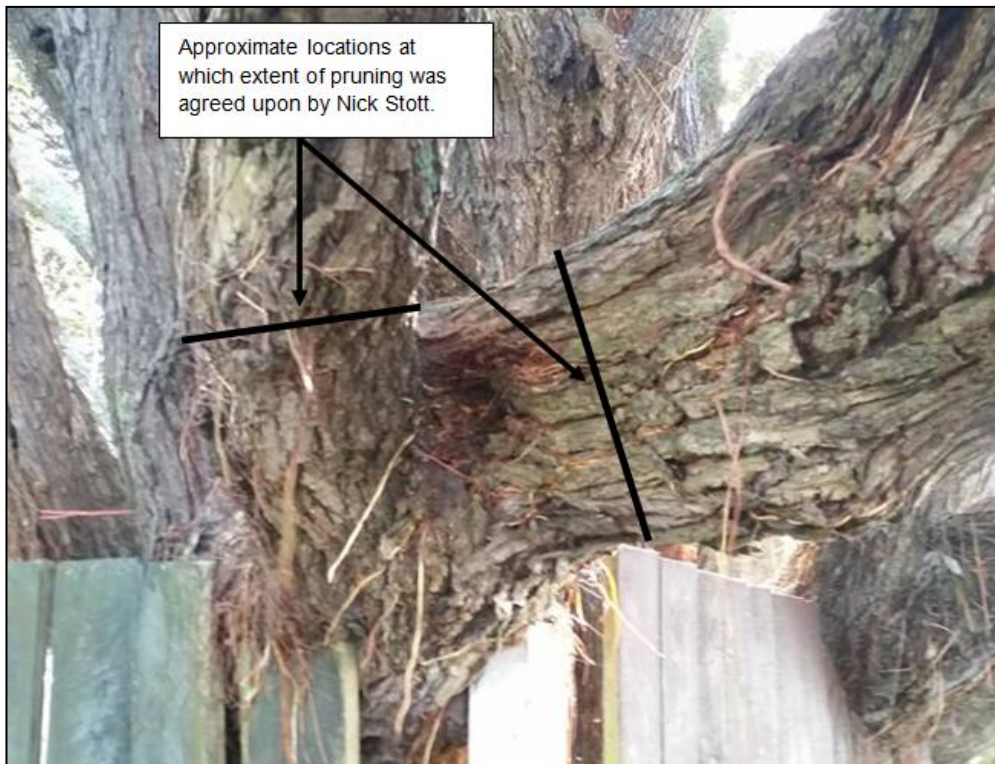
R14507 - Arboricultural Assessment - July17





R14507 - Arboricultural Assessment - July17

APPENDIX E - NOTABLE POHUTUKAWA



APPENDIX F - WRITTEN APPROVALS & RECOMMENDATIONS

From: Nick Stott [<mailto:Nick.Stott@aucklandcouncil.govt.nz>]
Sent: Monday, 24 July 2017 11:39 a.m.
To: Jack Warden; Simon Cook
Subject: RE: Tamaki Paths Project

Hi Jack,

I have been through the attached information. Please take this email as 'my support' for lodging a resource consent.

Please feel free to contact me if you require anything else at this stage.

Thanks Nick,

**Nick Stott | Heritage Arborist
Heritage**

Plans and Places

Chief Planning Office

Auckland Council

Mobile 021814729

Auckland Council, Level 23, 135 Albert St

Visit our website: www.aucklandcouncil.govt.nz



From: Simon Cook [<mailto:Simon.Cook@aucklandcouncil.govt.nz>]
Sent: Monday, 31 July 2017 10:56 a.m.
To: Jack Warden; Vandna Kirmani
Cc: Caleb Clarke; Clive Barnes
Subject: RE: Tree Asset Owner Approval Form - Tamaki Paths Project

Hi Jack,

As discussed on site, it is critical that we have an overview of the path construction on the landward side of the sea edge Pohutukawa. This geogrid network has been used in other sites where concrete is used, so could be added, but I'd like to see the final design prior to finalising construction methodology.

Obviously around the Rugby Club also needs more specific signoff, once finalised designs have come through.

Thanks Simon

Tree Asset Owner Approval – Application Form Community Facilities

Application Details – The following is to be completed for the assessment of the application

Site Details:	
Street address:	Refer to attached report/ plans
Park name and address:	Refer to attached report/plans
This Application Is For:	
<input checked="" type="checkbox"/>	Pruning works
<input checked="" type="checkbox"/>	Tree removal
<input checked="" type="checkbox"/>	Works in the rootzone – Please provide an appropriate tree protection methodology
<input type="checkbox"/>	Infrastructure works affecting Council trees
Scope of Works:	
Detailed description of works	Refer to: <ul style="list-style-type: none"> Arboricultural Assessment Tamaki Paths Project prepared by <i>GreensceneNZ Limited</i> dated July 17
Are you providing plans/reports/photos? (Yes or No)	Yes
Please list names of attachments if applicable	N/A – additional information provided in AEE prepared by GHD
Will the works impact public, park users, neighbours?	Yes
Describe mitigation methods – replanting, tree protection measures	Refer to: <ul style="list-style-type: none"> Arboricultural Assessment Tamaki Paths Project prepared by <i>GreensceneNZ Limited</i> dated July 17
Alternative Options Researched:	
Describe alternative options that have been explored:	N/A
Reason why alternative was dismissed:	N/A

Consent Details If Applicable:		
Resource consent No.	N/A	
Other Details:	N/A	
Applicant Details		
Name:	Vandna Kirmani	
Postal Address:	Auckland Council, Private Bag 92300, Wellesley Street West, Auckland 1142	
Contact:	Mobile:	021 225 4225
	Daytime Phone:	021 225 4225
Email:	vandna.kirmani@aucklandcouncil.govt.nz	
Applicant Signature		Date
		26/07/2017

Please submit completed application form along with relevant attachments via email to trees@aucklandcouncil.govt.nz

Please note that asset owner approval does not allow you to proceed until you have all relevant consent approvals required for your project.

Official Use Only

Asset owner approval is granted subject to the following conditions:

1. A copy of this form should be held onsite at all times throughout the duration of the works.

Approved By:

Signature

Name

Arboriculture & Eco Specialist
Operational Management & Maintenance
Community Facilities
Auckland Council

Simon Cook - additional comments as per email 31/7/2017