

**BEFORE THE NEW PLYMOUTH DISTRICT COUNCIL
INDEPENDENT HEARING COMMISSIONERS**

IN THE MATTER the Resource Management Act

AND

IN THE MATTER of a request for Private Plan Change NPDC PLC18/00048
by Oakura Farm Park Limited to rezone land at Oakura
within the New Plymouth District

STATEMENT OF EVIDENCE OF COLIN MICHAEL COMBER

LACHLAN MULDOWNEY
BARRISTER

P +64 7 834 4336 **M** +64 21 471 490

Office Panama House, 15 Grantham Street, Hamilton

Postal PO Box 9169, Waikato Mail Centre, Hamilton 3240

www.lachlanmuldowney.co.nz

Instructing Solicitor: Ellice Tanner Hart

INTRODUCTION

1. My full name is Colin Michael Comber. I reside in New Plymouth.
2. I act as the planning consultant and project manager for the applicant.
3. For the avoidance of doubt, I state that I am not a Director (or otherwise an officer) of the applicant company, Oakura Farm Park Limited, nor do I have a shareholding or any form of financial interest in the applicant company.

STATEMENT OF QUALIFICATIONS AND EXPERIENCE

4. I have over 30 years of experience in planning practice in local government in NZ. I have worked across most facets of resource management planning including urban and rural planning and resource management, assessment of environmental effects, assessment and recommendatory approval of subdivision and land-use consents, notices of requirement and outline plans, policy development and advice, plan writing, plan changes, special projects, and stakeholder and Iwi/Hapu consultation. At the commencement of my career I worked for several years as an environmental health officer in both central and local government. I have experience in a range of public health matters including public and domestic water supplies, wastewater, stormwater and environmental noise.
5. Up until June 2014 I worked for a period of some 20 years (1989 - 2001 and 2006 - 2014) with the New Plymouth District Council, the last five years as Manager Environmental Policy.

6. I have been a planning consultant (sole practitioner) on my own account since July 2014.
7. I hold the qualification of the NZ Certificate in Town Planning and have been a full member (MNZPI) of the New Zealand Planning Institute since 1989. I also hold Diplomas from the Royal Society of Health (RSH) in Public Health Inspection and Air Pollution Control.

INVOLVEMENT WITH THE SUBJECT SITE AND THE APPLICATION

8. I was engaged by Oakura Farm Park Ltd (OFPL), per director Mr Mike McKie, in January 2016 as planning consultant and project manager for this Private Plan Change Request. Since that time, I have visited the subject site several times, including with Mr Alan Doy, Registered Surveyor; Mr Richard Bain, Landscape Architect; Mr Andy Skerrett, Traffic Engineer; and Mr Kim Jansen, Civil Engineer, all of whom are providing expert evidence in support of the plan change application.
9. From my work as a planner with the New Plymouth District Council over an extended period of years I am familiar with and have an understanding, from an environmental, statutory planning and urban design perspective, of the Oakura township and its environs.
10. I developed and wrote the Request for Plan Change PLC18/00048 that is the subject of matter of this application and sourced, briefed and coordinated the inputs of the various expert reports and assessments that are included in the Request.
11. I facilitated the community engagement phase, facilitated the consultation with Mana Whenua (Ngati Tairi Hapu) and undertook an Assessment of the Plan Change Request against *Taiao Taiora*, the Taranaki Iwi Management Plan.

12. I have read and analysed all of the submissions to the Request, attended and participated in the five prehearing meetings and prepared the Applicant's Response to Further Actions Arising from the Prehearing Meetings. I have read the Council's s42A Report and will make response to it in my evidence.

CODE OF CONDUCT

13. I am familiar with the Code of Conduct for Expert Witnesses (Environment Court Consolidated Practice Note 2014) and I agree to comply with that code. The evidence I am presenting is within my area of expertise, except where I state that I am relying on evidence of another person. To the best of my knowledge I have not omitted to consider any material facts known to me that might alter or detract from the opinions I express.

SCOPE OF EVIDENCE

14. The basis for my evidence is founded in the Request document that is being considered by the Commission. I will restate the planning approach, purpose and reasons for the Request, and supplement with various material matters that have come to my attention since the lodgement of the Request in March 2018.
15. I concur with the primary issues identified in the Council's s42A Report¹ and will discuss these, along with other issues I consider relevant, within my evidence addressing technical and statutory matters, submitter concerns and mitigation measures.
16. I will discuss the recommended amendments to the Schedule of Changes Requested to the Operative District Plan

¹ Executive Summary pg.iii Para 1.9

17. A recap of the statutory considerations as included in the Request will also be made including discussion about the Application to vary Consent Notice 9696907 which requires a consequential determination by the Commission should the Request be approved in whole or in part.
18. I will conclude with an overall assessment of the Request and make recommendations having regard to the evidence now before the Commission.

SUMMARY OF EVIDENCE

19. The purpose of this Request is to rezone some 58ha of land at Oakura for residential and rural lifestyle living. Part of the land, which is located at the south eastern urban edge of the Oakura township has been identified in the Operative District Plan for future urban development (FUD). Having the land available in one ownership, with the owner having experience in urban and rural urban land development presents an almost unique opportunity in the District. The land is available, suitable and the urban expansion is logical. The proposal is timely, forward-looking, and can be staged to meet community needs over the long term.
20. The Request proposes the subdivision and development to be undertaken through the mechanism of a Structure Plan within the framework of the Operative District Plan. This will enable certainty of outcomes. The Structure Plan is based on a site-specific design-led approach utilising land beyond the FUD Area. This planning approach has resulted in a comprehensive and integrated urban design which addresses transportation connections and accessibility, provision for active modes (walking, cycling and equestrian), provision of infrastructure, the natural environment and rural lifestyle.

21. Technical investigations to assess site suitability for the proposed development have been undertaken. These assessments included ecology, archaeology, landscape and visual impact, suitability of ground conditions for development, availability of water supply and wastewater, stormwater disposal, traffic impact and noise attenuation of state highway traffic noise. Any issues in respect of ecology, archaeology, water, wastewater and stormwater noise and attenuation of state highway traffic noise are considered to be minor or less than minor and can be addressed through mitigations. Issues relating to landscape and visual impact, and traffic impact, have been identified by the Council's peer reviewers. The outcome of conferencing by the respective experts to agree on the assessment of issues and the proposing of mitigations is awaited.
22. Council estimates of lot yield on future growth land at Oakura have been examined and the information refined based on land contour data. This has resulted in a refinement of what was an overestimation. Using the same methodology, the lot yield for the proposed structure plan area has been revised down to 316 Residential lots. Rural lifestyle remains at 12-14 lots. Council's Technical Advice in respect of available water supply capacity has also been assessed. The Applicant's advisers have concluded there is sufficient proven aquifer capacity to service, with on-demand water supply, 248 residential lots within the Structure Plan Area. The remaining residential 68 lots and all the rural lifestyle lots could have their potable water supply meet from dwelling rainwater harvesting and storage. Council is schedule to investigate the availability of additional aquifer capacity over the next 2-3 years.
23. Submitters concerns have been carefully considered and mitigations proposed where appropriate. These include proposing local road access from SH45 and the bridal trail network being extended to the SH45/Wairau Rd intersection. Submitters concerns regarding increased stormwater discharge at the beach and lower lying sections in the vicinity suggest a pre-

existing issue with Council's stormwater network that discharges to a natural watercourse. Stormwater discharge to watercourses within the Structure Plan area will be attenuated with design for hydraulic neutrality at pre-development levels.

24. Tangata Whenua and Mana Whenua environmental and cultural interests have been recognised, taken into account and concerns responded to.
25. Having regard to the available evidence, an assessment of this Request against the provisions of Part 2 of the RMA leads me to conclude that the granting of approval is both appropriate and necessary to provide additional urban development capacity of serviced land for residential and lifestyle settlement at Oakura. The s42A Report, authored by Council officers recommends approval.

THE PLAN CHANGE REQUEST

Matters for Correction

26. As the author of the Plan Change Request, I wish to draw to the Commissions attention two matters touching on consideration of the application that require correction.
 - a) Section 1.5 - Application to Vary Consent Notice: pg. 9 – 3rd para where I describe the noise attenuation bund as being '2-4m in height'. This was an error and unfortunately has been quoted (and relied on) in the Council's s42A Report at pg. 43 Para 13.72.

Mr Ellerton, in his Acoustics Assessment dated 26 March 2017 (included in Appendix 10 of the Request) at page 6 talks of a height range at most of '2-3m' as one of three options. I defer to Mr Ellerton's statement, and any subsequent evidence he may give in respect of the height of the attenuation bund.

- b) Section 4.3.9.1 – NPS Urban Develop Capacity 2016: pg. 35 – 1st para. At the time of writing this section of the application, the New Plymouth District was a Medium Growth Area under the NPS UDC. Subsequently, and as correctly referenced in the Councils s42A Report, the New Plymouth District is now deemed to be a High Growth Area for the purposes of the NPS UDC.

S42A REPORT AND SUBMISSIONS

27. I have read the submissions and further submissions. I have carried out a high-level analysis, what I refer to as a 'distilled analysis', to assist in an understanding of the scope and frequency of the issues raised by the submitters. I have included this at **Appendices A1 and A2** attached. I will respond to the issues as I traverse my evidence identifying how the matters raised are proposed to be mitigated.
28. I have read the Councils s42A Report and will respond to various matters raised including the points of contention as I traverse my evidence and identify how various matters raised are proposed to be mitigated. I will also be proposing corrections and amendments to the Recommended Amendments to the Plan Change provisions as set out in Appendix 10 of the s42A Report.

PRIMARY ISSUES

The Planning Approach

29. The area subject to the Request comprises some 57.97ha owned by OFPL (being part of Lot 29 DP 497629) together with 1.309ha adjoining owned by Thurman and Williams (Lot 3 DP 21111) and 0.5094ha (Part Sections 14) owned by Powerco, giving a total of 57.97ha.²

² Request – Pg. 109, Appendix 11.2.1 – Yield Analysis

30. All of the described land is in the Operative District Plan (ODP) Rural Environment Area. All the Thurman and Powerco land and 12ha of the OFPL land has an ODP Future Urban Development (FUD) Overlay on it. The FUD Overlay determines that the land so classified has been identified within the ODP as a Future Urban Growth Area, that is, ‘...land identified for conversion to residential and industrial/commercial activity...’.³
31. The triangular shape of the 12ha FUD area within the OFPL land appears to have been done for ODP plan drafting convenience and does not take account of the topographical features or legal boundaries of the affected property. The Technical Assessment undertaken by Beca in 2008⁴ had the following to say about what has become the 12Ha Oakura FUD South area:

A.2.3.8 – Area H

In fact the proposed extended boundary is an artificial construct and perhaps 50 ha of the 82 ha property which includes Area J and extends inland from the State Highway is suitable for residential development. This covers land up to the 60 m contour above which water supply would require an additional reservoir. Any development proposal should have provision for extending the roading network beyond the presently proposed boundary.

32. With regard to ‘Area J’, this is an area of some 24 lots known as ‘The Paddocks’ that has subsequently been developed by the applicant as large lot residential commencing c2010.
33. Objective 23 of the ODP states:

That land identified for future urban use is comprehensively planned to facilitate an integrated approach to land development while addressing site specific issues to provide for accessible, connected, efficient, liveable communities and coherent urban spaces.

³ ODP – Vol. 1 pg. 126 – Issue 23 – 1st para.

⁴ Oakura Action Plan: Technical Appraisal October 2008 – Pg. 13

34. The awkward shape of the FUD Area does not readily lend itself to achieving Objective 23 on many levels; this is discussed in some detail in the Request.⁵ As quoted previously, this shape constraint was recognised by Beca in 2008 as was the suitability of the OFPL property for a more expansive residential development than contemplated by the Oakura Structure Plan 2006.
35. The constraints of the 12ha FUD area became apparent from early on in my engagement when I formed the view that the achievement of Objective 23 would be better obtained if a wider and more comprehensive approach was adopted in respect of the OFPL land, and particularly while the land was undivided and in one ownership, something possibly unique in the District in the particular circumstances applying. There are a number of examples within the District and indeed, Oakura itself, where sub-optimal urban development has occurred through successive ‘nibbling’ (by subdivision), particularly where land is in smaller greenfield lots and in multiple ownership. This has resulted in residential areas that fall short of the primary aim of Objective 23. This is particularly in evidence from the numerous cul de sacs through the Oakura urban area.
36. Statutory planning administrative efficiency has been a further consideration with the planning approach adopted. The comprehensive approach in dealing with the total OFPL site within a structure plan allows for the community to be informed with certainty of the long-term future of the site, provides a blueprint for its ultimate efficient development and will provide certainty over the long-term for the applicant. This approach will overcome the need for the inevitable repeated applications (? from successive owners) to the planning authority over time for an extension of urban settlement. This approach also overcomes the need for repetition of consultation and submission processes.

⁵ Request – Pg.23-30, S32 Evaluation Report

37. The comprehensive approach to deal with the whole OFPL in the one Request site has been given added validation by the policy signals provided by the Council in the release of the Draft District Plan in 2018 together with (at the time of preparing this evidence) the draft of the Council's Housing and Business Development Capacity Assessment March 2019. (HBA).
38. The HBA states at page 35 'Land in the Oakura (South) Growth Area that would have been challenging to develop for residential use has been removed under the Draft District Plan.' The Draft District Plan and Operative District Plan Growth Areas are shown in Figure 4.27 of the HBA - refer **Appendix B** hereto. The Growth Areas to be removed, as referred to in the Draft District Plan and the HBA are shown on the rendering of Operative District Planning Map A61 as shown in **Appendix C** appended to this evidence.

Appropriateness of Extent of Zoning and Suitability for Development

39. As illustrated on the marked-up ODP Planning Map A61 in attached **Appendix C**, the extent of the Further Urban Development Area to be rezoned from Rural FUD Environment Area to 'Rural Production', at 21.5Ha, is not insignificant. The Future Urban Growth (FUD) Areas in the ODP were initially identified in the Oakura Structure Plan 2006.⁶ As previously mentioned, these (now) FUD Areas were subject to technical appraisal, undertaken by Beca Consulting, in 2008. The Beca work identified that the Areas now proposed by the Council to be rezoned 'Rural Production' would be low yielding, had difficult topography, (and variously) restricted access, pa/waahi tapu sites and bush covenants and would also be difficult to service. The relevant map and commentary from the 2008 assessment is included in **Appendix D**. It is of interest to note that 'Area H', the proposed Wairau Estate (i.e. the subject site) was considered to have potential for extensive subdivision and by contrast to all the other areas so

⁶ Request – Pg76 – Appendix 2.1 Mapping

identified, including Area I now known as FUD West, there was no mention of any development constraints. In summary, as far back as 2008, the subject site was identified as being the greenfields area most suited for future urban growth at Oakura.

40. The Beca 2008 Technical Report noted that the area proposed in the 2006 Oakura Structure for future urban expansion, while greater in area than might otherwise be required based on historical demand and proffered that projecting future demand for land supply is inexact. Beca considered that, looking to the long-term, that the extent of the areas proposed for future urban growth was not unreasonable for longer term planning purposes. Refer **Appendix E** attached.
41. As identified in the Request document, the total area to be included in Wairau Estate is 57.97Ha.⁷ If the area to be zoned Rural Lifestyle is not included, i.e. 25.3Ha, the area to be zoned for urban use, i.e. Residential A, B & C, Open Space B and C and Business C within Wairau Estate will amount to 32.67Ha.
42. The combination of the 12Ha FUD area on the OFPL land (the subject site) together with the 21.5Ha FUD area that the Council proposes to revert to Rural Production zone as identified in the draft District Plan, amounts to 33.5Ha. The net result will be 1.17Ha less being available for future urban growth.
43. On balance, the land most suited to efficient urban expansion at Oakura, that is, the proposed Wairau Estate, will have been identified, and further, will be able to readily achieve the ODP's Objective 23, that is *'That land identified for future urban use is comprehensively planned to facilitate an integrated approach to land development while addressing site specific*

⁷ Request – Pg. 109 – Appendix 11.2.1

issues to provide for accessible, connected, efficient, liveable communities and coherent urban spaces.'

Residential Feasibility Assessment

44. I now draw the Commissions attention to Section 4.4 of Council's Housing HBA Assessment March 2019. In this section of the document the limitations of undertaking feasibility assessments are discussed. The document identifies that while significant work has gone into developing feasibility models tailored to New Plymouth's local housing market conditions the refining of feasibility modelling and ground truthing are necessary for results to be considered reliable. Section 4.4 of the HBA is included in **Appendix F** attached.
45. The work undertaken by Mr Alan Doy, Registered Surveyor, McKinlay Surveyors, as presented in his evidence is instructive. As he stated, Mr Doy carried out a yield analysis using NPDC digital ground contour information. This approach is one step removed from an actual on the ground topographical survey, approximates the 'ground truthing' discussed in the HBA and carries with it a greater degree of accuracy than the yield analysis given in the HBA.
46. With reference to the water supply limitations discussed in the s42A report⁸ and the apportionment approach suggested, it is my view the allocation of lot numbers will need to be reconsidered in light of the more improved yield accuracy presented by Mr Doy. In his evidence Mr Doy considers the Existing Vacant Zoned Residential Land will yield 134 lots and not the 158 estimated in the HBA. If the Commission adopts 134, this will result in additional 24 lots being available for allocation. This will give a total of 358 lots available to be split 50/50 between West FUD and South FUD. This will result in 179 lots being allocated to each of FUD South and

⁸ Water Capacity – Pgs. 28 & 29 – Para 13.15-13.19

FUD West and not the 167 lots for each area recommended in the s42A Report.⁹

47. I will discuss the water supply limitation issue later in my evidence.

Availability of land for residential development

48. A careful consideration of the land identified for future urban growth at Oakura indicates a range of factors bearing on its availability (and suitability) for development. The majority of the land at identified at Oakura is in just two ownerships. FUD South is owned by the applicant, Oakura Farm Park Ltd. FUD West (excluding the 2ha with frontage to 1209 South Rd) and the contiguous vacant Residential Zoned land are in one landholding and a separate ownership to the applicant.
49. The single ownership of large tracts of land identified for future urban development is both a strength and a weakness. Single ownership lends itself to comprehensive design. However, if an owner does not have the appetite and/or the resources for development the conversion from greenfields to urban can be delayed by decades. The same consideration applies to infill development. Not every residential owner has the desire to subdivide and sell off 'the back lawn'. The HBA acknowledges this as a constraint to development capacity in New Plymouth and this no doubt also applies to many, if not most, residential owners at Oakura.
50. While the vacant Residential zoned land adjoining FUD West may appear a first choice for development on Planning Maps A60 and A61, the urban growth opportunity is somewhat illusory. The land is unserviced.
51. The practical access to commence development to the subject area is via Cunningham Lane off Lower Wairau Road, across FUD West land. Further, the alternate access into this vacant land from the southern side off the

⁹ Water Capacity – Pg. 28 – Para 13.18

termination of Russell Drive has long been identified as a major development constraint with the landform dropping steeply (some 14 metres of elevation over approx. 80 metres) to the Waimoku Stream. Civil engineer Mr Andy Fraser has spoken of the major works that will be required to convert the land from its present Rural use to Residential.

52. It is noted in the Draft District Plan that FUD West and FUD South will continue as Rural Production Land with the FUD Overlay (or its equivalent) continuing. This planning policy signal is further supported by the HBA which states that the Proposed Start Date for urban development for FUD West is 2032.¹⁰ This time horizon is consistent with the 10-year life of an Operative Plan under the RMA allowing periods for review and becoming operative either side of the 10 year life span. The implications are clear; the rezoning of FUD land at Oakura will need to be initiated by private landowners, the course of action initiated by the applicant in 2016. Without being pre-emptory, the HBA appears to indirectly acknowledge this Request by indicating a start date of 2020 for FUD South.
53. Land in the Oakura urban area is closely held and is seldom for sale. Over the three years that I have been engaged with this project, I have observed, through monitoring from time to time properties for sale at Oakura on Trade Me, that typically at any time there will be no more than one existing home for sale in the Oakura township. During that time, I have not observed any urban sections being publicly offered for sale within Oakura through Trade Me. That is not to say no properties have been bought and sold. I would expect in such an apparently tight market that property is transacted through local knowledge and word of mouth.
54. Interestingly, at the time of writing this evidence there are two bare residential lots (albeit both very steep) for sale on the northern side of Upper Wairau Road and one larger rural-residential lot for sale in The

¹⁰ HBA pg. 36 Table 2032.

Paddocks. Three existing dwellings are also advertised; one in a near beach-front position asking \$2.1m; one in The Paddocks (\$1.1m) and one family home on Upper Wairau Road (RV\$450k)

Future Growth

55. The matter of future growth at Oakura is addressed in the Request document. In summary, Oakura has been identified as a Future Growth Area in the New Plymouth District since at least 2006¹¹ and the areas for growth (FUD West and FUD South) were incorporated into the Operative District Plan by way of Council initiated Plan Change in 2012.¹²
56. With network extensions, the available infrastructure of potable water supply disposal has sufficient capacity available to service an additional population of something in the order of 2,900 to 3,400. (i.e. 1,279 to 1,489 lots x 2.28 persons).
57. There are no known reticulation capacity issues with wastewater. The full scope of the Plan Change 48, together with the development of FUD West would require a sewer pump upgrade to meet the full developed sewage demands of the expanded township.¹³ The capacity of the current wastewater system is 1,730 equivalent population; with pump upgrades the ultimate capacity is estimated to be 5,530 equivalent population.¹⁴
58. With this surplus capacity the township is arguably over-capitalised with these community assets. In the context of efficient use of resources and given the current population of 1,380¹⁵ the current water supply capacity is under-utilised by almost 50 percent and the wastewater infrastructure by some 20 percent.

¹¹ Oakura Structure Plan 2006.

¹² Plan Change 15 – Future Urban Development Overlay - Operative March 2013

¹³ s42A Report – Appx 7 – Technical Commentary pg.6

¹⁴ NPDC 1 November 2018 – Email Wesley to Comber.

¹⁵ Census 2013

59. In recent decades, Oakura township has evolved from a beachside settlement with much traditional seaside bach-style holiday accommodation to today where the preferred typology is executive style residences, be they for permanent accommodation or holiday use. The natural setting at the coastal edge with the Egmont National Park as a backdrop and a short commute (15 minutes) to New Plymouth has long underpinned a demand for housing in the locality. Anecdotally there is evidence of ongoing demand for families wanting to live in the locality.¹⁶
60. Other pressures for persons wanting to reside at Oakura are likely to come from two recent developments; Green School and the Oakura to Pukeiti Shared Pathway. Each are discussed.
61. Green School - During 2018 Green School Farm Ltd announced it planned to establish a 200 student 'Green School' to be built at 356 Koru Road, some 6kms from Oakura township. In describing the activity, the application for resource consent states:

The purpose in the establishment of the Green School is to provide '...an educational facility with an ecological and sustainability focus.

'The Green School's vision and philosophy is to educate the next generation of green leaders through a natural, holistic, student-centered learning experience that empowers and inspires students to be creative, innovative change-makers. Green School educates young leaders in global citizenship and champions a new model of learning that connects the timeless lessons from nature to a relevant and effective preparation for a fast-changing future. The school will be modelled on the existing Green School in Bali, Indonesia which was founded by John and Cynthia Hardy in 2006 and opened in 2008.'

'It is the applicant's long-term vision to develop the land on the opposite side of Koru Road in the future. This would allow for ancillary residential buildings which would support the main function of the school and create

¹⁶ Prehearing Report – Education – pg. 5 – para 19

an established community who share similar values, passion, and outlook for sustainable housing and living.

Note: The activities expressed in the long-term vision did not form part of the land use application.

62. Resource Consent has been granted and it is understood the proponents of the internationally significant educational initiative are well resourced.
63. The Green School at Koru, modelled on the successful Bali establishment, is an educational facility 'right for our time' and its mission will resonate with many parents in countries beyond New Zealand. Some of its students may well be drawn from Oakura.
64. The Green School initiative, as a business model, can be compared to the Pacific International Hotel Management School (PIHMS) that has operated successfully at Bell Block, New Plymouth for several decades. The campus is one of three superior hotel management training schools in the world, headquartered in Sweden and attracts international students (mostly young adult singles) from many different countries. Degree level course are offered and students are typically at PHIMS for three years.
65. The notable difference between PHIMS and the Green School is that the student base will be children aged 5-17yrs that is, of an age that, for all practical purposes, will need to be cared for within a family setting. While the future vision for the Green School includes 'ancillary residential buildings', short of creating a 100-200 dwelling village at Koru, these families will need to be housed locally. Some may prefer a rural lifestyle in the local environs. Others would no doubt see Oakura be a serious first option being just 6kms from the township, with the next likely urban housing choice being located at New Plymouth a minimum of 13kms away down SH45 via Koru Rd.

66. Oakura to Pukeiti Shared Pathway – Also referred to as ‘The Kaitake Trail’, this is a joint project between the Taranaki Regional Council and the New Plymouth District Council aimed at helping locals and visitors connect with the natural environment. The shared pathway is proposed as a high-quality walkway and cycle track from Pukeiti down a NPDC paper road to the coast at Oakura. It forms an integral part of The Taranaki Crossing, a mountain to surf attraction identified in *Tapuae Roa* – the regional development strategy for Taranaki.
67. It will run through regenerating bush along the Egmont National Park boundary on the flanks of the Kaitake Ranges. The path will be mostly 2m wide with no section narrower than 1.5m, and 12.2km long. (NPDC is building 9.5km of the path with TRC building the remaining 2.7km within Pukeiti Garden property). Refer Appendix G for Pathway map.
68. The pathway will have a low gradient that is suitable for both walking and cycling. It will be attractive to families as well as casual walkers and riders, local and tourists alike. Facilities being considered for along the route include rest points, lookouts, public toilets and a car park at the Oakura end.
69. While I am not aware of any official estimates as to expected numbers of walkers and cyclists on the Oakura to Pukeiti Shared Pathway, I understand user numbers from 15,000 upwards could be expected in the first year. The other unknowns are how many users will do a return walk or cycle ride of 24km, what end (Pukeiti or Oakura) they choose to start from and how many will elect to make a one way journey with prior arrangements to be picked up by motor vehicle (private or by commercial bike hirer) at the opposite end to where they started. All one-way journeys will have implications for increased traffic, cycle and pedestrian numbers on Upper Wairau Rd, which connects to the Surrey Hill roadend and also the SH45/Wairau Road intersection.

70. Note: Pukeiti is a garden of international significance in Taranaki owned and operated by the Taranaki Region Council. It is located between two sections of the Egmont National Park, located on a saddle between the main cone of Mount Taranaki and lower Kaitake Range. The Pukeiti Visitor Centre and Café has recently undergone a multimillion-dollar refurbishment. This along with increased promotion has result in a substantial increase in annual visitor numbers from around 30,000 to something in the order of 80,000.¹⁷
71. In addition to an increase in multi-modal traffic movements on Upper Wairau Road and through the SH45 intersection, the exposure of Oakura to an increase in passing motor vehicles, walkers and cyclists, could likely result in an increased demand for persons wanting to reside in the township to take advantage of the outdoor recreational opportunities close at hand.

Other Growth Factors

72. Oakura is a township that has grown over the past 100 years or so. The following figures have been obtained from Statistics NZ:

Year	Population
1901	44
1916	206
1991	1068
2001	1254
2006	1359
2013	1380

¹⁷ Community Board Prehearing Meeting 28 January 2019 – Noted from general discussions.

73. Given that New Zealand has a well-publicised housing shortage (both for ownership and renting), historically high inward migration levels, record levels of outward migration from Auckland to throughout NZ (33,000 over 2014-2017) and that the New Plymouth District has been categorised by Statistics NZ as one of 12 local authorities as a High Growth Areas it is unlikely that Oakura would be immune from these trends.
74. At a regional level tourism has also increased significantly in recent years. The trend for independent travel both by local and international visitors, and for experiencing the natural environment is well documented. With the natural environment of beach and mountain close at hand, Oakura will benefit economically from this trend, given the promotion of regional tourism strategies through the provision of tourism infrastructure, hosting of nationally and internationally significant events (e.g. Rhododendron Festival, WOMAD, Surfing and Surf Lifesaving events etc.) and marketing.
75. As the Green School and the Oakura to Pukeiti Shared Pathway become reality and move from start-up through to maturity over the ensuing 10-year planning period, and coupled with the other growth factors identified, I consider Oakura has significant urban growth pressures coming its way. These pressures will particularly manifest in demand for land for residential settlement and increased traffic in the form of motor vehicles, pedestrians and bicycles on local roads and along SH45. While the growth won't happen overnight, nevertheless it will happen. At a community level the prudent planning approach will be to expect and plan for that growth.

Business Land

76. Oakura township has approx. 1.6ha of Business C zoned land (designed to serve the immediate catchment) at its center, fronting SH45, located between Hussey and Donnelly Street. The adequacy and the use being

made of this Business C land for local commercial activity is discussed within the Request document.

77. Much of the existing commercial building fabric is aging. The arrangement of individual buildings lacking a continuous retail frontage makes for inefficiencies of land use coupled the higher maintenance costs of separate older buildings. It could be expected as the population increases the market will identify the additional services required, recognise the economic opportunities presented and will respond with appropriate built development, either in the form of the refitting of existing buildings or complete renewal.
78. Approx. 40% of the Business C land (6,000m²) is greenfields, being essentially flat, in one ownership with State Highway frontage. It is understood a substantial mixed-use two-storey development of retail and residential is proposed for the site and that a start on construction is imminent.
79. Notwithstanding that a detailed needs analysis has not been carried out, it is considered the 1.6ha of Business C land is sufficient in extent to meet the future foreseeable commercial /business requirements of the township. As a reference point, the recently master-planned Long Bay community development, a coastal settlement on Auckland's North Shore, has approx. 2.4ha of land for a central business hub and proposed floor space of slightly less than 8,000 m² over 2-3 levels. This is intended to service a projected population of approx. 5,000 to be housed in approx. 2,000 dwellings.¹⁸

TANGATA WHENUA – MANA WHENUA

Taranaki Iwi – Te Kahui o Taranaki – Sub 134.

¹⁸ www.longbay.co.nz – Todd Corporation Ltd

80. s42A Report Ref: pgs. 58-59 – Section 14 - This content of the report is adopted.

Additional Matters for Consideration

81. The Taranaki Iwi Environmental Management Plan *Taiao, Taiora* was launched in July 2018, some months after the Request had been completed and lodged with the Council (March 2018).
82. The Assessment of *Taiao, Taiora* against the Request demonstrates a high level of congruence between the relevant provisions of the Iwi Management Plan (IMP) and the planning and urban design approach proposed for the site within the Request. The Letter of Response from Te Kahui o Taranaki acknowledges the mitigations proposed.
83. Within the IMP, at Section 11.8 Taranaki Mounga, Policy 11.8.3.7 states:
- Taranaki Iwi will not support any residential subdivision and development within 5 km of the National Park boundaries.
84. That Taranaki Mounga is a taonga for Taranaki Iwi is respectfully acknowledged as is the Iwi position to not support the Rezoning.
85. As discussed within the Assessment, all of Oakura township is within approx. 2.5kms of the National Park boundary.
86. It has been the policy of the New Plymouth District Council since 2006 to plan for the growth of Oakura. At that time approx. 52ha of rural 'greenfields' land was identified adjoining the southern edge of the Oakura urban area for future growth; 12ha of this is within the Wairau Estate area. In more recent years these growth areas have been included (following due public RMA process) in the operative District Plan for Future Urban

Development (FUD). All are less than 2.5km from the National Park boundary.

87. From a policy development and plan-writing perspective it is noted that the subject Policy does not acknowledge the existence of a township which has been in existence for over 100yrs. Under prevailing legislation not only do existing use rights apply to all lawfully established uses, but ODP provisions provide for residential subdivision and development.
88. The New Plymouth Operative District Plan contains provisions, which were arrived at through an extensive consultative process with all the Iwi and Hapu of the District in the early-mid 1990's. These provisions are designed to recognise and provide for the cultural and spiritual values of Tangata Whenua in all aspects of resource management in the district. In respect of subdivision, land use and development, policy is directed at not adversely affecting the relationship, culture or traditions that Tangata Whenua have with Waahi Tonga/Sites of Significance to Maori. These same protections will apply to the full extent of Wairau Estate.
89. It is noted from the archaeological assessment undertaken of the Request site together with the consultations with both Iwi and Hapu that there are no known Waahi Tonga/Sites of Significance to Maori with the area subject to the Plan Change. Notwithstanding, the archaeologist, Mr Bruce, considers there are reasonable grounds to expect archaeological evidence may be encountered when earthworks are undertaken and recommends, as a means of mitigation, that an archaeological authority be obtained from the HNZPT ahead of any earthworks being undertaken on the site.
90. The applicant is familiar with HNZPT archaeological authority process (this was followed in "The Paddocks" development) and intends to act on the archaeological authority recommendation as part of the development and subdivision of Wairau Estate. To ensure this detail is not overlooked a

'matter over which control is reserved' is recommended in the Schedule of Changes Requested later in my evidence.

91. The approval of Te Kahui o Taranaki of the mitigation measures proposed by the applicant as they relate to *Taiao, Taiora* is acknowledged and appreciated.
92. In summary, in taking into account *Taiao, Taiora* and the relevant provisions touching on this plan change the following matters have been considered:
 - a) The policy to 'not support' any residential subdivision development within 5km of the National Park boundaries does not equate to outright opposition to such activity. In my opinion the plan writers have been very careful in their choice of words. In an RMA context, the consideration is in the nature of the difference between an activity being 'discretionary' or 'non-complying' as opposed to 'prohibited.' I don't consider *Taiao, Taiora* is setting out to prohibit but is aiming for new residential settlement in proximity to *Mounga* to be more in the realm of discretionary, where through due sensitivity for the environment and Taranaki Iwi cultural values, applicants exercise care to ensure no adverse effects are caused in respect of the natural environment nor that such development does not give rise to adverse cultural impacts. I believe the Applicant is able to satisfy in a very positive way, these two primary factors.
 - b) I have reviewed the issue discussion in the IMP (ref 11.8.1), and Issue 5 in particular, which in summary is concerned with new developments from human activity on and around the *Mounga* impacting on the natural environment and the important cultural value the Iwi associates with Taranaki *Mounga*. In its response to the Assessment of the Plan Change against *Taiao, Taiora*, Te Kahui o

Taranaki have approved of the mitigations proposed within the Plan Change. This suggests that from the Iwi perspective they are confident there will be no adverse impacts on the natural environment arising from the proposed development. Further, in the response Te Kahui have not spoken of any concerns with regard to potential or actual adverse cultural impact.

- c) From this I take their position of 'not supporting' to be one of principal, in deference to Policy 5. This is acknowledged and understood.
 - d) There is clearly a tension between the 'not support' sentiment of Policy 5 in Section 11.8.3 and the provisions of the Operative District Plan which not only provide for subdivision and development within the Oakura township but also provide for urban expansion through the Further Urban Development provisions.
 - e) The ODP contains provisions that recognise and provide for the traditional relationship of Tangata Whenua with the natural environment of the District. In my experience these provisions have proved to be workable and practically efficient in enabling effective engagement with Tangata Whenua in matters of cultural importance where subdivision and development is proposed. This is particularly so in recognising and affording protection to Waahi Taonga/Sites of Significance to Maori. There are no known Waahi Taonga/ Sites of Significance to Maori within the Wairau Estate Structure Plan Area.
93. Explanatory Note: It could be inferred from the letter dated 17 April to the Council from Te Kahui o Taranaki that the Applicant has not been proactive in its communication. For the avoidance of doubt, a series of emails are included in **Appendices H & I** hereto. These show that the applicant initiated communication with the Te Kahui o Taranaki office on 27 June

2018, and lodged the requested engagement form the same day. Te Kahui responded on 11 September 2018. The first occasion on which a meeting was afforded to the Applicant was at the Pre-Hearing Meeting on 29 January 2019.

Ngati Tairi Hapu – Submission 111

94. s42A Report Ref: pgs. 58-59 – This content of the report is adopted.

Additional Matters for Consideration

95. The applicant, Mr McKie, has spoken in his evidence of his relationship with the Hapu, which dates back to 2010.
96. An updated consultation record is included on Appendix J attached.
97. In contrast to the Taranaki Iwi position, the Hapu has not expressed at any point through the consultation phase, any ‘in principle’ concerns about the Wairau Estate development and its location.
98. The concern expressed in the Hapu submission regarding stormwater design has been discussed with Kaumatua Keith Manukonga subsequent to the Prehearing meeting in January 2019. An undertaking has been given by the applicant to review and refine the design of the stormwater detention areas to optimise environmental outcomes. The Applicant notes and agrees to the recommendation for an overall stormwater plan for the Structure Plan Area at the outset of subdivision.
99. In his evidence Mr McKie referred to the stone carving for Upper Wairau Road; a view of the site and carver Mr Barry Te Whatu’ s concept design is included in **Appendix K**.

Traffic parking and access

100. s42A Report Ref: pgs. 32-38; Paras 13.37 to 13.60 incl.
101. The issues and submitters concerns have been well covered. I defer to the expertise of the traffic engineer Mr Skerrett and will await the outcome of the scheduled expert conferencing.

Landscape Values and Visual Impact

102. s42A Report Ref: pgs. 39—43; Paras 13.61 to 13.71 incl.
103. The issues and submitters concerns have been well covered. I defer to the expertise of the landscape architect Mr Bain and will await the outcome of the scheduled expert conferencing.

Additional Matters for Consideration

104. I now draw to the Commissioners' attention the manner in which the Kaitake Ranges as an 'Outstanding Landscape' is defined and provided for in the Operative Plan.
105. In the scheme of the ODP the significant resource management issue is described at *Issue 15 'The potential adverse effects of inappropriate subdivision, use and development on OUTSTANDING LANDSCAPES and REGIONALLY SIGNIFICANT LANDSCAPES'* - refer Volume 1, Pages 87-89.
106. The aim of Objective 15 is '*To protect and enhance OUTSTANDING LANDSCAPES and REGIONALLY SIGNIFICANT LANDSCAPES within the district.*'

107. Policy 15.1 reads *'Subdivision, use and development should not result in adverse visual effects on, and should enhance, where practicable, the following OUTSTANDING LANDSCAPES: • Mount Taranaki/Egmont. • The Kaitake and Pouakai mountain ranges.'*
108. Reviewing the identification of the Issue, Objective 15, Policy 15.1 and the associated, Methods and Reasons leads me to comment as follows.
109. The defined Outstanding Landscapes are Mount Taranaki and the Kaitake Ranges. They are limited in extent, for the purposes of the plan, to within the National Park boundaries.
110. Discussion about the Issue is weighted toward protection of these landscapes from larger scale activities such as gondola's and communication facilities (e.g.TV and cell phone towers) within the park boundaries and with protection being managed through the National Park Management Plan. This Plan is of course managed by the National Park Board and the Department of Conservation.
111. The Plan also states *'In response to community preference the extent of these OUTSTANDING LANDSCAPES are limited to within the National Park boundary.'* What lies behind this statement (I was a member of the Council's planning policy team that drafted the now Operative District Plan) was a consideration of using a 'buffer zone' as a mechanism to control/restrict development outside the park boundary, i.e. on private property adjoining the park for a specified depth of perhaps 500m to 1km. Of note, the majority of the OFPL property is within 1km of the National Park Boundary; at its closest point, (south-east corner) the separation is approx. 240m from the park boundary; at its furthest, (north-west corner) it is approx. 1.4km.

112. In the event, having regard to benefits and costs, it was considered that imposing restrictions on development by this mechanism to address *'adverse visual effects'* would be imprecise, unduly restrictive on the private property owners so caught, and unless well designed would most likely be administratively inefficient.
113. Outstanding Landscapes are identified on the Planning Maps by Overlay. Within the Overlay Rules, the Plan states *'There are no rules for OUTSTANDING LANDSCAPES; they are used only as assessment criteria.'*
114. Method of Implementation 15.1 (b)¹⁹ states *'Use assessment criteria to consider the visual impact of development on the OUTSTANDING LANDSCAPES for all resource consent applications that may visually affect the OUTSTANDING LANDSCAPES and, where appropriate, apply conditions on resource consents.'* Note: Subdivision not included.
115. Method of Implementation 15.1 (c)²⁰ states *'Publicly notify resource consent applications that may have an adverse visual impact on the OUTSTANDING LANDSCAPES.'*
116. The assessment criteria require consideration of the extent to which a development may have adverse effect on Outstanding Landscapes and is included in a limited number of rules in each Environment Area.
117. The Rural, Residential, and Business Environment Area rules are relevant to this discussion. The rules to which the assessment criteria apply are limited to Height of Structures and Buildings, Site Coverage and Reinstatement of Earthworks.

¹⁹ ODP Vol 1 pg.88

²⁰ ODP Vol 1 pg.88

118. Of interest, the Rural and Residential Areas also have assessment criteria against subdivision rules. The vires of this inclusion would appear to be open to challenge given that the Method 15.1 (b) refers only to development.

119. The following table is a paraphrased summary of the rule parameters that trigger consideration of the adverse effects from development on Outstanding Landscapes. For direct comparison, the proposed equivalent controls for Wairau Estate Structure Plan are included.

Parameter	Rule #	Trigger point (greater than)	Consent Triggered
Height of Structures	Rur6	>15m	Restricted Discretionary
	Res4	>10m	Restricted Discretionary
	Bus7	>10m	Restricted Discretionary
	Wairau Estate Res 93, Rur105	>6m	Non-complying
Height of habitable buildings	Rur9	>8m	Restricted Discretionary
Height of all other buildings	Rur10	>10m	Restricted Discretionary
Height of buildings	Res7	>9m	Restricted Discretionary
	Bus14	>8m	Restricted Discretionary

	Wairau Estate Res 93	Residential A & C >6m (excludes Thurman Block; Res7 applies)	Non-complying
	Wairau Estate Res 94	Medium Density >5m	Non-complying
Dwellings per Site	Res A, B & C	Greater than 1 where access from a ROW	Restricted Discretionary
	Wairau Estate Res 95 Res A&C, Rur106	1	Non-complying
Site Coverage	Rur14	Coverage of sites <4ha Building footprint >400m ²	Restricted Discretionary
	Res11 & Res13	Res A >40% Res C >35%	Restricted Discretionary
	Wairau Estate	As for Res11 & Res C except Nil coverage in Front Yard	Restricted Discretionary
Front Yard Coverage	Res 14	>35%	Restricted Discretionary
	Wairau Estate Res96	Nil (0%)	Non-complying
Earthworks	Rur62, Res47,	>20m ³ /100m ² /yr.	Restricted Discretionary

	Bus58 & Wairau Estate		
Earthworks Reinstatement	Rur63, Res48, Bus 59 & Wairau Estate	When not competed (stabilised & grassed, sealed etc) within 6mths from date of disturbance	Restricted Discretionary
Subdivision	Rur78	Lot less more than 4000m ² or balance area less than 20ha	Fully Discretionary
	Res56 & Res 58	Res A – Lot <400m ² Res C– Lot <650m ²	Fully Discretionary
	Bus71	Lot <300m ²	Fully Discretionary
	Wairau Estate Res100	Where not in accord with Structure Plan	Fully Discretionary
	Wairau Estate Rur110 & Rur111	Where not in accord with Structure Plan	Fully Discretionary
Light Reflectance Values	ODP	No provision in all Environment Areas	N/A
	Wairau Estate Res98, Rur107	Roof Claddings >25% LRV	Non-complying
	Wairau Estate Res98 & Rur108	Exterior claddings >40% LRV	Non-complying

120. It is immediately apparent when comparing the ODP rules with those proposed to apply to the Wairau Estate Structure Plan, that the permitted parameters for Wairau Estate are very constrained and arguably extend well beyond what the scheme of the Operative Plan contemplated in managing adverse visual effects in respect of Outstanding Landscapes. In particular, the proposed permitted height of structures and buildings are significantly less than the permitted height parameters of the Operative Plan.
121. A number of the submitters (by my count, 24)²¹ call for views of the Kaitake Ranges and the 'Kaitake Viewshaft' to be protected and assert the proposed noise bund will block views of the Kaitake Ranges. The 'viewshaft' is referenced in general terms only.
122. The lowest peak of the Kaitake Range lies directly to the south of Wairau Estate (and not upland to the east) and is some 210m in height above SH45, some 1.2kms distance. The highest peak of the Kaitakes' is situated some 3kms further southeast of the lower peak and is some 570m above SH 45 when viewed from the road boundary of the subject site.
123. The Kaitake Range is the dominant 'backdrop' landscape feature in the Oakura environs with, in my opinion, the best views to appreciate it in its natural context being from SH45 when travelling toward Oakura some approx. 5kms to the north of the township.
124. Someone driving through the locality on State Highway 45, whether travelling from the north or the south, even as a casual observer, will be aware of the Kaitakes as the dominant inland landform. I would suggest for the few seconds that they are driving along the Wairau Estate frontage past the lowest part of the ranges, even if the Kaitakes were to be lost completely from view due to a roadside bund (or some other form of visual

²¹ Refer Appendix A2 hereto

barrier, such as a shelter belt), they will not become disorientated from the landscape they are passing through. In their mind they will still be aware of landscape in which they are travelling through even they the Kaitake Range may be only partial in view or not at all.

125. The image on the cover of the S42A Report is instructive. It is a view taken within the OKPL property, near the State Highway looking eastward up the site toward the least visually prominent end of the Kaitakes. As a view of the Ranges it is unremarkable. A similar view will be seen from a passing car on the adjacent State Highway at about the same location. Further, if the SH45 access is implemented the bund will be discontinuous, with a gap of some 20m being provided for the local road connection.
126. The ODP recognises that views from public places are a valuable community asset. 'Urban Viewshafts' are used as regulatory mechanism in urban areas for protecting specific views by limiting the height of buildings in the fore view. These Urban Viewshafts typically originate at an elevated natural vantage point, from which a person can enjoy the amenity of the vista before them. Examples of Urban Viewshafts at Oakura relate to views toward the ocean from Lower Wairau Road, Pitcairn and Dixon Sts and Messenger Tce.
127. Promoting the statutory mechanism of a viewshaft to protect a view from any point along the SH45 frontage of Wairau Estate toward the Kaitake Ranges would be unlikely to succeed as a preferred option (when tested pursuant to s32 RMA) for a number of reasons. These include it not being the best location to gain an appreciation of the Kaitake Ranges as an Outstanding Landscape within the context of the wider landscape. As previously described, a superior view is to be had from an elevated vantage point some 5kms from Oakura toward New Plymouth, looking down and across an expanse of rural landscape toward the Kaitakes.

128. There is no obvious vantage point along the road frontage adjoining Wairau Estate from which to view. Mr Bains Assessment shows two possible viewing points, VP5 and VP6.²² Again, these views, if one is wanting to appreciate an Outstanding Landscape are unremarkable. A further consideration in selecting a vantage point has to be safety from passing traffic with appropriate and adequate provision for safe vehicle manoeuvring and parking.
129. The Kaitakes are an omnipresent landform to the township and environs, much in the same way, but at a significantly different scale, that Mount Taranaki is to the Taranaki Region. It is difficult to image how development within Wairau Estate is going to block the Kaitakes from being seen by those residing in the locality, going about their business in the township or travelling about and through the general locality.

Noise

130. s42A Report Ref: pgs. 43-46 ; Paras 13.72 to 13.78 incl.
131. As previously corrected, the attenuation bund referenced in 13.72 will be no higher than 2-3m, as described in Mr Ellerton's expert evidence. Apart from this correction, this content of the report is adopted.

Additional Matters for Consideration

132. With regard to 13.80, I believe the incorporation of the noise attenuation bund in the Wairau Estate Structure Plan to be a consistence with the wise and efficient use of resources and sustainable management. The reasons include:

²² Request doc; pg.79 Appendix 11 – L&VI Assessment – pg. 24.

- a) Managing traffic noise in this way should enable dwellings that are intended to be afforded noise attenuation benefit to be built at optimum cost, i.e. without the need for specific noise attenuation design and construction.
- b) A landscaped bund will provide pleasant visual amenity to the State Highway and help to define the gateway to the township from the south.
- c) Not having a bund will run the risk of suboptimal amenity across the western edge of the structure plan area with house lots potentially presenting to the State Highway 45 a range of 'back boundary' fence types of differing heights, construction materials and colours.
- d) Not having a bund will result in a tract of land some 600m in length and approx. 80m in depth (4-5ha) that will prove difficult to farm efficiently and with an equestrian trail through it over its entire length. As the site transitions from rural use to urban and rural lifestyle it is probable the area would need to be considered for dedication as Open Space Council reserve with associated maintenance costs.

Open Space and Reserves

133. s42A Report Ref: pgs. 47-48 – This content of the report is adopted.

134. No matters for discussion.

Service Infrastructure and Stormwater

135. s42A Report Ref: pgs. 48-50; – This content of the report is adopted.

Additional Matters for Consideration

Water Supply

136. The s42A Report proposes that the Wairau Estate be capped at 167 lots based on limitations of proven aquifer yield and allocation of the available supply capacity adopting potential total lot numbers from the HBA Assessment of currently unserviced vacant Residential zoned and FUD West and FUD South land as the basis for calculation.
137. In his evidence civil engineer Andrew Fraser suggests that the available water supply is not as constrained as indicated in the Council's Technical Advice. He suggests additional Council storage capacity would help to address times of peak demand.
138. He also demonstrates, comparing Peaking Factors, that the Council's Technical Advice may be unduly conservative. Using the Peaking Factor of 2.1 calculated from five years of the historic data from Council records suggests the starting point for the additional lots that can be serviced from the existing water source should be 1,418, being 139 lots over and above the 1,279 lots adopted in the Technical Advice.
139. For completeness the Peaking Factors Table from Mr Fraser's is as follows:

Table 1 – Peaking Factors

Source	Peaking Factor	Additional Residential Lots
NPDC	2.33	1,279
Actual Historic	2.10	1,418
NZS4404	2.00	1,489

140. In his evidence Registered Surveyor Alan Doy has demonstrated by his methodology that his calculation of the residential lot yields for the subject areas is at a greater accuracy than the HBA Assessment. I suggest Mr Doy's calculation of yield lot numbers, given their greater reliability, should be preferred and adopted as the basis any calculations in this matter. To recap (from his table 5) these are as follows:

Table 2 – Lot Yield Calculation – A Doy

	Area (Ha)	Refined by Slope Analysis (Lots)
Undeveloped Residential Land Oakura	17.7	134
Oakura West FUD	37.1	283
Oakura South FUD	10.5	125
	Totals	542

141. Adopting these parameters, the summary position is that the water supply can service 1,418 lots with the currently unserved lots being 542.
142. Adopting the 50/50 allocation approach of the s42A report after giving priority to the vacant Residential zoned the calculation would be:

Table 3 – Calculation of Overall Supply and Demand

	Lots	Lots
Water Supply Capacity (Revised)		1,418
Existing Township Lots served*	660	
Allowance for Infill*	127	

Existing Vacant Zoned Residential (Revised)	134	
FUD West (Revised)	283	
FUD South (Revised)	125	
Plus PC48 Additional Residential	191	
Total Lots to be served		1,520
Excess of Actual and Potential Demand over Proven Supply		102

*From s46A – Pg. 28 – Table 3

143. If the 50/50 Allocation approach is adopted, as recommended at Para 13.18 in the 42A Report the following Table illustrates how the revised would be numbers calculated.

Table 4 - 50/50 Allocation - Revised

	Lots	Lots
Water Supply Capacity (Revised)		1,418
Existing Township Lots served*	660	
Allowance for Infill*	127	
Existing Vacant Zoned Residential	134	
Subtotal		921
Available remaining supply		497
50/50 Allocation		
FUD West		248

FUD South plus PC48 Residential		248
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144. From Mr Doy's Table 7, the residential lot yield for the total of the Wairau Estate Structure Plan Area is as follows:

Table 5 – Lot Yield – Wairau Estate Structure Plan Area – Final

	Area (Ha)	Refined by Slope Analysis (Lots)
Oakura South FUD	10.5	125
Plus balance of proposed for residential development	18.7	191
Totals	29.2	316

145. Thus the shortfall to service Wairau Estate from the proven available water supply would be 68 Residential lots (i.e. 316-248), recognising that the 12-14 Rural Residential lots within the Estate would obtain their potable water from rainwater collection within each lot, perhaps supplemented by a restricted flow (trickle feed) from the public water supply.
146. The Technical Advice on water supply states 'It is not known if the aquifer is capable of sustaining a greater abstraction rate than the current known yield but NPDC are assessing this as part of the abstraction consent renewal process. This process is expected to take a further 2-3 years.'²³
147. All of the consideration's about available water supply are predicated on the basis that the Council, pursuant to its Water Bylaw, is required to have an on-demand potable supply available to each lot within any given urban

²³ S42A Report – Appendix 7 Part 1A; pg.8

water supply area of the District. The availability is by way of entitlement; it is not mandatory for any premise to connect to an available supply.²⁴

148. To mitigate demand on the available potable water the Applicant proposes to promote household rainwater harvesting and onsite storage within Wairau Estate. The technique and technology is well researched, understood and is being adopted by motivated households in urban areas with public water supply available. Publications from BRANZ and Nelson City Council are attached to my evidence – refer **Appendices L1 and L2** attached.
149. Adopting household rainwater harvesting and onsite storage within Wairau Estate could significantly reduce the need for public supply. As the literature indicates rainwater harvesting off dwelling roofs can be used for ‘grey’ uses only – (toilet flushing, clothes and car washing and gardens) or used for all household needs including drinking, cooking and bathing. And it can be supplemented with restricted flow (trickle feed) from Council supply for top up only.
150. The Water Bylaw specifically provides restricted flow (trickle feed) connections subject to ‘special conditions’. The conditions are not specified in bylaw but presumably they will cover such matters as backflow prevention (to protect the public supply) and minimum storage requirement etc.
151. In the circumstances the Applicant will accept the capping of residential lots within Wairau Estate Structure Plan area adopting the revised maximum number of 248 lots recognising that in the fullness of time with further aquifer supply being proven that the cap may be able to be increased or lifted altogether. However given the option of rainwater harvesting with onsite storage for water supply being available to all

²⁴ NPDC Water Bylaw Section 4.1.1

residential lots, it is suggested the cap of 248 lots be qualified as ‘a maximum of 248 lots being served by on-demand (unrestricted flow) water supply connected to the Council’s Oakura Public Water Supply.’

152. The Applicant has noted the Council may be requiring additional land in the future on which to locate additional reservoir capacity. Mr McKie has identified additional land within OFPL adjoining the existing water treatment plant site that may serve the Council purposes and would be happy to discuss how this may be acquired. A plan showing the additional available land on offer is shown in **Appendix M** attached.

Wastewater

153. No further matters for discussion.

Stormwater

154. Adverse effects from stormwater attributed to additional runoff from Wairau Estate causing downstream flooding with consequential effect to the beach at the stream mouth adjacent the surf club room at Messenger Tce were the concern of a good number of submitters (77 by my count). This concern was spoken of again at the Community Prehearing meeting.
155. What has become apparent is that there is a pre-existing issue from excessive stormwater discharging onto the beach from the unnamed tributary running parallel to Wairau Road.
156. From the catchment plans provided with Mr Fraser’s evidence several matters stand out:
- a) The numerous unattenuated point discharges of stormwater conveying stormwater from a wide area either side of Lower Wairau

Rd, including from Matekai Park and Messenger Tce into the unnamed tributary running parallel with Lower Wairau Rd and discharging onto the beach adjacent to the surf club rooms. This may point to the pre-existing concerns of submitters.

- b) That the unnamed tributary running parallel with Lower Wairau Rd, a natural feature, is recorded in the Council's Stormwater Asset Inventory as 'Storm Water Channel' located mostly within council reserve land with the 'maintenance responsibility' recorded as 'unknown.' Ref: <https://maps.npdc.govt.nz/viewer/>
- c) That the only designed and purpose-built stormwater attenuation system in the Wairau Catchment is the recent The Paddocks development.
- d) That it is proposed that Wairau Estate be served by designed and purpose-built stormwater attenuation system that will achieve pre-development hydraulic neutrality.

Oakura School Capacity and Community Infrastructure

- 157. s42A Report Ref: pgs. 51-54 – This content of the report is adopted.
- 158. It is noted that many submitters (by my count, 96) were concerned that the Oakura Primary School would not have sufficient capacity to cope with additional students that might originate from Wairau estate.
- 159. Notwithstanding that the school may have existing demand pressures, it is noted the Ministry of Education considers the school site is sufficiently large to accommodate up to 1,000 students.

160. In addition to the evidence provided by traffic engineer, Mr Skerrett, I have personally observed traffic movement at the school. What is immediately apparent is that all traffic with the school as a destination is required to undertake a 360° turn either on Donnelly or Hussey Sts (both cul de sacs) to return to SH 45 via Donnelly St, the sole local road from SH45 serving the school.
161. It also ventured that forming Hussey St to connect through to Butlers Lane, with travel in one-way direction from the current cul de sac head on Hussey St via Butlers Lane, would provide an opportunity for improved traffic circulation in the locality of the school.

Ecological Effects

162. s42A Report Ref: pgs. 54-56 – This content of the report is adopted.
163. The Applicant notes the recommendation to prohibit domestic cats within Wairau Estate. Domestic cats are prohibited within The Paddocks by way of caveat on lot titles. While this has not been 100% successful it has discouraged domestic cat ownership within the development.
164. In the interests of protecting and promoting indigenous fauna, and birdlife in particular, the Applicant is accepting of a parallel restriction being applied by caveat on title within the Wairau Estate Structure Plan Area.
165. In due time the Applicant is also happy to participate in a community-wide conversation about the place of domestic cats in the Oakura Township and environs.
166. The Applicant notes the submitters concerns that the development Wairau Estate will not be compatible with the aims of 'Predator Free Taranaki', a programme aimed at eliminating rats, stoats and possums in National Park.

The Applicant undertakes pest and weed control on the OFPL site in conjunction with and regularly monitored by the Taranaki Regional Council.

Historic Heritage

167. s42A Report Ref: pgs. 56-57 – This content of the report is adopted.

168. The applicant is familiar with HNZPT archaeological authority process (this was followed in “The Paddocks” development) and the intends to act on the archaeological authority recommendation as part of the development and subdivision of Wairau Estate. To ensure this detail is not overlooked a ‘matter over which control is reserved’ is recommended for inclusion in the Schedule of Changes Requested later in my evidence.

Impacts

169. s42A Report Ref: pgs. 57-58 – This content of the report is adopted without comment.

SCHEDULE OF CHANGES REQUESTED

170. Having regard to the evidence that has been put before the Commission by the Applicant’s expert advisors the following records the further amendments that the Applicant requests be made to the ‘Recommended Amendments to Plan Change’ as detailed in Appendix 10 of the Councils Section 42A Report.

Table – Requested Further Amendments to Plan Change

Page	Provision	Ref:	Amendment Requested
2	Methods of Implementation	23.8 g) III	Reinstate as publicly notified

3	Reasons 23.8	2 nd para	Change the second sentence in part to read: 'A maximum yield of 248 lots being served by on-demand (unrestricted flow) water supply connected to the Council's Oakura Public Water Supply is applied to the Wairau Estate Structure Plan Area - ...'
		2 nd para	At the end of the para add a final sentence to read: Additional development beyond the maximum permitted lot/dwellings yield will be discretionary, restricted to consideration of additional water supply capacity being proven.
4	Reasons 23.8	5 th para	Delete '(Rural E Environment Area')
6	Reasons 23.9	1 st para	Change '167' to '248'.
		2 nd para	Change '153' to read '316' Change '399' to read '330'
		3 rd para	Change '48ha' to '54.8ha' Change '480' to '420' Change '1200' to '1050'
		4 th para	Change '3,500' to '3,200'
7	Volume 1 Rules	2 nd para	Remove strike-through and reinstate this paragraph (which describes the Medium Density Area.)
8		Res94	Remove strike-through and reinstate in full
9		Res96	Remove strike-through and reinstate in full
10		Res97	Remove strike-through and reinstate in full
17		Res101	Remove strike-through and reinstate in full
		Res102	In the column 'Permitted Conditions' amend to read as follows: '248 being served by on-demand (unrestricted flow) water supply connected to the Council's Oakura Public Water

			Supply over the entire Wairau Estate Structure Plan Area as shown in Appendix 32
		Res102	<p>In the column 'Matters over which control is reserved' add the following:</p> <p>13) All earthworks undertaken pursuant to a General Archaeological Authority issued by Heritage New Zealand Pouhere Taonga together with an earthworks management plan that provides for IWI/HAPU monitoring, archaeological oversight, and Accidental Discovery Protocols to mitigate any adverse effects arising from the proposed works.</p>
		Res102	<p>In the column 'Assessment Criteria' add the following</p> <ul style="list-style-type: none"> • Oakura Public Water Supply aquifer being proven to be able to serve by on-demand (unrestricted flow) additional lots in excess of 248 within the Wairau Estate Structure Plan Area • Lots self-sufficient in potable water by means of rainwater harvesting or means of water extraction or water abstraction together with sufficient onsite storage.
24	Add a new rule re light reflectance to correct an omission on original notification.	Bus14b	Adopt (cut and paste) Rur107 in its entirety but amend the Parameter by deleting 'Rural Lifestyle Area'

	Add a new rule re light reflectance to correct an omission on original notification.	Bus14c	Adopt (cut and paste) Rur108 in its entirety but amend the Parameter by deleting 'Rural Lifestyle Area'
25	Volume 1	Definition of 'FRONT YARD'	Remove strike-through and reinstate in full
		'WAIRAU ESTATE STRUCTURE PLAN AREA MEDIUM DENSITY AREA'	Remove strike-through and reinstate in full

VARIATION OF CONSENT NOTICE

171. s42A Report – pgs. 21-23

172. The Application, pursuant to 221 (3) (a) RMA, to vary Consent Notice 9696907.4, together with an assessment of effects, is set out at Section 1.5 pgs. 8-12 in the Request document.

173. I have reviewed the discussion at pages 21-23 of the s42A report.

174. In my view the launching point for the variation sought are the words in the Consent Notice 'while the land remains in the Rural Environment Area.' The inference that has to be taken from this is that over time all or part of

the land (i.e. Lot 29) may not always be included in the Rural Environment Area.

175. The condition was worded by Commissioner Tobin in the knowledge that the then proposed Change Plan 15, (Ref: PC 09/00015) was afoot. Plan Change 15 became operative on 25 March 2013. This brought into existence the FUD Overlays at Oakura (including FUD South on the applicants Land) and at other localities in the District.
176. I would venture that Commissioner Tobin, with her then extensive experience as a planning practitioner, would have been aware that over time land uses other than rural activity (which in the context of The Paddocks decision appears to have been considered as de facto 'open space' for public benefit) may be proposed for the entire property its location at the urban edge, and more particularly with the FUD Overlay in play. Further, I am sure she would have recognised that expecting land in private ownership to continue as de facto 'open space' for some uncompensated public good would be a somewhat fragile proposition over the long run.
177. The phrase 'open space' is used as a general descriptor in The Paddocks decision. It was not intended that the balance land in discussion be classified as 'Open Space Environment Area' and that the provisions of the ODP apply. If the land was identified as Open Space for the purpose of the District Plan, the, the nearest classification would be as Open Space C Environment Area, '...characterised by those areas that contain high natural heritage values. Development and use will be restricted, with these areas left largely in their natural state.' The permitted height parameters within Open Space C are 10m for structures and 8m for buildings, significantly greater than those proposed for the Structure Plan area as discussed elsewhere. Permitted site coverage is set at 5% of site area. On

this basis a 58ha site (the area of the subject site) would be permitted 2.9ha or 29,000m² of site coverage, the equivalent of 100-200 dwellings.

178. The Rural Lifestyle Area, some 25ha or 44% of the site, will remain in the Rural Environment Area. It is proposed that it be able to be subdivided, but limited to the large lots (1-2ha) that are prescribed within the Structure Plan. This together with the 9ha of the site retained as Open Space will mean approx. 60% of the site will be extensive in nature and appearance and more akin in amenity, pleasantness and coherence to rural character than residential.
179. The Variation sought will be consequential on the Request for the Wairau Estate Structure Plan Area being approved in whole or part.
180. I concur with the conclusions and recommendation of the s42A Report (at pg. 61 para 15.8) with the proviso that the reference to a maximum yield of 167 lots be amended to 'a maximum yield of 248 lots served by on-demand (unrestricted flow) from the Oakura Public Water Supply...'

OVERALL CONCLUSIONS

s42A Report – pgs. 60-61

181. A broad assessment of this Request against the overarching provisions of Part 2 RMA (comprising Purpose, (s5), Matters of National Importance (s6); Other Matters (s7) and Treaty of Waitangi (s8)), having regard to all of the available evidence, leads me to conclude that the granting of approval of the plan change application is both appropriate and necessary to provide additional urban development capacity of serviced land for residential and lifestyle settlement at Oakura.

182. By taking a comprehensive and integrated approach design-led approach to the rezoning of the subject site for residential and rural lifestyle living through the mechanism of a Structure Plan it is submitted that this Request proposes a logical and efficient use of natural and physical resources (excluding minerals) that is sufficiently forward looking to meet the reasonably foreseeable needs of future generations of persons seeking to reside in the Oakura township.
183. The Request will support and facilitate present and future generations at Oakura and enable them to provide for their social, economic, and cultural well-being and for their health and safety.
184. The concerns of submitters have been carefully considered, and mitigations proposed where considered appropriate.
185. Tangata Whenua and Mana Whenua environmental and cultural interests have been recognised, taken into account and concerns responded to.
186. The specialist reports supporting the Request demonstrate that, in respect of the subject site an Oakura environs that the life-supporting capacity of air, water, soil, and ecosystems will be safeguarded and that any adverse effects on the environment can be appropriately avoided, or mitigated and that the plan provisions promoted in this plan change request are the most appropriate in terms of s32 of the RMA.
187. The availability of serviced greenfield lots for residential living that can be progressively developed in an economic and efficient manner will provide for the orderly, managed but limited expansion of Oakura over the long term, contributing to the urban land supply and capacity of the Oakura urban area and the wider District.

Dated 17 June 2019

Colin Michael Comber

Appendix A1 Analysis of Submissions by Issue – Distilled		
	Sort by Frequency of Issue	
#	Issue	Frequency
1	Proforma - Statutory - Not most appropriate way to achieve purpose of Act, or Objectives of Plan Change/District Plan	293
2	Proforma - Statutory - will not assist TA to carry out its RMA functions	293
3	Proforma - Statutory - not a sustainable use of land, not efficient, effective; alternatives not properly considered	293
4	Proforma - Statutory - lack of proper or meaningful consultation	293
5	Proforma - Statutory - will not achieve sustainable management; contrary to purposes and principles of RMA	293
6	Proforma - Policy - Contrary to Planning Docs - Development & Structure Plans etc	293
7	Proforma - Adverse effects on the environment including social, cultural, amenity, landscape, rural character etc	293
8	Proforma - Adverse effects unable to be avoided, remedied or mitigated.	293
9	Infrastructure - School - adverse effects on capacity - no room for expansion/threat to Play Centre	96
10	Traffic - road capacity - in and through Oakura inadequate - extra traffic opposed - safety	84
11	Infrastructure - Stormwater - adverse effects from additional runoff; downstream flooding & beach	77
12	Amenity - Village Character - adverse effect on character/amenity/social values of Village	71
13	Policy - Scale of development is inappropriate - disproportionate to existing scale of Oakura	65
14	Infrastructure - (3 waters) - inadequate capacity	62
15	National Park - urban development this close to opposed (cats, weeds)	54
16	National Park - conflict with predator free 'Restore Kaitake' program - increase in cats, dogs, rodents	43
17	Infrastructure - Existing commercial facilities/available land inadequate	39

18	Policy - Oppose 300sqm (or small) lots	33
19	Policy - Sufficient land already available for Res/FUD at Oakura	32
20	Infrastructure - Existing health & social services inadequate - extra demands on emergency services	32
21	Traffic - Wairau Rd has insufficient capacity and of inadequate standard - ?kerbing ?footpath	30
22	Policy - Contrary to Planning Docs - Development & Structure Plans etc	29
23	Traffic- lack of parking in Village centre, school, and on beach front	26
24	Amenity - Protect view of Kaitake Ranges and rural character - protect 'view shaft' - bund blocks view - OSL	24
25	Amenity - Loss of Rural Character	23
26	Infrastructure - Green Space - insufficient informal and play park ('kick a ball')	20
27	Statutory - Paddocks Consent Notice - developer undertaking of no further development not honoured	20
28	Traffic - Wairau Rd/SH45 - roundabout capacity to handle adnl traffic including heavy traffic - ?funding	19
29	Statutory - Protect of high -quality soils - limited resource	18
30	Developer motivated by self-interest - has no regard for community	18
31	Environmental Effect - increased light pollution	15
32	Equestrian - support lifestyle lots with bridal trail	11
33	Policy - Controlled/coordinated/organic growth required	11
34	Equestrian - permit horses on esplanade strip and to use underpass	10
35	Traffic - Donnelly St congestion & Donnelly/SH45 intersection - student safety	10
36	Traffic - single road access to Wairau Estate inadequate - congestion - safety - emergency vehicles	9
37	Policy - Urban Growth - contain seaward of SH45	8
38	Traffic - Wairau Rd/SH45 - Insufficient space for proposed roundabout	7
39	Traffic - provide a separate access off SH45 further south (to service both sides of highway)	7
40	Land values - adverse effect re over-supply- Oakura	7
41	Traffic - construction traffic on Wairau Rd and though Village for extended period	5

42	Archaeological, cultural significance of site	4
43	Amenity - Noise attenuation bund opposed - no bund - set buildings back 80m from SH45	3
44	Environmental Effect - noise and dust from construction over extended period	3
45	Environmental Effect - Oakura Beach - adverse effects through increased pressure from use	3
46	Policy - support smaller scale subdivision - up to 30 lots or one acre lots "Paddocks' style	2
47	Equestrian - lots to small	2
48	Mana Whenua - Tangible recognition requested.	2
49	Statutory - Sustainability - remote from employment opportunities, retail, secondary schools etc	2
50	Environmental Effect - QEII Area - threat from residential development	2
51	Traffic - support proposed Wairau Rd/SH45 - roundabout	1
52	Statutory - sustainability - development automobile dependent - residents will all be commuters - ?pollution/fuel use	1
53	Equestrian - don't mix horses with other users on trails	1
54	Mana Whenua - consultation with Hapu - choice of venue and transparency of process?	1
55	Equestrian - QEII area - position bridle trail between area and Res C area to provide buffer	1
56	Network Utilities - Recognise and provide for protection of gas and liquid petroleum pipelines within site	1
57	Environmental Effect - Attenuation of Noise Sensitive Activities within 80m SH45	1
58	Amenity - Riparian planting both sides of Wairau Stream should be mandatory	1
59	Policy - Available land supply - Cunningham land subdivision (36 lots)	1
60	Environmental Effect - Reverse sensitivity - spraying effluent on adjoining land will constrain/make farming non-viable	1

Appendix A2		
	Group by Issue	
Item	Issue	Frequency
25	Amenity - Loss of Rural Character	23
43	Amenity - Noise attenuation bund opposed - no bund - set buildings back 80m from SH45	3
24	Amenity - Protect view of Kaitake Ranges and rural character - protect 'view shaft' - bund blocks view - OSL	24
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28	Traffic - Wairau Rd/SH45 - roundabout capacity to handle adnl traffic including heavy traffic - ?funding	19
23	Traffic- lack of parking in Village centre, school, and on beach front	26
	Notes	
	Note 1 - Total Submissions received = 436	
	Note 2 - Total submissions received using Proforma = 293 (67%)	
	Note 2 - Total submissions received using Proforma not stating any reasons (i.e. ?treated as petition) = 44 (10.7%)	
	Note 3 - Subs 148-423 (275 or 63%) appeared to have been received by NPDC 10 August at 3.30pm	
	Note 4 - Total late submissions = 14	
	Note 5 - Total subs with no address given = 49 (11.2%)	
	Note 6: Submissions submitted in multiples from same household/PO Box = 217 (49.8%)	
	Note 7: Oakura households who lodged 2 submissions = 79	
	Note 8: Oakura households who lodged 3 submissions = 8	
	Note 9: Oakura households who lodged 4 submissions = 5	
	Note 10: Oakura households who lodged 5 submissions = 1	
	Note 11: Submitters who gave a non-Oakura or environs address = 28 (e.g. NP, BBK, Wgton, UK)	
	Note 12: Non-Oakura address/PO Box households who lodged 2 submissions = 5	

Appendix B

Extract – NPDC Housing and Business Development Capacity Assessment

Draft March 2019 – Pages 35 & 36

Oakura

Oakura has capacity for 629 feasible lots, totalling 70.6 hectares of land. This is a mixture of undeveloped residential land (18.1 hectares) plus two growth areas totalling 52.5 hectares. Land in the Oakura (South) growth area that would be challenging to develop for residential use has been removed under the Draft District Plan.

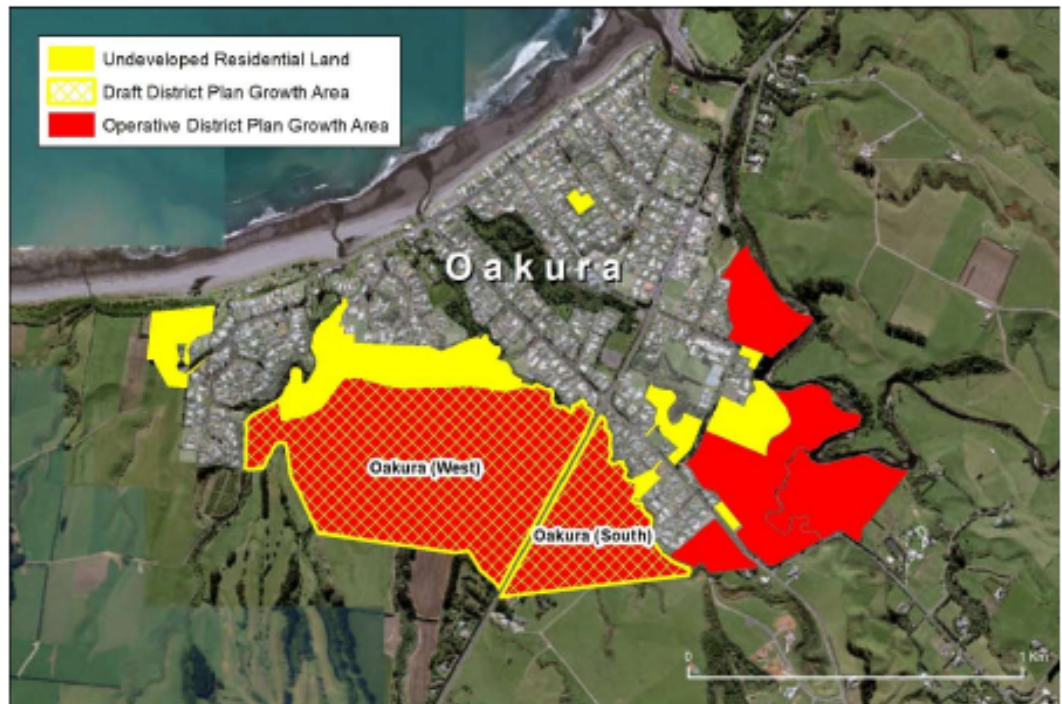


Figure 4.27 – Oakura Growth Area Map

	Zone under current DP	Total Area (ha)	Future Yield (lots)	Proposed Start Year	Grade	Feasibility	Feasible future yield
Undeveloped Residential Land Oakura	Res	18.1	158	2018	2	99%	157
Oakura South	Rural/FUD	13.0	117	2020	3	100%	117
Oakura West	Rural/FUD	39.5	355	2032	3	100%	355
Total		70.6	630		2.5	100%	629

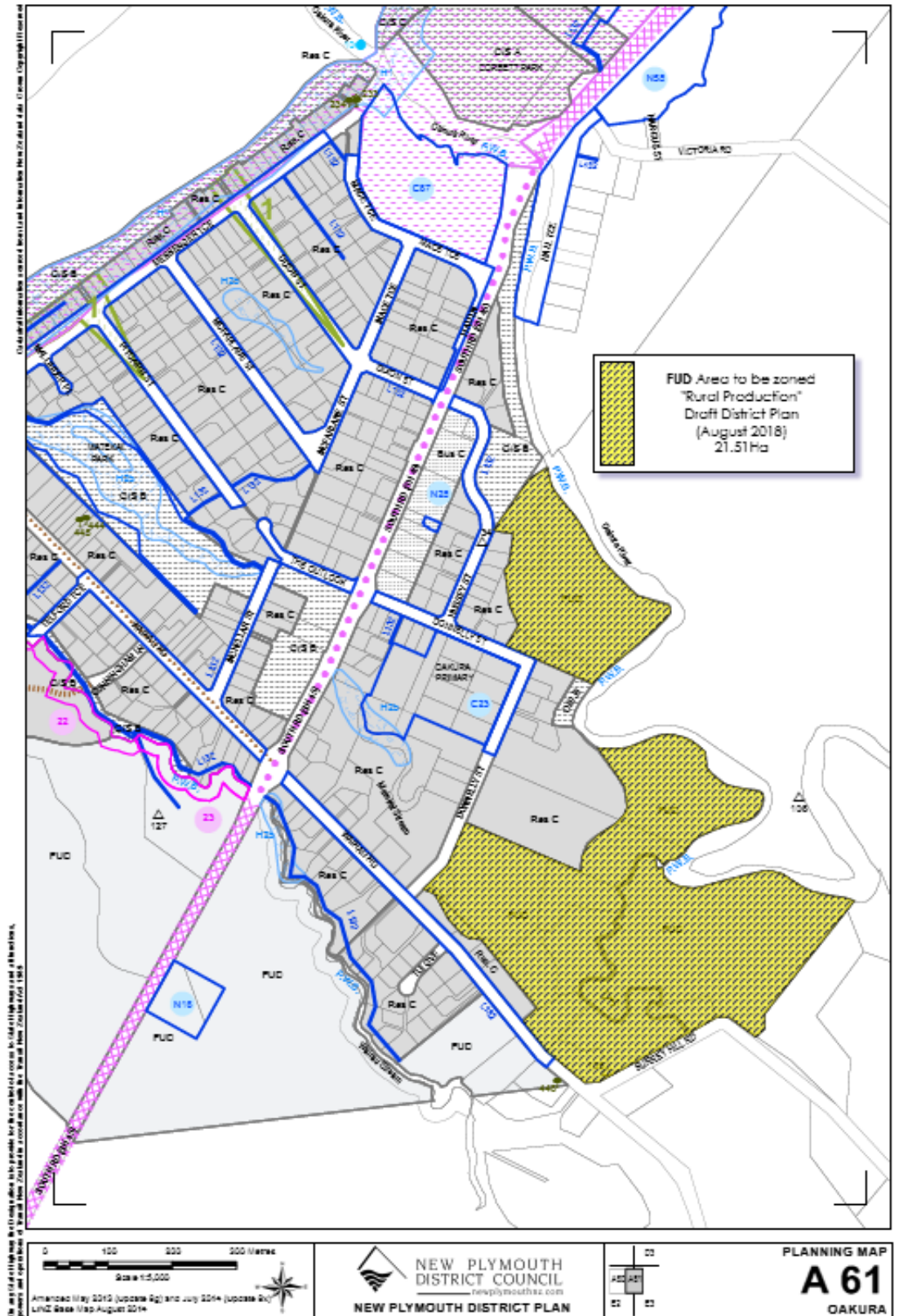
Table 4.8 – Oakura Growth Area Yield

Identified growth areas in Oakura are currently zoned rural, but are enabled by the Operative District Plan as Future Urban Development (FUD) overlays and are adequately serviced by infrastructure. The Draft District Plan will classify these as Urban Growth Areas (UGAs), but they will not be zoned as residential in the short to medium term.

An application for a Private Plan Change to the Operative District Plan was lodged in 2018. This application seeks to rezone approximately 58 hectares of Rural Environment Area land to mainly residential land just south of Oakura (part of Oakura South Growth Area). The submissions for this application closed on Monday 15 October 2018.

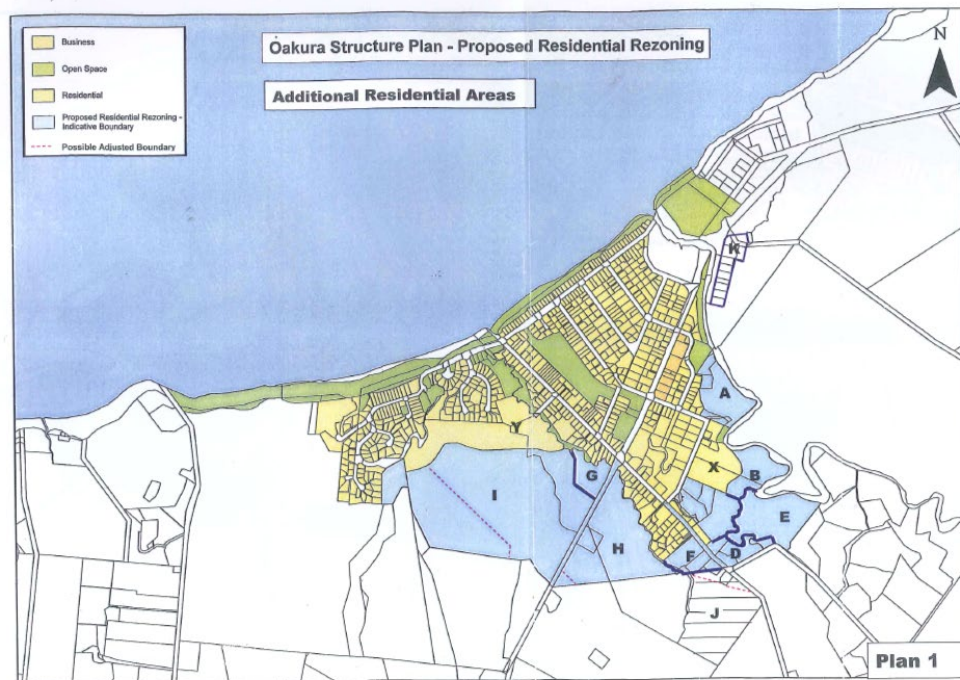
Appendix C

FUD Land to be rezoned Rural Production – ODP Planning May A61



Appendix D

Extract – Beca Technical Appraisal 2008 – Plan 1 and Pg. 8



Oakura Action Plan: Technical Appraisal Page 17 of 18 October 2008

A1.4 Structure Plan Recommendations

The indicative extension is made up of a number of areas as indicated on Plan 1. Areas and estimated yields are given in the table below:

Ref.	Area (ha)	Est. Yield	Notes
A	4.7	9 (4)*	4 lots recently created by discretionary approval but as yet undeveloped. Balance is riverside section limited to 5 new lots by restricted access.
B	3.3	6	Rear part of the Donnelly Street lots. Steep bank and river flat. Limited by restricted access.
C	5.1	3 (3)*	Two properties recently subdivided by discretionary approval to provide 3 extra lots as yet undeveloped. Little scope for further lots due to topography etc.
D	2.4	5	Currently 4 lifestyle blocks. Limited scope for further subdivision due to difficult topography and wahi tapu.
E	6.5	22	Farmland with potential for moderate subdivision in parts where not restricted by topography, pa site and bush covenant.
F	2.9	9	Several properties with 3 existing dwellings and a healing centre. Some scope for additional lots.
G	2.1	5	Single property with scope for some additional lots.
H	13.3	85	Farmland with potential for extensive subdivision. An electricity sub-station and a possible esplanade strip reduce the yield slightly. One existing dwelling.
I	38.0	280	Farmland with potential for extensive subdivision despite difficult topography.
Tot.	78.3	424 (7)*	

* Yield includes vacant lots (numbers in brackets) which have been created through discretionary subdivision and on which new dwellings can be erected under the current District Plan.

Appendix E**Extract – Beca Technical Appraisal 2008 – Pg. 1**

- 2.4 Projection of demand is inexact and it is not unreasonable to provide for a somewhat higher demand in the review of the District Plan. However to provide for orderly development, and in particular an efficient extension of infrastructure, it is desirable that the zoning be kept relatively tight. It is recommended that any extension of the current Residential Environment Area is limited as to area or includes for staged development.
- 2.5 Although larger than required for the current planning horizon the growth area identified in the Structure Plan, with some minor changes, is considered reasonable for longer term planning and this report considers its suitability for residential development to determine the most appropriate staging. Appendix 2 considers the areas and staging in detail.

Appendix F

Extract – NPDC Housing & Business Development Assessment March 2019 - pgs 45-46

4.4 Residential Feasibility Assessments

The NPS-UDC defines feasible development as “commercially viable, taking into account the current likely costs, revenue and yield of developing”. This is essentially a calculation of likely profit margin and risk. There is no definition of ‘commercially viable. However, guidance material suggests a 20 per cent profit margin should be applied when assessing the feasibility of sites for both infill redevelopment, and newly zoned areas. This 20 per cent profit margin remains untested within New Plymouth’s local development community but anecdotally, profit margins appear to fluctuate widely. Given the NPS-UDC criteria for commercial viability, a single figure for newly zoned and redevelopment feasibility may be too simplistic.

Significant work has gone into developing feasibility models tailored to New Plymouth’s local housing market conditions. NPDC has adapted an MBIE spreadsheet to calculate total costs and the expected revenue from section or redevelopment sales. Local developers and builders provided total costs relevant to the Council (in broad terms), and expected revenue was based on recent sales and current listings.

In running feasibility models, including various assumptions, we found that the estimated rate and the actual rate of development are not aligned in some areas. The models often identified properties as infeasible when in reality, dwellings of a similar typology and location had already been built and on-sold. Refining feasibility modelling and ground-truthing in the local market are necessary for results to be considered reliable assessments of feasible commercial dwelling capacity in the district.

Land development model

To better estimate the development yield of our future growth areas, we have applied a grading system based on typography, section size and open space requirements.

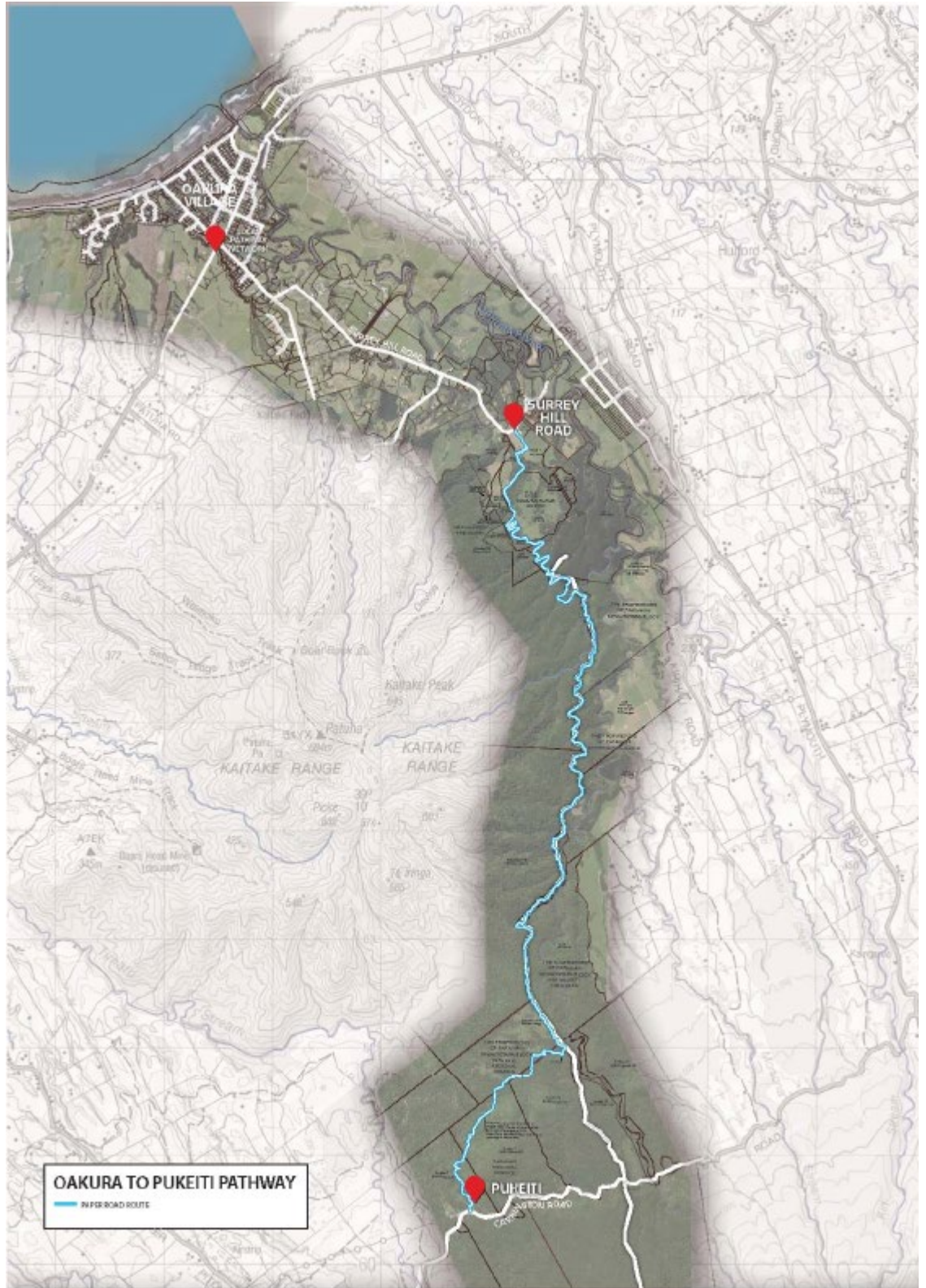
To estimate the number of dwellings and section sizes, including the number of dwellings per hectare and the percentage of land allocated to road, ROW reserve and public reserve, we reviewed historical subdivision¹⁵ data.

GRADE	Typography	Net density (dwellings/ha)			Section Size (m2)		Percentage of Subdivision	
		Min	Average	Max	Min	Max	Road Reserve	Landscape Reserve
1	Flat to gently undulating with little to no reserve (required?)	8	18	25	400	800	18%	0%
2	Rolling to strongly rolling with small reserve (same?)	6	14	20	450	1,200	18%	10%
3	Moderately steep too steep with large reserve land ()	4	10	15	500	1,600	18%	15%
4	Steep land and lots of reserve ()	2	6	10	550	2,000	18%	20%
	Average	5	11	20	500	1,500	18%	12.5%

Table 4.14: Subdivision Feasibility Grading System

APPENDIX G

Oakura to Pukeiti Shared Pathway – NPDC – February 2018



Appendix H Pg. 1 of 3

Exchange of Emails - Comber Consultancy, Ngati Tairi Hapu and and Te Kahui o Taranaki – 8-11 Sept 2018

Colin Comber

From: Puna Wano-Bryant <puna@taranaki.iwi.nz>
Sent: Tuesday, 11 September 2018 11:55 AM
To: Colin Comber
Cc: Waiora Hohaia; Michael Ure; Wharehoka Wano; helen.begg@npdc.govt.nz
Subject: Re: FW: Wairau Estate and Te Kahui o Taranaki

Kia ora Colin,

Thank you for this.

As mentioned to you on the phone:

1. Your engagement with the hapū is encouraged at all times.
2. Filling out the Engagement form is appreciated and is a tool to assist hapū if they find it useful and Taranaki Iwi once the Application is active.
3. Taranaki Iwi have opposed the re-zoning Plan Change so we consider it more appropriate to respond to this Application as Taranaki Iwi when the outcome of the Plan Change is known.

I have copied my CEO and Council in so we are all clear of Te Kāhui's role now and in the future.



Naaku iti nei

Puna Wano-Bryant

Pou Taiāo - Iwi Environmental Manager
Te Kāhui o Taranaki Iwi

p: 06 751 4285 **m:** 021 244 5858

a: Cnr Bayly Rd & Ocean View Parade
 New Plymouth

w: www.taranaki.iwi.nz **e:** puna@taranaki.iwi.nz



On Mon, Sep 10, 2018 at 3:44 PM, Colin Comber <colin@comberconsultancy.co.nz> wrote:

Kia ora Puna

Copy for your information

PS Previously I did not have your email address.

Regards

Appendix H Pg. 2 of 3

Exchange of Emails - Comber Consultancy, Ngati Tairi Hapu and Te Kahui o Taranaki – 8-11 Sept 2018

Colin Comber MNZM

COMBER CONSULTANCY

RMA & Environmental Planning

Mobile: 027 249 2864

PO Box 517

Taranaki Mail Centre

New Plymouth 4340

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From: Waiora Hohala <waiora@taranaki.iwi.nz>
Sent: Monday, 10 September 2018 3:23 PM
To: Colin Comber <colin@comberconsultancy.co.nz>
Cc: mikeure0812@gmail.com
Subject: Re: Wairau Estate and Te Kahui o Taranaki

Kia ora Colin, can you please send this email directly to Puna copying Mike in also?

puna@taranaki.iwi.nz

Kia ora mai,

Waiora Hohala Ashby
Office Administrator - Kai Whakahaere Tari

Appendix H Pg. 3 of 3

Exchange of Emails - Comber Consultancy, Ngati Tairi Hapu and Te Kahui o Taranaki – 8-11 Sept 2018

Te Kāhui o Taranaki
p: 06 751 4285
a: Cnr Bayly Rd & Ocean View Parade
New Plymouth
w: www.taranaki.iwi.nz e: waiora@taranaki.iwi.nz
<<https://www.hubspot.com/facebook.com/TeKahuiOTaranakiIwi>>

On Sat, Sep 8, 2018 at 3:38 PM Colin Comber <colin@comberconsultancy.co.nz> wrote:

Kia ora Mike

Following an approach to Te Kahui o Taranaki in late June this year, I completed the attached form at the request of Waiora, the office administrator, and forwarded it by email to the office for Puna Wano-Bryant.

As of last week I had not had a reply so I rang and spoke to Puna.

The outcome is that she was aware we were in direct communication with Ngati Tairi and does not require us to inform/consult directly with Te Kahui.

However, Puna did ask that I forward a copy of the completed engagement form to Ngati Tairi, which I am now doing.

Could you please let Keith know of the above.

Many thanks.

Regards

Colin Comber MNZPI

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Letter – Te Kahui o Taranaki to NPDC – 17 April 2019



P O Box 92, New Plymouth 4340
Tel: (06) 751 4285 | E-mail: puna@taranaki.iwi.nz
Web: www.taranaki.iwi.nz

17 April 2019

NPDC
Private Bag 2025
NEW PLYMOUTH

District Planning Team

By email: submissions@npdc.govt.nz

Tēnā koe,

Re: Letter on the Private Plan Change to the New Plymouth District Plan, Oākura Rezoning

BACKGROUND

1. Further to the private plan change for the Wairau Road Oākura Rezoning ("the Oākura Rezoning") Te Kāhui o Taranaki ("Taranaki Iwi") make the following formal statements.
2. As submitted in our letter of 10 August 2018, under the Resource Management Act 1991 authorities must take into account Iwi planning documents that are endorsed by Iwi authorities. Taiao Taioara is the environmental management plan of Taranaki Iwi and was endorsed by Te Kāhui o Taranaki in April 2018 and publicly launched in July 2018.
3. Taranaki Iwi further submitted that they are directly affected by the Oākura Rezoning and are in opposition due to potential adverse effects on the environment. We still wish to be heard on this matter.

PRE-HEARING MEETING

4. In the pre-hearing meeting of 29 January 2019 Taranaki Iwi stated that the Applicant's Assessment of Environmental Effects and/or technical reports did not include a Cultural Impact Assessment or sufficient application of Taiao Taioara. The Taiao Taioara engagement form was completed on 27 July 2018 at our request and referenced their technical reports without applying Taiao Taioara.

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Letter – Te Kāhui o Taranaki to NPDC – 17 April 2019

5. The Applicant's consultant Colin Comber agreed that they would overlay Taiao Taioira with their own technical reports. Please see the resulting Taiao Taioira Assessment Report attached.

6. Taranaki Iwi had a further meeting with Colin Comber on 8 March 2019 to review the Taiao Taioira Assessment Report and although the Report has provided some mitigation measures Taiao Taioira is clear on the following positions:

Taranaki Mounga - Section 11.8.7

Taranaki Iwi will not support any residential subdivision and development within 5km of the National Park Boundaries.

Taranaki Mounga - Section 11.8.4

Taranaki Iwi supports Project Mounga and will be prominently involved in that project at governance and operations level.

7. To that end, on 1 April 2019 the Trustees of Taranaki Iwi resolved the recommendation to continue in their opposition to the Oākura Rezoning but approve the Applicant's mitigation measures set out in their Taiao Taioira Assessment Report.

Noho ora mai,



Wharehoka Wano
Tumuwhakarito /CEO
Te Kāhui o Taranaki Iwi

Appendix J

Record of Consultation – Oakura Farm Park Ltd with Ngati Tairi Hapu

The following is a record of the consultation undertaken by Oakura Farm Park Ltd with Ngati Tairi Hapu in relation to the proposal to rezone rural land at Oakura for urban development.

Date	Present	Venue	Purpose	Outcome
6 May 2016	<p>Mike Ure, Ngati Tairi</p> <p>Mike McKie, Oakura Farm Park Ltd</p> <p>Colin Comber, Comber Consultancy</p> <p>Apology: Keith Manukonga, Ngati Tairi – work commitments</p>	<p>The Paddocks Site Office, Wairau Road, Oakura</p>	<p>To acquaint the Hapu with the company's intent to develop the company's land for urban use.</p>	<p>Mike Ure confirmed that he and Keith Manukonga were the RMA and environmental representatives for Ngati Tairi and Nga Mahanga and that the Oakura Farm Park Ltd property was within the Rohe of Ngati Tairi.</p> <p>CC outlined the company's proposals by reference to a document - preliminary Vision and Structure document titled 'Wairau Estate – the future of Oakura, Now!'</p> <p>General agreement that there were no known Waahi Tapu/Archaeological sites within the area to be rezoned. MM confirmed that Ivan Bruce would be re-engaged to provide an archaeological</p>

Date	Present	Venue	Purpose	Outcome
				<p>assessment as he had done for The Paddocks development.</p> <p>MU given a copy of the vision statement and planning maps for consideration and passing on to Keith Manukonga,</p> <p>MM undertook to provide further information to MU as the proposals firmed up.</p>
18 June 2017	<p>Keith Manukonga and Mike Ure, Ngati Tairi</p> <p>Ivan Bruce, Archaeological</p>	Butler's Reef, Oakura	To update the Hapu with the company's progress in develop the company's land for urban use and to present the finding of the findings of the	CC updated the Hapu reps with the company's proposals by reference to a document - preliminary Vision and Structure document titled 'Wairau Estate – the future of Oakura, Now!' Copies of Vision statement given to KM and MU.

Date	Present	Venue	Purpose	Outcome
	<p>Resource Management</p> <p>Colin Comber, Comber Consultancy</p> <p>Apology: Mike McKie, Oakura Farm Park Ltd (OFPL) – overseas.</p>		<p>recent archaeological assessment of the development site.</p>	<p>Ivan Bruce discussed his recent assessment of the subject site and the findings. In summary research and field assessment had indicated there were no sites of archaeological significance to mana whenua. It was possible there was evidence of pre-European settlement subsurface; hence the recommendation in IB's assessment for any development earthworks to be undertaken pursuant to a NZHPT archaeological authority prior to any site works being commenced.</p> <p>Hapu issues noted:</p> <ul style="list-style-type: none"> • That disposal of storm water within the proposed development area did not adversely impact instream values. • Hapu be given opportunity to recommend the name for the Wairau

Date	Present	Venue	Purpose	Outcome
				<p>Estate loop road; this would be reflective of the early (mana whenua) history of the locality.</p> <ul style="list-style-type: none"> • Any earthworks to be subject to archaeological supervision (pursuant to an NZHPT archaeological authority) with Hapu participation. • MOU to be developed to record understandings and undertakings of OFPL and the Hapu in respect of matters of cultural importance relating to the Wairau Estate project with MOU being lodged as part of the Plan Change Request to NPDC. <p>Action Points:</p> <ul style="list-style-type: none"> • CC to forward copies of recent Archaeological Resource Management assessment to KM and MU.

Date	Present	Venue	Purpose	Outcome
				<ul style="list-style-type: none"> • IB to send CC copy of 'The Paddocks' Pa Management Plan • CC to follow-up with Mike McKie re stone sculpture for The Paddocks entrance, as previously verbally agreed with MM. • CC to draft MOU and arrange a further meeting with Hapu Reps KM and MU to consider draft MOU.
20 Nov 2017	Mike Ure & Sharon Steen, Ngati Tairi Mike McKie, Oakura Farm Park Ltd Colin Comber, Comber Consultancy	Butler's Reef, Oakura	The meeting was called at the request of the Hapu to discuss matters relating to 'The Paddocks' and also 'Wairau Estate'	Matters discussed: The Hapu wishes to progress the stone sculpture to be located at the 'The Paddocks'. MU outlined the process which would include design (to be arranged by hapu); sourcing suitable rock/s (MM offered to source rock from one of his properties); commissioning a carver (hapu to arrange) and agreeing costs and funding. MU spoke of possible assistance for hapu with funding from NPDC heritage/cultural

Date	Present	Venue	Purpose	Outcome
	Apology: Keith Manukonga, Ngati Tairi – work commitments			<p>projects allocation. CC to assist with funding application.</p> <p>Hapu concerned at keeping residents off the pa site/QE II area to show respect for waahi tapu and also avoid damage to vegetation/habitat. Hapu would like to see appropriate signage erected. MM agreed and would work with hapu to see signage put in place.</p> <p>MU requested on behalf of the hapu the naming rights to the main loop road of the Wairau Estate and indicated that was the only road they had an interest in naming. MM indicated he was relaxed about this and that Ngati Tairi could have the naming rights.</p> <p>MU advised he had spent 1.5 days with Ivan Bruce during the archaeological assessment of the Wairau Estate site. He advised MM his fees were \$150.00. MM arranged with MU to get a cheque to him in the next day or so.</p>

Date	Present	Venue	Purpose	Outcome
				At the conclusion of the meeting a visit was made to a layby area on 'The Paddocks' property on Upper Wairau Rd almost opposite the Surrey Hill Rd intersection. It was agreed the site would be suitable to locate a stone carving.
17 June 2018	Keith Manukonga, Mike Ure & Sharon Steen, Ngati Tairi Barry Te Whatu, carver Mike McKie, Oakura Farm Park Ltd Colin Comber, Comber Consultancy	Butler's Reef, Oakura	The purpose of the meeting was to review the draft MOU prepared by CC, (previously distributed) and to discuss progressing the stone carving.	The draft MOU was reviewed. In addition to several minor amendments it was agreed that the MOU record that a Cultural Impact Assessment (CIA) would be undertaken by Ngati Tairi with the reasonable costs to be met by OFPL. The CIA would be supplied to OFPL, NPDC and as evidence to the Hearings Commission. KM would prepare a CIA for consideration at the next meeting of the parties. Ngati Tairi requested a copy of the ecological report that had been prepared for the project. CC to distribute copies.

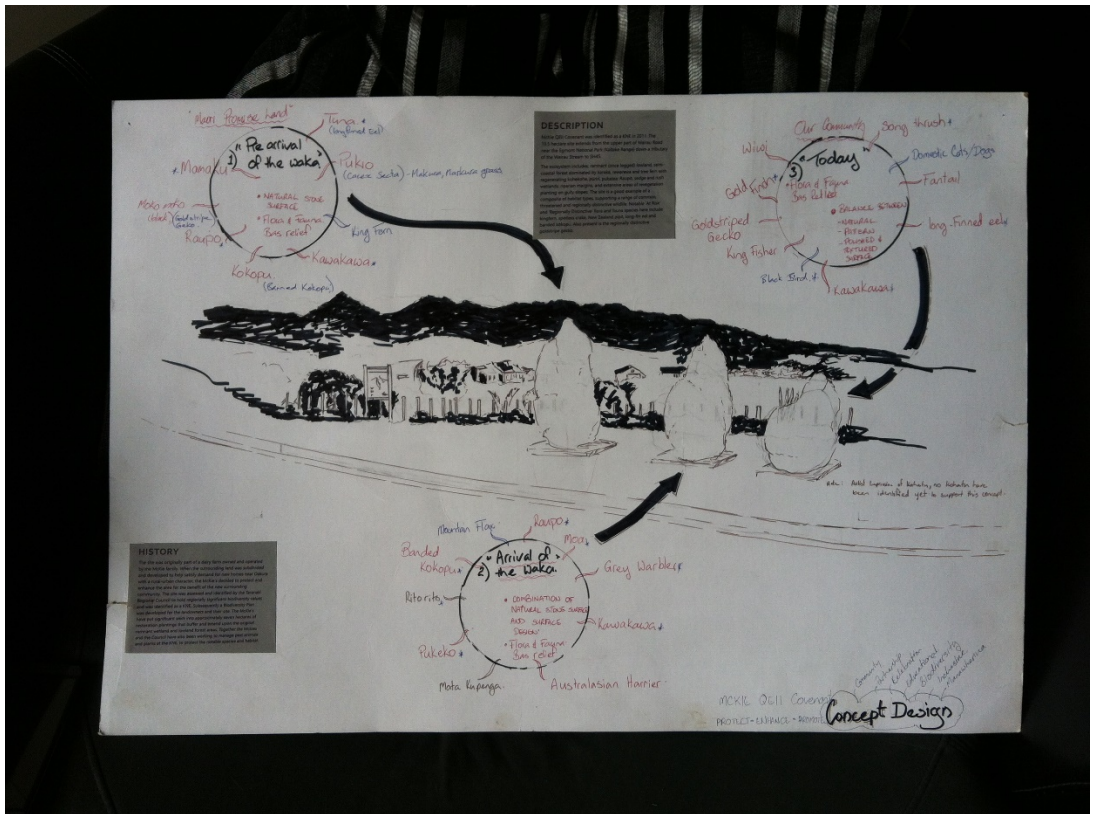
Date	Present	Venue	Purpose	Outcome
				<p>The stone carving was discussed. Barry Te Whatu said he would prepare a design concept for consideration by the Hapu and OFPL after he gained an understanding of Hapu history and the importance of the locality to Ngati Tairi. It was generally agreed the carving could be reflective of community (Maori and Non-Maori) and the past, present and the future (e.g. intergenerational, forward looking).</p> <p>The Hapu and BTW preference was to use stone sourced locally; BTW also suggested community engagement and understanding in and of the work could be engendered by undertaking the actual carving in a prominent location in Oakura Village or on Upper Wairau Rd. Logistics and security (of equipment) would need to be considered.</p> <p>At the conclusion of the meeting all present undertook a site visit to the previously</p>

Date	Present	Venue	Purpose	Outcome
				<p>selected layby area on 'The Paddocks' property on Upper Wairau Rd almost opposite the Surrey Hill Rd intersection.</p> <p>Agreed to reconvene in 4-6 wks.</p>
2 September 2018	<p>Keith Manukonga, Mike Ure & Sharon Steen, Ngati Tairi</p> <p>Barry Te Whatu, carver</p> <p>Mike McKie, Oakura Farm Park Ltd</p> <p>Colin Comber, Comber Consultancy</p>	Butler's Reef, Oakura	The purpose of the meeting was to discuss progressing the stone carving and review the draft MOU prepared by CC, (previously distributed).	<p>Barry Te Whatu presented sketches for concept designs for the stone sculpture proposed for Upper Wairau Rd on a site adjoining The Paddocks.</p> <p>His proposed theme was around past, present and future community and environment and would be articulated in three large carved rocks.</p> <p>There was consensus that the proposed approach would provide an appropriate and tangible expression for the hapu, community and the local environment. It was considered that in time the stone carvings could become a defining feature and point of interest in the locality and could present a learning</p>

Date	Present	Venue	Purpose	Outcome
				<p>opportunity about local history and environment for nearby Oakura school.</p> <p>BTW envisaged large rocks would be used (e.g. approx 3m in height). The size would determine that the rocks would be placed on the site and carved insitu.</p> <p>As the sculpture was likely to attract passers-by (e.g. cars, cyclists, pedestrians etc) CC suggested a site and landscape plan would need to be prepared in advance of rock placement to provide for access and roadside vehicle parking etc.</p> <p>Sourcing of rock was discussed. MM and BTW to meet during September and visit various quarry sites to identify suitable material.</p> <p>The draft MOU was reviewed. KM advised the draft would be tabled at the AGM of the Hapu on 16 September 2018 with a view to obtaining Hapu sign-off.</p>

Date	Present	Venue	Purpose	Outcome
				It was agreed to meet again late in September.

Appendix K – Site for Stone Carving with artist/carver concept design





BRANZ FACTS

HARNESSING RAINWATER AND GREYWATER #1

Rainwater harvesting systems in New Zealand houses

Domestic rainwater harvesting systems collect rainwater and store it for use by the household. That use may be just watering the garden or flushing the toilet, but with the right treatment, rainwater can provide for every need, including food preparation and drinking water.



THE SIMPLEST rainwater collection systems are made up of:

- a collecting area – typically a roof
- pipes to a tank
- devices to keep out debris before the water gets to the tank
- taps or piping to provide access to the water

Systems just providing water for the garden normally rely on gravity. Larger systems supplying water into a house typically require a pump and will require filters and treatment devices where it is a potable (drinking water supply).

Rainwater harvesting systems are not the same as greywater reuse systems. Greywater reuse systems take wastewater from baths, showers and hand basins and, in some cases, from laundries. Their use is usually limited to irrigation or toilet flushing.

BRANZ surveys conducted in 2014 and 2016 found that most people favour installing rainwater systems for cost savings (reduced town supply consumption), allowable garden irrigation during water restrictions and environmental reasons.

Improving a building's resilience – ensuring that it can function properly during and after a natural disaster – is another reason. In Wellington, for example, the town water supply network crosses faultlines at numerous locations. After a big earthquake, normal supply may not be available for 2 months. Residents in some locations could have to wait over 3 months.

The two BRANZ surveys indicated that the main barriers to installing rainwater systems in New Zealand buildings are cost, education and space for the tanks.

Most people (around 90% in the 2014 BRANZ survey) are happy to use rainwater

for the laundry, toilet flushing and irrigation. Half see rainwater as acceptable for drinking and cooking/food preparation.

Clean water

Keeping the water clean is critical as water can become unhealthy if it is contaminated. Bird or animal droppings or dead animals can cause microbial contamination. Chemical contamination can come from things such as pesticide or herbicide spray drift onto the roof or use of inappropriate materials to collect the water.

To ensure the water is clean enough for the chosen end use, it's important to consider:

- catchment area – it must be clear of tree branches that provide places for birds to perch or roost or for cats, possums or rodents to access the roof
- materials selection
- component specification – roof

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claddings must be suitable for potable water collection

- the need for regular maintenance.

Roof catchment

Suitable roofing materials include:

- zinc/aluminium alloy-coated or galvanised (zinc) steel, whether uncoated, factory-coated or painted
- metals such as zinc, aluminium or stainless steel
- concrete or clay tiles
- untreated timber shingles (usually imported western red cedar)
- butyl rubber
- asphalt shingles
- bitumen membranes.

Roofs must not be painted with lead or chromium-based paints. (Some special-purpose, lead-based paints containing red lead are still available, and anti-rust primers sometimes contain chromium salts.) Do not use roofs where the construction includes uncoated lead flashings, treated timber or an older asbestos-cement roof cladding.

Install mesh leaf guards in the roof gutters and leaf screens in the downpipes. Materials suitable for gutters and downpipes include uPVC, factory-coated zinc/aluminium alloy-coated steel or galvanised steel, copper, aluminium or polyethylene/polypropylene.

Install a first-flush diverter to divert the first volume of rainwater (which carries a lot of dirt and debris) away from the storage tank.

Tanks

Water storage tanks can be above ground or underground. They can be made of galvanised steel, zinc/aluminium alloy-coated steel (only if not in ground contact), fibreglass, plastic or concrete. Some materials may affect water taste when they are new. A galvanised steel tank may initially cause a metallic taste. A new concrete tank may release lime that increases the pH of the water and cause a slightly bitter taste.

Filters and treatment

Filters or treatment systems should be specified depending on the required end use of the water. Even when leaf screens and first-flush diverters are used, it is still possible for harvested rainwater for a potable supply to be contaminated with bacteria, viruses, algae, pesticides and other contaminants. Filtering and treating the water can greatly reduce the presence of these and can also help remove odours. Some local authorities will only allow rainwater to be used for drinking, food preparation and bathing if the water is treated.

Filters can be located to treat all the water entering the house from a rainwater tank or can be fitted under a kitchen bench to just provide cleaner water from one tap. Several different types of filter are typically used together:

- Mesh filters can filter out sediment and dirt and some organisms such as *Giardia* cysts. This type of filter extends the life of tapware, appliances and filters that come after them.
- Carbon filters reduce the quantities of chemicals, numbers of bacteria and unwanted tastes and odours.
- Reverse osmosis filters pass water through a semi-permeable membrane. This type of filter can filter out lead, pesticides and bacteria.

A treatment system can be specified after the filtration if required. Among the more common treatment options for rainwater collection are:

- ultraviolet systems that expose water to the light from ultraviolet bulbs – this disrupts the DNA of micro-organisms such as bacteria and viruses, stopping them from multiplying
- ozone treatment kills micro-organisms and can reduce pesticide levels and remove unpleasant odours.

Legal requirements

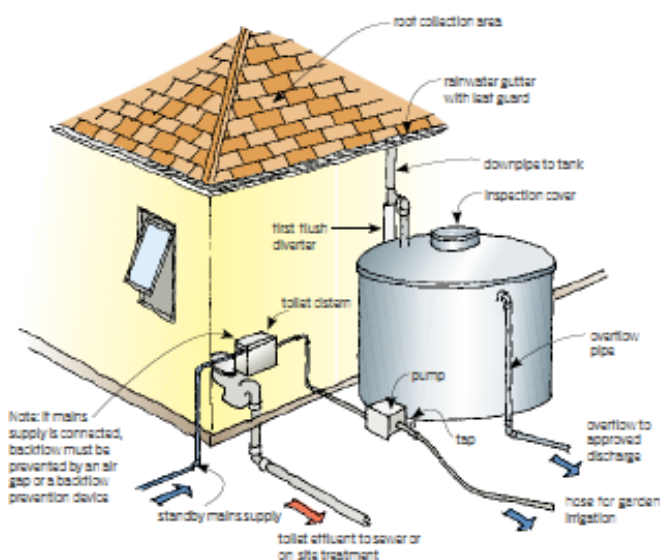
Rainwater systems must meet Building Code requirements. These include a requirement for adequate potable (drinkable) water to be provided for consumption, oral hygiene, utensil washing and food preparation. This potable water supply must be protected from contamination and must not contaminate the water supply system or source.

The Building Code also requires adequate water supply to sanitary fixtures (toilets, baths, showers and sinks).

A building consent will normally be required for larger tanks, for tanks that are elevated and for connections to a house that also gets mains supply water. In this latter case, a qualified plumber must be used and a backflow prevention device installed to prevent the mains water system from being contaminated. Annual inspection may be required.

Roofs, pipework and tanks must meet the requirements of AS/NZS 4020:2005 *Testing of products for use in contact with drinking water*.

Lilac piping is adopted through AS/NZS 3500 *Plumbing and drainage* series to indicate non-potable supply – for example, rainwater used just to flush toilets.



Schematic drawing of rainwater harvesting system used for garden irrigation and toilet flushing

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More information

Fact sheet 4 *Water quality in New Zealand rainwater harvesting systems*

Fact sheet 5 *Benefits of rainwater and greywater systems in New Zealand houses*

Fact sheet 6 *What is holding back rainwater and greywater systems in New Zealand?*

Bint, L. (2017). *Performance of commercial rainwater and greywater systems*. BRANZ Study Report SR383. Judgeford, New Zealand: BRANZ Ltd.

Bint, L. & Jaques, R. (2017). *Drivers and barriers to rainwater and greywater uptake in New Zealand*. BRANZ Study Report SR382. Judgeford, New Zealand: BRANZ Ltd.

Garnett, A. & Bint, L. (2017). *Calculating potential network savings through employing rainwater and greywater systems*. BRANZ Study Report SR384. Judgeford, New Zealand: BRANZ Ltd.

www.level.org.nz: This BRANZ website has information about rainwater harvesting at www.level.org.nz/water/water-supply/mains-or-rainwater/

Maintenance

Regular maintenance is important to keep the water clean.

Every 3–6 months, inspect the gutters, leaf guards and drainpipes and clean as necessary. Disconnect the pipes to the water tank first if possible.

Every 12 months, you should:

- inspect and clean the roof – disconnect the pipes to the water tank first if possible
- prune away any overhanging branches
- check tank inlets, covers and filters and clean as required
- check the tank exterior and pipes for structural integrity, leaks and seepage – any damage should be repaired or the components replaced

- check for evidence of access by animals, birds or insects, the presence of algal growth and accumulated sediment.

Sediment in the tank should be removed as required. This can be done without emptying the tank by siphoning, pumping, through a scour valve (if the tank has one) or in some cases by using a swimming pool vacuum cleaner. Where sludge cannot easily be removed, the tank may need to be emptied and cleaned. This is best done by professional tank cleaners.

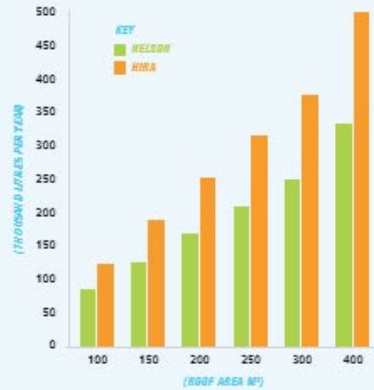
Filters occasionally need replacing – how often depends on water use. For treatment systems, follow the manufacturer's instructions on maintenance.

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HOW MUCH WATER COULD YOU COLLECT?



HOW MUCH RAINWATER CAN A TYPICAL HOUSEHOLD USE?

Approximately 65% of our household water needs can be met by collecting rainwater.



HOW MUCH WATER DO YOU NEED?

If you are looking for a simple system to store water for watering the garden, washing the car etc. then a 250 – 400 litre tank will usually be more than adequate for your needs, and easy to install yourself. Gardens use about 20% of a household's water.

Laundry and toilet flushing uses up to 45% of a household's water.

If you want to use rainwater for all your household needs, including showering and drinking water, allow at least 300l per day per person, and make sure your tank has plenty of capacity for dry periods. Bathrooms and kitchens use about 35% of a household's water.

Household use	Litres / Person / Day
Drinking	2
Cooking/food prep	3
Bathing/showering/cleaning	100
Toilet flushing	80
Clothes washing	65
General	50
TOTAL	300

Other use	Usage
Garden watering	5 Litres/m²
Stock watering	Up to 50 Litres/animal

WHAT ARE THE LEGAL REQUIREMENTS?

The NZ Building Act allows tanks not exceeding 35,000 litres and supported directly by ground to be installed without building consent. Tanks supported on a structure have limits on size before they need consent.

However if you are installing a rainwater tank system that will be connected to your home's plumbing in any way, you should check with our building officers to find out how to make sure your water supply is safe, legal and won't cause any problems in your home.

For further information please contact duty.buildingofficer@ncc.govt.nz or visit nelson.govt.nz/rainwater-harvesting



USEFUL LINKS

level.org.nz/water
level.org.nz/water/water-supply/mains-or-rainwater/harvesting-rainwater/

smarterhomes.org.nz
smarterhomes.org.nz/smart-guides/water-and-waste/collecting-and-using-rainwater/

HARVESTING RAINWATER
 Our most precious natural resource

Civic House, 110 Trafalgar Street, Nelson
 03 546 0200 • nelson.govt.nz

03 546 0200
nelson.govt.nz

Nelson City Council
 te kaitiaki o whatatiri

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HARVESTING RAINFALL

Harvesting rainfall is a simple way of being more sustainable, wherever you live. By collecting and storing the rain that naturally falls on your roof, you are doing lots of good things:

- Reducing pressure on our streams, rivers, and groundwater resources.
- Saving money on water bills.
- Giving yourself an emergency supply.
- Taking water out of the stormwater system during heavy rain, which can help reduce flooding and erosion.
- Reducing energy used for water treatment and transport.

The quality of the water you collect depends on the condition of your roof, guttering and storage system, and there are filters available if you need to ensure your rainwater is suitable to drink.

Rainwater harvesting systems can be as simple or as sophisticated as your needs and budget dictate. You could start with a simple rainwater barrel to use for watering the garden, and add more storage and filters in the future.

BEFORE YOU GET STARTED

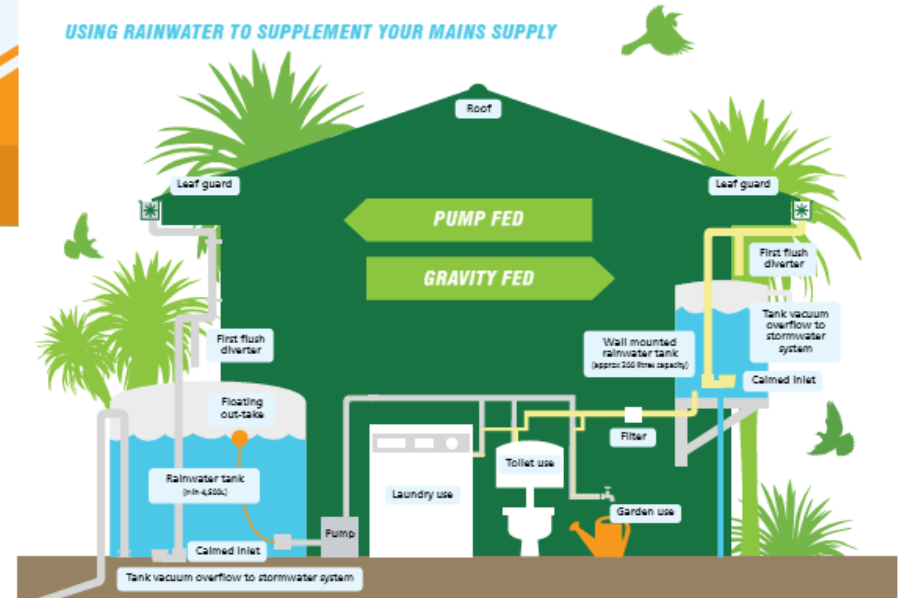
- Check the condition of your roof surface and the roofing materials including the type of paint, flashings, and nails used. Lead paint and rusty nails could contaminate your water.
- Mount tanks out of direct sunlight.
- Ensure feed pipes have a constant gradient to avoid stagnant water pooling along the way.
- Elevate your tank so you can use gravity to increase pressure.
- Fit a floating out-take, calmed inlet and tank vacuum overflow.

Maintenance

Your rainwater harvesting system will be most successful when it is well maintained:

- Make sure tree branches do not overhang the roof.
- Clean filters and leaf collectors regularly.
- Keep spouting and guttering clear and clean.

USING RAINWATER TO SUPPLEMENT YOUR MAINS SUPPLY



Drinking – filter options

If you are using rainwater as a domestic or drinking water supply, use a UV steriliser plus a filtering system to ensure it is safe. There are lots of different filters available for keeping debris out of your rainwater, including first flush diverters and leaf filters. Check building consent requirements to find out what is required for your needs.

HOUSEHOLD SYSTEMS CAN BE PUMP OR GRAVITY FED AND SHOULD BE DESIGNED IN ACCORDANCE WITH BUILDING REGULATIONS

Appendix M – Additional land for water supply

