

**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 ALAN LEONARD DOY

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INTRODUCTION

1. My name is Alan Leonard Doy.
2. I have been a practicing surveyor for 22 years and am currently a Director of McKinlay Surveyors.
3. I hold a Bachelor of Surveying with Distinction from Otago University (1995), and am a full member of Survey and Spatial New Zealand and the Institute of Cadastral Surveyors.
4. My experience includes preparation of resource consent applications for urban and rural subdivision, cadastral surveying and land development.
5. I was engaged by the Applicant, Oakura Farm Park Limited during 2015 to undertake the subdivision design and land development survey work for this project, known as Wairau Estate and now the subject of Plan Change 48. I am very familiar with the subject site and environs, having walked it numerous times and have also undertaken extensive on-the-ground survey work over its entirety.

CODE OF CONDUCT

6. I have read the Environment Court Code of Conduct for expert witnesses and agree to comply with it. I confirm that in my opinions expressed in this statement are within my area of expertise except where I state that I have relied on the evidence of other persons. I have not omitted to consider materials or facts known to me that might alter or detract from the opinions I have expressed.

SCOPE OF EVIDENCE

7. My evidence covers an analysis of the following areas to assess the available section yield.

- a) Undeveloped Residential Land Oakura
- b) Oakura West FUD
- c) Oakura South FUD
- d) Wairau Estate – Plan Change 48

SUMMARY

- 8. A topographical slope analysis has been undertaken to confirm and refine the section yield for the Oakura Growth Area as discussed in the draft Housing and Business Development Capacity Assessment March 2019 (HBA) for New Plymouth District.
- 9. The analysis has identified a reduced accumulative yield of 542 lots compared to the 630 tabled in the HBA, a reduction of 88 lots.
- 10. The Subdivision Feasibility Grading System adopted in the HBA appears to have been at a high (coarse) level and does not appear to have had the benefit of using slope analysis to arrive at the lot yields in Table 4.8 (refer page 36).
- 11. The HBA acknowledges the limited reliability of modelling methodology used and indicates greater reliability of yields will be achieved with more detailed analysis and ground truthing; this has been the basis of my approach.
- 12. Based on my ground truthing I conclude that the actual yield that will be realised for the Undeveloped Residential Land Oakura, Oakura West FUD and Oakura South FUD will likely be approx. 88 lots less (i.e. 630 less 542) than that stated in the Housing and Business Development Capacity Assessment 2019.

13. In my opinion the difference between my yield analysis and the HBA numbers is due to the nature of the topography and natural drainage features bisecting the site not having been sufficiently taken into account in the HBA analysis.

ANALYSIS

14. New Plymouth District Council have recently prepared their draft Housing and Business Development Capacity Assessment March 2019 (HBA) for the New Plymouth District. This assessment is referenced in the Council's Planner's s42A report in relation to Private Plan Change 48, providing an assessment of the capacity (supply) of housing in Oakura.

Figure 1: Map illustrating growth areas in Oakura (NPDC HBA 2019, pg36, Fig 4.27)

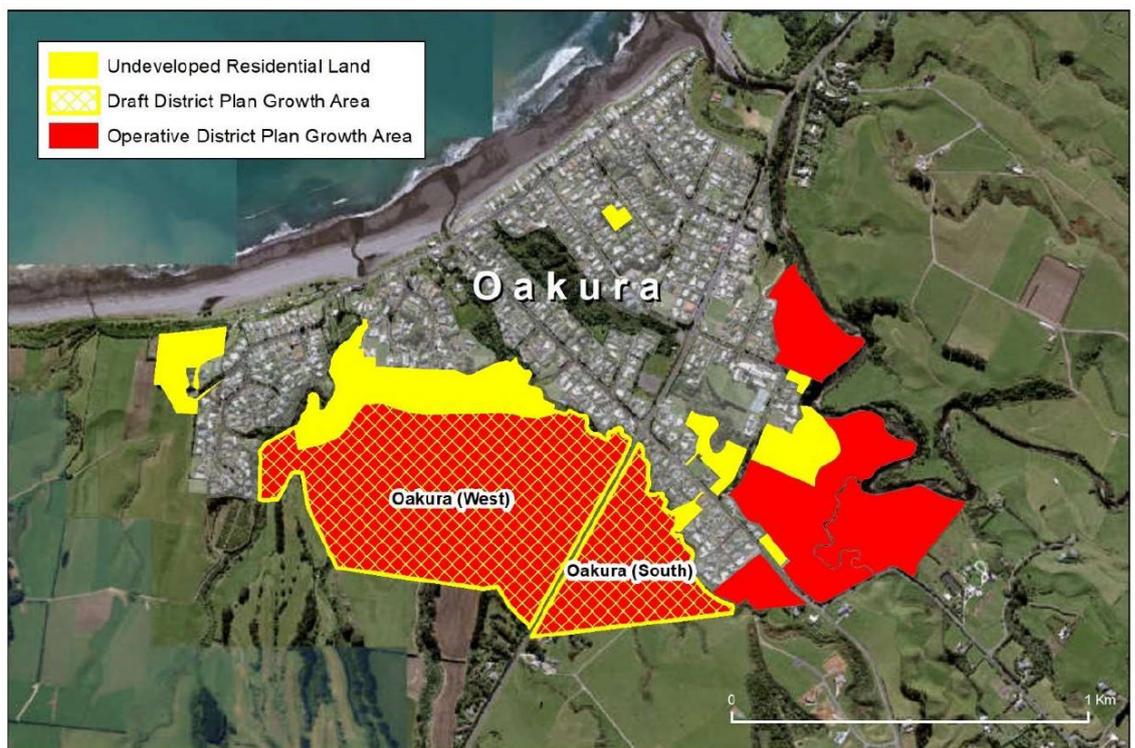


Table 1: Showing Oakura Growth Area Yield (NPDC HBA 2019, pg36, Table 4.8)

	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

15. The HBA assessment has assigned a density grade based on a general description of land topography and an estimate of the average number of dwellings that can be built per hectare to determine the total future section yield. The HBA Subdivision Feasibility Grading System is as follows:

Table 2: Showing Subdivision Feasibility Grading System (NPDC HBA 2019, pg. 46, Table 4.14)

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%

16. To validate the Oakura Growth Area Yield (Table 1) I have analysis the areas identified in Figure 1, by modelling the topography using the Council's 2013 digital contour information. A slope analysis has been performed with the following slope categories matched to the Subdivision Feasibility Grading System (Table 2). I have not utilised HBA Grade 1 as the net density represents allotment sizes comparable to the Residential A Environment

Area rather than the Residential C or Large Lot Residential which is typically Oakura.

HBA Grade	Slope	Topography
2	0-5%	Rolling to strongly rolling with small reserve
3	5-10%	Moderate steep too steep with large reserve land
4	10-20%	Steep land and lots of reserve
	>20%	Steep and reserve land, drainage catchments with minimal development possible

Table 3: Grade/Slope comparison

17. The slope analysis results have been mapped – refer Appendix 1 attached.
18. A 40 m wide buffer along both sides of South Road (SH 45) has been excluded given this represents the State Highway Reverse Sensitivity Corridor.
19. No HBA Grade 1 land has been categorised given the nature of the topography. Further the HBA Grade 2 Net Density (dwellings/Ha) as per Table 2 above reflect the present typical density of subdivision in Oakura.
20. Land with slope greater than 20% has been categorised separately; as this is more than likely to have low section yield and be comprised of natural drainage features, e.g. watercourses and wetlands etc, where ponding and inundation may occur.

21. The slope analysis and resulting feasible future yield for the Oakura Growth Area including Plan Change 48 is shown below in Table 4.

OAKURA UNDEVELOPED RESIDENTIAL LAND				
Grade	Slope	Area (Ha)	Net Density (dwellings/Ha)	Feasible Future Yield
2	0-5%	5.4	14	76
3	5-10%	3.3	10	33
4	10-20%	1.9	6	11
	>20%	7.1	2	14
		17.7		134
OAKURA WEST FUD				
Grade	Slope	Area (Ha)	Net Density (dwellings/Ha)	Feasible Future Yield
2	0-5%	9.6	14	134
3	5-10%	6.3	10	63
4	10-20%	10.8	6	65
	>20%	710.4	2	21
		37.1		283

OAKURA SOUTH FUD				
Grade	Slope	Area (Ha)	Net Density (dwellings/Ha)	Feasible Future Yield
2	0-5%	6.9	14	97
3	5-10%	0.6	10	6
4	10-20%	3.1	6	19
	>20%	2	2	21
		12.6		125
Plus balance of Wairau Estate land proposed for residential development				
Grade	Slope	Area (Ha)	Net Density (dwellings/Ha)	Feasible Future Yield
2	0-5%	7.9	14	111
3	5-10%	5.8	10	58
4	10-20%	3	6	18
	>20%	2	2	4
		18.7		191

Table 4: Topographical Slope Analysis of Oakura Growth Areas

22. The topographical slope analysis results for the Oakura Growth Area are summarised in Table 5 below and in my opinion suggest the feasible future yield estimated in the Housing and Business Development Capacity Assessment has been overstated following refined modelling based on analysis of available land contour data.

	Area (Ha)	HBA (Lots)	Refined by Slope Analysis (Lots)
Undeveloped Residential Land Oakura	17.7	158	134
Oakura West FUD	37.1	355	283

Oakura South FUD	10.5	117	125
	Totals	630	542

Table 5: Comparison of Oakura Growth Area Yield

23. The significant reduction in the number of sections yield is due to the following factors:
- a) The limited opportunity for residential development on large areas of topography with slopes greater than 20% and/or areas affected by the Waimoku and Wairau Streams.
 - b) The Undeveloped Residential Land Oakura has been assigned Grade 2 in the HBA; however, closer analysis demonstrates that this land is more likely to be Grade 3 considering the prevalent steep slopes and the scarp along the Oakura River for the Donnelly Street property.
24. For completeness and based on the HBA Density Grading methodology adapted as previously described, Table 7 below sets out the yield for the proposed Wairau Estate.

	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

Table 7: – Yield Analysis - Residential Lots

25. The 385 Residential lots (total development 399 lots) adopted in the Plan Change Request 1 was based on a conservative approach to ensure the approximated maximum lot yield was not understated in the document when formally lodged.

CONCLUSION

26. Resulting from my slope analysis of the topography of the Oakura Growth Area I conclude that the actual yield that will be realised for the Undeveloped Residential Land Oakura, Oakura West FUD and Oakura South FUD will likely be approx. 88 lots less (i.e. 630 less 542) than that stated in the Housing and Business Development Capacity Assessment 2019.
27. I also conclude that the difference between my yield analysis and the HBA numbers is due to the nature of the topography and natural drainage features bisecting the Oakura Growth Area not having been sufficiently taken into account in the HBA analysis.
28. The total residential lots to be contributed by the Wairau Estate (i.e. Plan Change 48) as proposed will be 316.

Dated 17 June 2019

Alan Leonard Doy

¹ Pg. 109 - Appendix 11.2.1

APPENDIX 1

TOPOGRAPHICAL SLOPE ANALYSIS – OAKURA GROWTH AREAS PLUS WAIRAU ESTATE EXTENT

