

BEFORE THE AUCKLAND UNITARY PLAN INDEPENDENT HEARINGS PANEL

IN THE MATTER of the Resource Management
Act 1991 and the Local
Government (Auckland
Transitional Provisions) Act
2010

AND

IN THE MATTER of Proposed Auckland Unitary
Plan Topic 081– Rezoning
and Precincts (Geographic
Areas)

**STATEMENT OF EVIDENCE OF PHILIP MARK OSBORNE ON BEHALF OF
KARAKA NORTH VILLAGE LTD FOR REZONING AND PRECINCTS
(GEOGRAPHIC AREAS) (Topic 081)**

10 February 2016

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Barristers

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INTRODUCTION

1. My name is Philip Mark Osborne. I am an Economic Consultant for the company Property Economics Ltd, based in Auckland.
2. My qualifications include – Bachelor of Arts (History/Economics), Masters in Commerce, a Masters in Planning Practice, and have provisionally completed my doctoral thesis in developmental economics.
3. For the past twelve years I have been an economic property consultant for Property Economics Ltd. Previous to this I have been a business analyst to several large firms both here and in Europe. I also taught economics at both the secondary and tertiary level.
4. I have recently advised, and currently advise, most local authorities including Christchurch City Council, Napier City Council, Auckland Council, Wellington City Council, Wellington Regional Council, Waikato Regional Council, and Far North District Council in relation to forward planning and resource valuation issues. I also provide consultancy services to a number of large private sector clients in regard to a wide range of property issues, including economic impact assessments, forecasting market growth, determining future land demand for the residential and business sectors, and economic cost-benefit analysis.
5. I have been engaged by Karaka North Village Limited (“**KNV**”) to provide evidence on the Proposed Karaka North Village and residential development at Linwood Road in the Franklin Ward.
6. I have read and am familiar with the Environment Court's Code of Conduct for Expert Witnesses, contained in the Environment Court Practice Note 2014, and agree to comply with it. Other than where I state that I am relying on the advice of another person, I confirm that the issues addressed in this statement of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

KARAKA NORTH VILLAGE

7. The KNV development is to be located at the corner of Linwood and Dyke Roads, Karaka. The site is bordered by the Whangamaire Stream to the west and is approximately 81 hectares in total of rural land currently used for dairy farming. Current Operative District Plan zoning, shown in **Appendix 1**, is primarily ‘Coastal’,

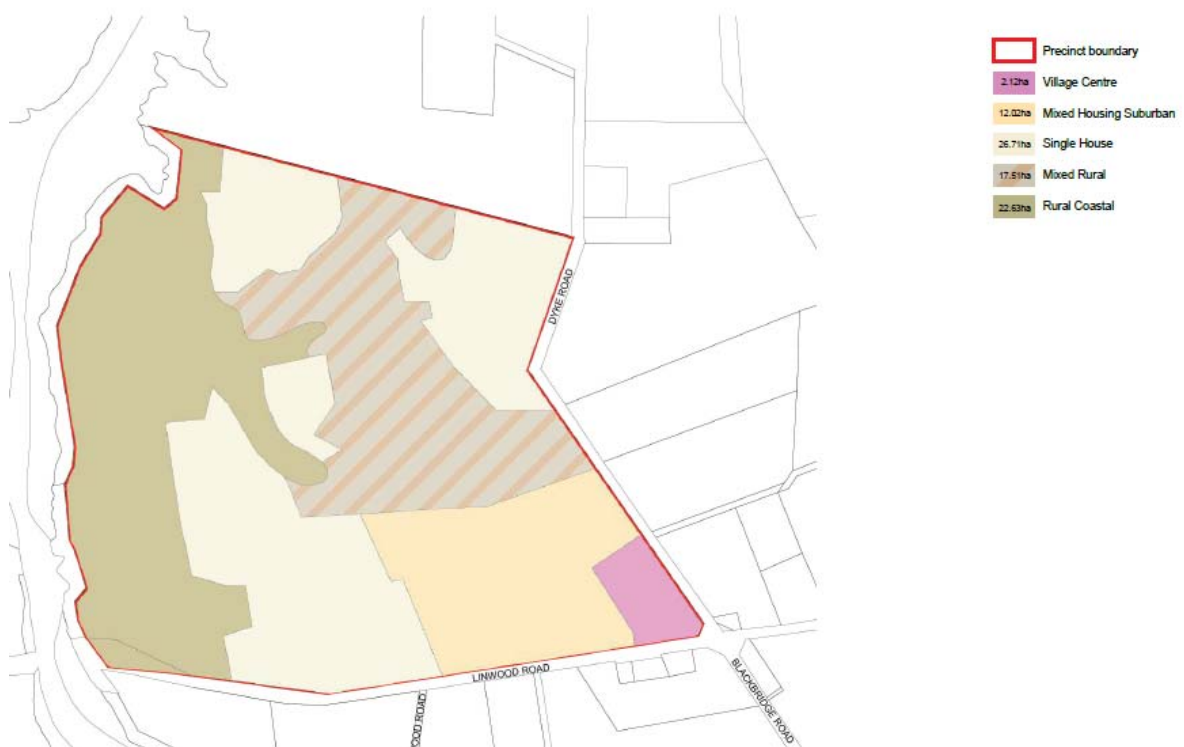
with around a quarter zoned 'Village', next to a small 'Business' zone on the intersection.

8. Karaka is a small rural area bordered by the Pahurehure Inlet of the Manukau Harbour to the north, Drury to the southeast, Papakura to the east, Paerata and Pukekohe to the south, and Kingseat to the west. It is approximately 8.5kms to the Drury onramp for south-bound traffic, and when travelling to and from the city, the Papakura off-ramp is approximately 6.5kms from Karaka. The shopping centres at Pukekohe, Papakura and Manukau offer plenty of choice and all are within 20 minutes' drive pending traffic.
9. The Proposed Auckland Unitary Plan (PAUP) as notified allows for the development of the current 'Village' zone into 'Single House' and 'Mixed Housing Urban' with the remainder of the site zoned 'Rural Coastal'. The provisions of the PAUP would allow 218 dwellings to be provided on land owned by KNV and a total of 502 dwellings within the remainder of the Karaka Village area.
10. If the submission of KNV is adopted, this would allow up to 460 dwellings to be provided on land owned by KNV and a total of 744 dwellings provided within the Karaka Village area, if fully developed. This represents an increase in the number of dwellings able to be provided in the Karaka North Village Precinct of 242 above that anticipated in the notified version of the PAUP.
11. The proposed KNV development provides for a maximum of 460 dwellings in a range of typologies and lot sizes, within several distinct neighbourhoods, spread over the rural setting. The 'Village' zone would also include a commercial development providing a town centre for its new residents.
12. The KNV submission therefore involves rezoning of portions of the notified 'Rural Coastal' land to fulfil the master plan. This assessment will evaluate the potential economic impacts of the fully completed development of the KNV land. Subdivision of the 'Village' zone pursuant to the Operative District Plan has been granted resource consent, as described in the evidence of Nick Grala.

FIGURE 1: PROPOSED DEVELOPMENT CONCEPT



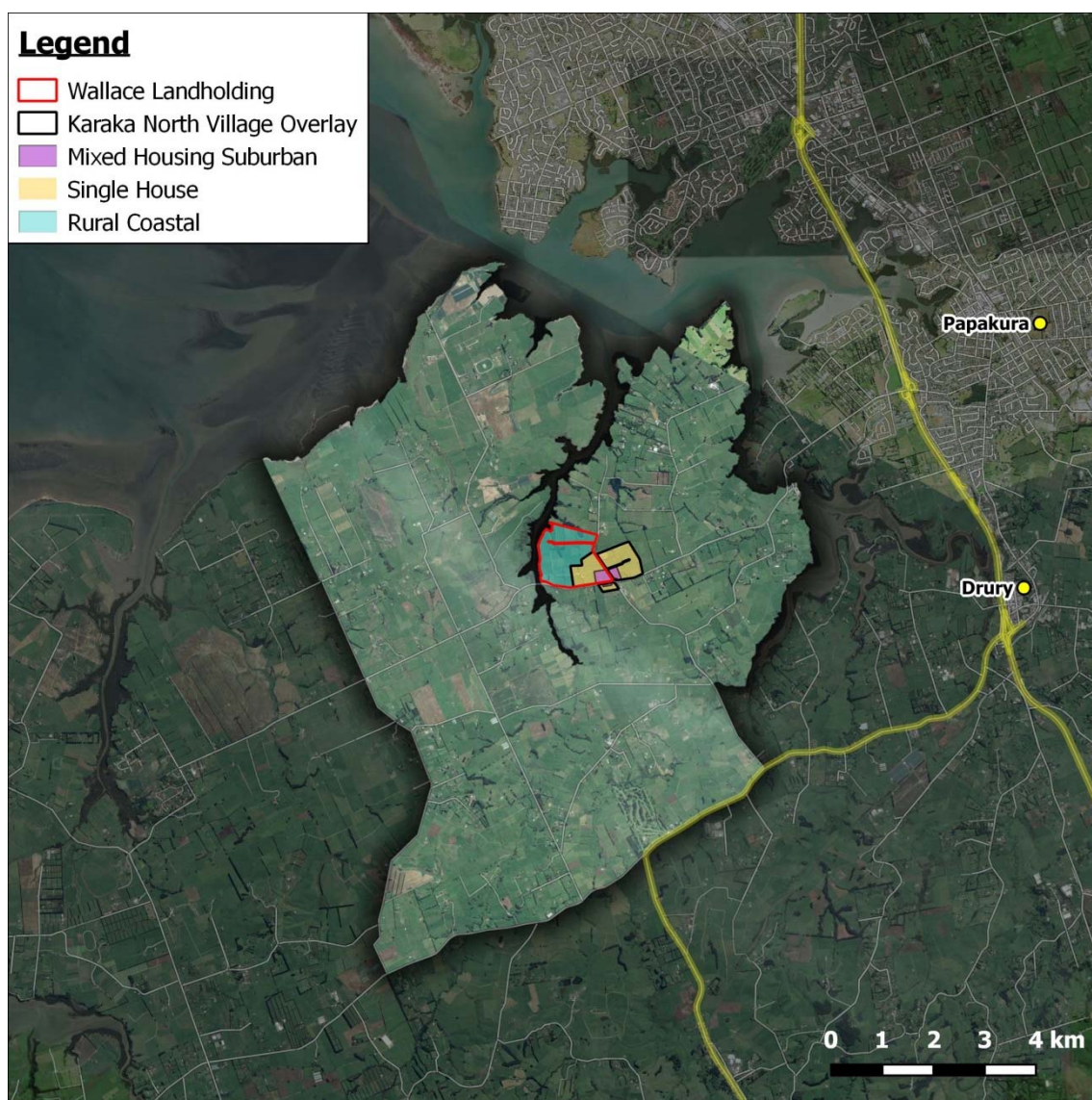
FIGURE 2: PROPOSED ZONING OF THE DEVELOPMENT LOCATION



ECONOMIC CATCHMENT

13. This section identifies some of the key economic and social demographia of the identified catchment and compares them to the wider Auckland Region. Figure 3 illustrates the indicative core economic catchment of the proposed Karaka development.

FIGURE 3: PROPOSED DEVELOPMENT INDICATIVE ECONOMIC CATCHMENT



CATCHMENT DEMOGRAPHICS

14. **Appendix 2** outlines the demographic composition of the identified local catchment. A total of nearly 1,600 people live within the catchment of around 560 households, an average of 2.85 per dwelling. This is very close to the Regional average of 2.83. The population is mostly over 40 years old with 40 percent over 50 years. School age children hold around the same percentages as the region with 21 percent however the 20-40 age bracket is underrepresented with only 17 percent compared to the Regional 29 percent. 10 percent are students, well lower than the region's 17 percent. This ties into the household composition with 42 percent couples to the region's 27 percent. Only 10 percent are single households compared to 19 percent and only 6 percent single parents compared to 14 percent for Auckland.
15. Unemployment is a minimal 1 percent which is far better than the Franklin and Auckland results at 4 and 5 percent respectively. 58 percent are employed full time compared to Auckland's 49 percent, with 25 percent not in the labour force, a considerably more productive result than Auckland's 33 percent as you would expect from the age dispersion.
16. Of those living within the catchment, the largest employment proportion is Agriculture, Forestry and Fishing, with 13 percent, closely followed by Construction with 11 percent, and Professional, Scientific and Technical Services with 10 percent. The only other significant employers are Manufacturing and Retail with 8 percent each.

CATCHMENT EMPLOYMENT COMPOSITION

17. Within the catchment area, total employment measures include employees traveling in to work from the wider region as well as those who live locally. Table 1 illustrates the dispersion of employees over the industries within the local catchment.

TABLE 1: LOCAL EMPLOYMENT COMPOSITION

	2000	2006	2012	2013	2014
A Agriculture, Forestry and Fishing	39	101	102	90	90
B Mining	0	0	0	0	0
C Manufacturing	120	183	166	266	306
D Electricity, Gas, Water and Waste Services	0	15	3	3	0
E Construction	18	21	15	27	27
F Wholesale Trade	9	12	6	9	9
G Retail Trade	0	6	21	30	15
H Accommodation and Food Services	3	27	25	6	9
I Transport, Postal and Warehousing	56	6	24	9	3
J Information Media and Telecommunications	0	0	0	0	0
K Financial and Insurance Services	9	12	3	3	0
L Rental, Hiring and Real Estate Services	0	6	6	0	0
M Professional, Scientific and Technical Services	3	9	6	12	12
N Administrative and Support Services	0	85	138	130	115
O Public Administration and Safety	0	0	0	0	0
P Education and Training	40	6	3	0	0
Q Health Care and Social Assistance	0	0	0	0	0
R Arts and Recreation Services	3	9	12	9	15
S Other Services	3	18	9	9	9
Total All Industries	303	516	539	603	610

Source: Statistics NZ

18. The largest employment proportion is in Manufacturing at 4.7 times higher than the region, it supplies 50 percent of the jobs for the area with 306 employees last year. These jobs would primarily be supplied by the nearby Glenbrook Steel Mill which hires around 1,200 employees. BlueScope Steel which owns Glenbrook Steel Mill, has recently announced it needs to cut \$50M in operating costs due to falling steel prices. Failure to do so could result in the 'mothballing' of its operation at Glenbrook. Currently 'almost 70 percent' of their employees reside locally equating to approximately 840 local residents with a further 360 commuting from the wider region. Should BlueScope Steel resolve its financial issues and retain its current employee numbers, the potential remains for up to 360 employees to relocate to the local area, some of which would include into the development catchment area given its close proximity.

19. A distant second, around 19 percent work in the Administrative and Support Services which provides 115 jobs within this catchment. Again, many of these roles may be at the local Glenbrook Steel Mill. As is expected in a rural community, employee numbers in the Agriculture, Forestry and Fishing industry are 17 times higher than the regional average but only account for around 15 percent with 90 employees last year. Total numbers of employees working within the catchment has been unsteady

with negative growth in 2006, 2007 and 2012 but overall has doubled in the last 14 years.

TABLE 2: AUCKLAND EMPLOYMENT COMPOSITION

	2000	2006	2012	2013	2014
A Agriculture, Forestry and Fishing	6,350	6,020	5,440	5,380	5,710
B Mining	310	410	390	330	330
C Manufacturing	83,470	84,700	72,290	71,510	71,620
D Electricity, Gas, Water and Waste Services	2,930	3,730	3,430	3,910	3,840
E Construction	24,570	34,690	33,950	35,070	37,080
F Wholesale Trade	47,540	54,510	53,270	53,500	54,390
G Retail Trade	54,830	63,570	61,220	62,630	64,280
H Accommodation and Food Services	30,520	37,440	42,740	43,570	45,200
I Transport, Postal and Warehousing	32,080	33,410	32,030	32,160	33,420
J Information Media and Telecommunications	19,680	18,320	19,100	19,550	20,540
K Financial and Insurance Services	21,010	24,670	27,230	27,700	28,080
L Rental, Hiring and Real Estate Services	8,370	10,750	10,350	10,720	11,290
M Professional, Scientific and Technical Services	37,930	56,510	64,460	66,810	70,020
N Administrative and Support Services	29,400	34,920	37,430	37,610	38,600
O Public Administration and Safety	19,170	23,300	29,230	31,130	31,780
P Education and Training	37,960	48,060	56,190	53,480	54,440
Q Health Care and Social Assistance	40,840	50,130	62,050	63,430	64,700
R Arts and Recreation Services	7,640	10,350	11,070	11,000	11,050
S Other Services	16,530	20,560	21,750	22,030	22,410
Total All Industries	521,160	616,050	643,640	651,520	668,790

TABLE 3: LOCAL EMPLOYMENT COMPOSITION RATIO

A Agriculture, Forestry and Fishing	17.3
B Mining	0.0
C Manufacturing	4.7
D Electricity, Gas, Water and Waste Services	0.0
E Construction	0.8
F Wholesale Trade	0.2
G Retail Trade	0.3
H Accommodation and Food Services	0.2
I Transport, Postal and Warehousing	0.1
J Information Media and Telecommunications	0.0
K Financial and Insurance Services	0.0
L Rental, Hiring and Real Estate Services	0.0
M Professional, Scientific and Technical Services	0.2
N Administrative and Support Services	3.3
O Public Administration and Safety	0.0
P Education and Training	0.0
Q Health Care and Social Assistance	0.0
R Arts and Recreation Services	1.5
S Other Services	0.4
Total All Industries	

NB The local economic activity generated by the Karaka development is based on the regional input-output model proportionalised for the size and composition of the local catchment business activity. The economic activity generated in this specific area is then proportionally adjusted based on the proximity of the businesses to the development as well as the business size composition (assuming smaller businesses are less likely to obtain larger contracts due to reduced serviceability and economies of scale).

POTENTIAL ECONOMIC ACTIVITY GENERATION

20. This economic impact overview estimates the total additional gross injection into the local and wider Auckland area from the proposed Karaka development. The proposed development for the purposes of this assessment includes:
- 460 dwellings
 - Local centre with 6,848 GFA
 - Average home size 210 sqm
 - Discount Rate 8%
21. The economic benefits resulting from the Karaka development will be achieved in two phases: the initial construction phase which includes the costs of the development and the proportion of those costs that are retained within the Auckland Region; and the on-going operations of the development measured in realistic spend and employment generation. Both phases are measured for their direct, indirect and induced economic impacts upon the local and Regional economies.
22. Direct economic impacts are measured on actual spending/expenses incurred through the construction and ongoing operation of the KNV development. These impacts are the initial capital spend injected into the wider Auckland region.
23. Indirect economic impacts are measured in increased spend by those who supply the development such as firms and their employees, and households and their occupants. This ongoing spending and saving associated with the completed development provides a long term benefit to the local and regional economies.
24. Finally, induced economic impact is measured from the additional income that will be spent locally and regionally as a result of the increased business activity bought about by the proposed development. This includes spending by the development's suppliers and a general increase in economic activity.

TOTAL CONSTRUCTION ACTIVITY

25. Stage One includes construction costs, which have been valued for the overall development in two parts. The impact of this injection on the initial business cycle has been calculated. This 'construction multiplier' was based on the national input-output tables produced by Statistics New Zealand, which were then assessed at a Regional level based on Auckland's economic activity. This estimates the 'leakage' from the local economy (within specified sectors), and therefore the overall local production (with a given business cycle) for each \$1 injected.
26. This was performed for the general construction, commercial and retail sectors. These multipliers are based on 'net' flows by broad sector type and are therefore approximations.
27. The development assumptions utilised for the purposes of this report include:
 - Income levels for the employees (given the composition below) have been estimated in 2015 dollars for purposes of comparison and estimation of NPV (Net Present Value).
 - It has been assumed that the residential development will be at full capacity by 2021 (i.e. occupancy reaching 95%).
 - First and second level multipliers have been assessed for the Auckland Region based on the composition and proportion of labour and production sourced from within the Region at the time of this report. For the purposes of this report, development composition has been based on this employment and production.
 - The proportion of materials and labour internalised in direct benefits to Auckland are based on standardised labour movements as well as employment (Tables 1 to 3) and production composition within the Region. As per the explanation on multipliers provided in Appendix 3 the amount of each 'flow-on' dollar retained in Auckland is based on the movement of resources (including labour) between other districts and regions.

TABLE 4: INITIAL ECONOMIC INJECTION (REGIONAL AND LOCAL)

<u>Initial construction Injection</u>	
<i>Residential</i>	
Number of Sites	460
Estimated Cost Per Sqm	\$2,150
Total Construction Cost (\$m)	\$185
Direct Auckland Impact (\$m)	\$109
Direct 'Local' Impact (\$m)	\$15
Auckland Impact (\$m)	\$237
Local Impact (\$m)	\$28
<i>Local Centre</i>	
	6,848
Total Centre Construction Cost (\$m)	\$13
Direct Auckland Impact (\$m)	\$4.94
Direct 'Local' Impact (\$m)	\$0
Auckland Impact (\$m)	\$9.04
Local Impact (\$m)	\$0
<i>Other (Development Costs)</i>	
Pre-construction services	\$6
Professional Fees	\$3
Earth Works (Civil Construction) etc.	\$9
Post-construction services	\$4
Sales services	\$5
Auckland Impact (\$m)	\$56
Local Impact (\$m)	\$9
Initial Economic Injection Auckland (\$m2015)	\$302
Initial Economic Injection Local (\$m2015)	\$37
NB: Total Activity is based on Output II Multipliers	

28. Table 4 outlines the initial economic injection to both the local and regional economies within the 'life' of the proposed developments construction phase. It illustrates the development cost breakdown and isolates the level of this 'spend' that is likely to remain in the local and regional areas. This value is represented by the 'direct' value in each instance. Following from this, the revenues within each area

generate in and of themselves additional economic activity based on identified multipliers by sector. The resulting injection for the identified costs in Table 4 show an economic injection into the local economy of some \$37M in total over the construction phase, while the region benefits by \$302M.

ONGOING OPERATIONAL BENEFITS

29. The on-going operations of the proposed development have been broken down by activity as below in Table 5. This reflects realistic spend in each sector resulting from direct, indirect and induced economic impacts of the development upon the economy.

TABLE 5: TOTAL LOCAL ONGOING ECONOMIC INJECTION

Local Activity (Potential Capture	Initial Direct Expenditure (\$m)	Added Direct Local Activity (\$m)	Added Indirect/Induced Local Activity (\$m)	Total Added Local Activity (\$m)
Retail	\$16.23	\$1.95	\$0.16	\$2.10
Commercial	\$5.10	\$2.13	\$0.07	\$2.20
Industrial	\$1.65	\$0.83	\$0.03	\$0.85
Other Services	\$3.50	\$0.70	\$0.02	\$0.72
Total Employment Generation		53	10	63

30. Table 5 illustrates the likely impact on each of the business sectors that the proposed development will result in for the local economy. In terms of retail, additional households result in additional retail spend generated within the catchment. While a proportion of the 'new' spend is captured here, the additional residents are likely to have some incremental impact upon the total spend retained in the area.
31. This activity is also true for the remaining sectors with a level of new employment being generated firstly to service the new residents and secondly due to the labour force they represent.
32. It is expected that the Karaka development will result in supporting an additional 63 employees accommodated within the local catchment.

LAND REQUIREMENTS

33. Table 6 below outlines both the floorspace and land requirements necessary to accommodate the activity generated in Table 5. It is important to note that this does not include increased servicing requirements for the existing 560 households in the

local catchment. In total the development itself will generate sufficient economic activity to support an additional hectare of business zoned land in the local catchment, increasing both the serviceability of the local area and the potential for retention of employment.

TABLE 6: TOTAL LOCAL LAND REQUIREMENTS

Local Activity	Potential Floorspace	Potential Land Requirement (Ha)
Retail	469	0.2
Commercial	520	0.2
Industrial	440	0.2
Other Services	420	0.2
TOTAL	1,849	1

Additional locational costs and benefits

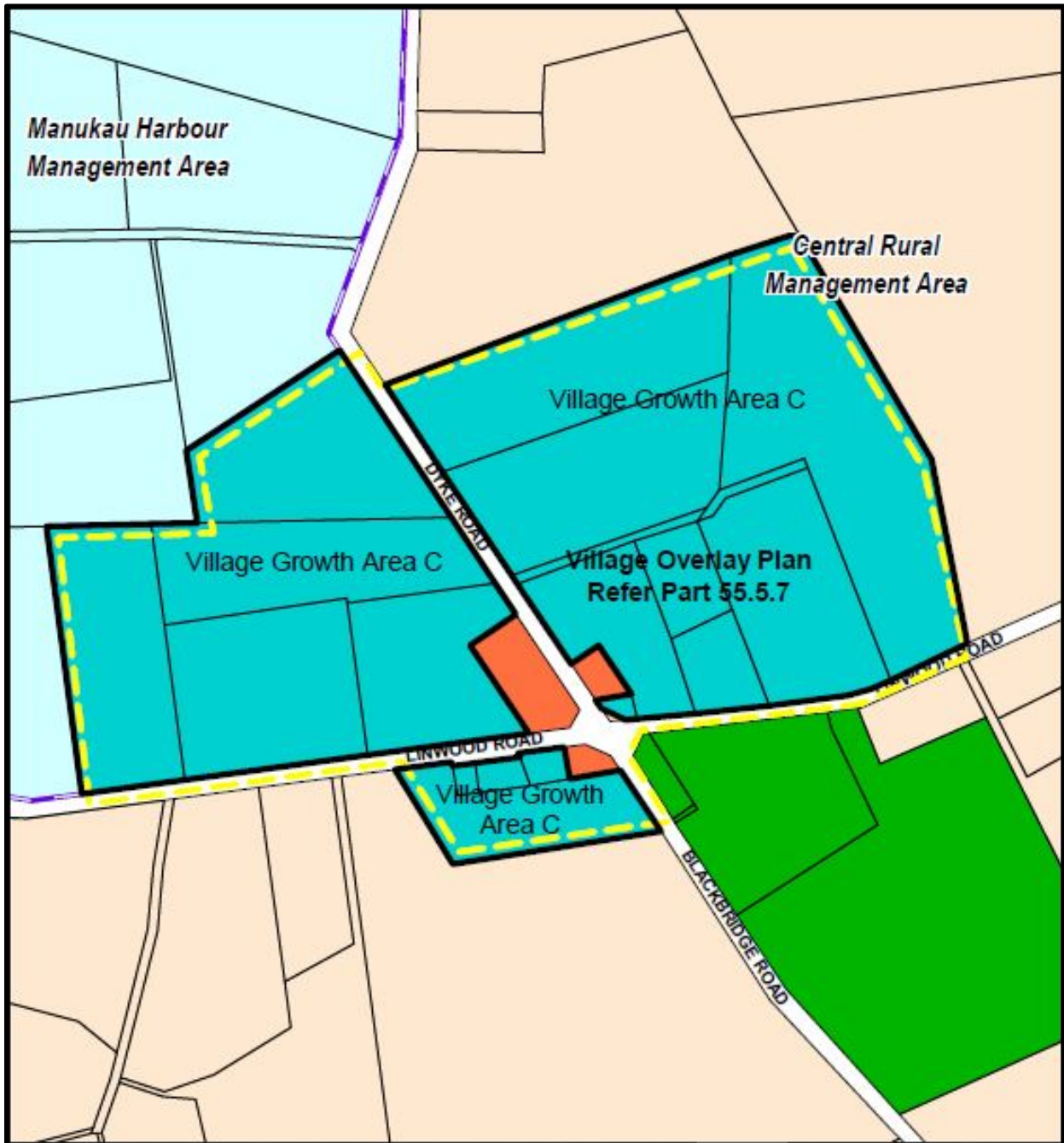
34. While the sections above address the potential local changes in economic activity resulting from the proposed residential zonings it is also important to have regard for the potential economic costs and benefits that may lie outside these activity impacts.
35. The potential economic impacts that are directly associated with this submission relate primarily to the productivity of the land, the impact on existing residential wealth and the efficiency of infrastructure.
36. The last issue is one that will undoubtedly be managed by the transport and infrastructure experts. The issue of the foregone production relates to the level and productivity of the activities that are likely to be displaced when the residential development is undertaken. In the case of the subject site it is expected that there is limited viable primary activity usage for this site (by reference to the evidence of Rob Wallace – development of the currently consented Village will require the present dairy operation to cease), in turn limiting the potential economic costs to the economy of it being foregone.
37. Finally, the likely impact upon the existing residential value of the local catchment. As has been outlined the proposed residential development is likely to result in an increase in retained economic activity for the local catchment with improved employment opportunities as well as increased amenity through greater vitality and retail offer.

38. From an economic viewpoint the proposed increase in residential activity is likely to support the community and local economic activity.

Phil Osborne

10 February 2016

APPENDIX 1: CURRENT KARAKA ZONING



APPENDIX 2: LOCAL DEMOGRAPHIC PROFILE

		CATCHMENT	FRANKLIN DISTRICT	PAPAKURA DISTRICT
GENERAL	Population	1,589	71,351	55,157
	Households	557	26,168	18,830
	Person Per Dwelling Ratio	2.85	2.73	2.93
AGE PROFILE	0–4 Years	5%	7%	9%
	5–9 Years	6%	8%	8%
	10–14 Years	8%	8%	7%
	15–19 Years	6%	7%	7%
	20–24 Years	4%	5%	7%
	25–29 Years	4%	4%	7%
	30–34 Years	4%	5%	6%
	35–39 Years	5%	6%	6%
	40–44 Years	8%	8%	7%
	45–49 Years	9%	8%	7%
	50–54 Years	11%	8%	7%
	55–59 Years	9%	6%	5%
	60–64 Years	9%	6%	5%
65 years and Over	11%	14%	12%	
HOUSEHOLD INCOME	\$20,000 or Less	4%	8%	11%
	\$20,001–\$30,000	4%	10%	10%
	\$30,001–\$50,000	7%	16%	16%
	\$50,001–\$70,000	10%	13%	15%
	\$70,001–\$100,000	20%	19%	19%
	\$100,001 or More	55%	34%	29%
PERSONAL INCOME	\$5,000 or Less	13%	14%	16%
	\$5,001–\$10,000	3%	4%	5%
	\$10,001–\$20,000	11%	17%	17%
	\$20,001–\$30,000	9%	13%	13%
	\$30,001–\$50,000	20%	21%	22%
	\$50,001 or More	44%	31%	26%
ETHNICITY	European Ethnic Groups	86%	74%	53%
	Māori Ethnic Group	6%	14%	23%
	Pacific Peoples' Ethnic Groups	2%	4%	11%
	Asian Ethnic Groups	5%	5%	11%
	MELAA Ethnic Groups	0%	0%	1%
	Other Ethnic Groups	2%	1%	1%
QUALIFICATION ATTAINMENT	No Qualification	15%	24%	27%
	Level 1 Certificate	14%	16%	14%
	Level 2 Certificate	11%	12%	11%
	Level 3 Certificate	10%	7%	9%
	Level 4 Certificate	10%	12%	10%
	Level 5 or Level 6 Diploma	12%	9%	8%
	Bachelor Degree and Level 7 Qualifications	15%	10%	9%
	Postgraduate and Honours Degrees	2%	2%	1%
	Masters Degree	2%	1%	2%
	Doctorate Degree	1%	0%	0%
	Overseas Secondary School Qualification	8%	6%	7%

		CATCHMENT	FRANKLIN DISTRICT	PAPAKURA DISTRICT
EMPLOYMENT	Employed - Full Time	58%	52%	48%
	Employed - Part Time	15%	14%	11%
	Unemployed	1%	4%	7%
	Not in Labour Force	25%	29%	34%
EMPLOYMENT CLASSIFICATION	Managers	31%	22%	17%
	Professionals	22%	17%	17%
	Technicians and Trades Workers	9%	14%	13%
	Community and Personal Service Workers	5%	8%	9%
	Clerical and Administrative Workers	12%	12%	15%
	Sales Workers	8%	9%	10%
	Machinery Operators and Drivers	5%	7%	9%
	Labourers	9%	11%	10%
STUDENT RATIO	Full Time	8%	8%	10%
	Part Time	2%	3%	4%
	Full-time and Part-time Study	0%	0%	0%
	Not Studying	90%	89%	86%
HOUSEHOLD INCOME SOURCES	Wages, Salary, Commissions, Bonuses etc	70%	70%	71%
	Self-employment or Business	55%	28%	17%
	Interest, Dividends, Rent, Other Invest.	51%	25%	20%
	Payments from a Work Accident Insurer	2%	2%	2%
	NZ Superannuation or Veterans Pension	23%	21%	20%
	Other Super., Pensions, Annuities	2%	4%	3%
	Unemployment Benefit	1%	3%	6%
	Sickness Benefit	2%	3%	5%
	Domestic Purposes Benefit	1%	5%	10%
	Invalids Benefit	0%	2%	3%
	Student Allowance	4%	2%	4%
	Other Govt Benefits, Payments or Pension	6%	6%	7%
	Other Sources of Income	2%	2%	2%
No Source of Income During That Time	0%	0%	1%	
INDUSTRY OF EMPLOYMENT	Agriculture, Forestry and Fishing	13%	12%	2%
	Mining	0%	0%	0%
	Manufacturing	8%	12%	15%
	Electricity, Gas, Water and Waste Services	1%	1%	1%
	Construction	11%	10%	9%
	Wholesale Trade	7%	7%	8%
	Retail Trade	8%	9%	10%
	Accommodation and Food Services	3%	4%	4%
	Transport, Postal and Warehousing	5%	5%	7%
	Information Media and Telecommunications	2%	1%	1%
	Financial and Insurance Services	2%	3%	3%
	Rental, Hiring and Real Estate Services	6%	3%	3%
	Professional, Scientific and Technical Services	10%	7%	7%
	Administrative and Support Services	3%	3%	3%
	Public Administration and Safety	3%	3%	4%
	Education and Training	5%	8%	8%
	Health Care and Social Assistance	5%	8%	9%
	Arts and Recreation Services	3%	2%	2%
	Other Services	3%	4%	5%

		CATCHMENT	FRANKLIN DISTRICT	PAPAKURA DISTRICT
HOUSEHOLDS	Single	10%	19%	19%
	Couple	42%	31%	25%
	Single Parent With Children	6%	13%	20%
	Two Parent Family	39%	34%	32%
	Other Multi-person	2%	3%	4%
NUMBER OF RESIDENTS	1 Residents	10%	19%	19%
	2 Residents	39%	35%	29%
	3 Residents	16%	17%	18%
	4 Residents	20%	17%	17%
	5 Residents	11%	7%	9%
	6 Residents	3%	3%	4%
	7 Residents	0%	1%	2%
	8 Plus Residents	1%	1%	2%
HOME OWNERSHIP	Dwelling Owned or Partly Owned	43%	55%	49%
	Dwelling Not Owned and Not Held in a Family Trust	25%	29%	40%
	Dwelling Held in a Family Trust	31%	15%	11%
YEARS AT RESIDENCE	0 Years	15%	19%	23%
	1-4 Years	26%	30%	32%
	5-9 Years	24%	23%	21%
	10-14 Years	13%	11%	10%
	15-29 Years	15%	12%	10%
	30 Years or More	6%	4%	4%
NUMBER OF BEDROOMS	One Bedroom	1%	4%	4%
	Two Bedrooms	9%	12%	16%
	Three Bedrooms	27%	45%	47%
	Four Bedrooms	38%	30%	26%
	Five Bedrooms	18%	7%	6%
	Six Bedrooms	4%	1%	2%
	Seven Bedrooms	1%	0%	0%
	Eight or More Bedrooms	1%	0%	0%
WEEKLY RENT PAID	Under \$100	0%	4%	11%
	\$100-\$149	0%	6%	6%
	\$150-\$199	14%	5%	4%
	\$200-\$249	21%	9%	5%
	\$250-\$299	14%	18%	13%
	\$300-\$349	14%	21%	20%
	\$350 and Over	36%	37%	41%

APPENDIX 3: ECONOMIC MULTIPLIERS

A multiplier summarizes the total impact that can be expected from change in a given economic activity. For example, a new manufacturing facility or an increase in exports by a local firm are economic changes which can spur ripple effects or spin-off activities. Multipliers measure the economic impact of this new business, including the resulting spin-off activities.

Consider the following example. \$1 is received into the local economy from export sales of a commodity. Of this \$1, 40 cents is spent for goods and services within the community. The firms and individuals who receive this 40 cents spend 16 cents within the community. Of the 16 cents, only six cents is spent locally, and so on. The total amount of money received by local firms and residents as a result of the initial \$1 added export earnings is \$1.66. Therefore, the multiplier is 1.66.

Types of Multipliers

Change may be measured in several ways. Some community leaders may be primarily concerned with employment or income while others may want to estimate the total value added to the local economy. Since multipliers are simple ratios of total to initial change, numerous economic multipliers are easy to calculate. Four multipliers are commonly used to assess impacts of an initial increase in production resulting from an increase in sales, usually called final demand in multiplier analysis. The four are: (1) Output, (2) Employment, (3) Income and (4) Value Added Multipliers.

Output Multiplier

The output multiplier estimates the total change in local sales, including the initial \$1 of sales outside the area, resulting from a \$1 increase in sales outside of the study area (final demand). Multiplying the increase in sales of the exporting industry by the output multiplier provides an estimate of the total increase in sales for the study area, including the \$1 export sales. The output multiplier is used to assess the interdependence of sectors in the local economy.

Employment Multiplier

Communities often wish to know the number of jobs that will be created as a result of a new economic activity. The employment multiplier measures the total change in employment resulting from an initial change in employment of an exporting industry. The additional employment in the new activity multiplied by the employment multiplier for the industry provides an estimate of the total new jobs created in the area of study (i.e., county, district, state or region).

Income Multiplier

The income multiplier measures the total increase in income in the local economy resulting from a \$1 increase in income received by workers in the exporting industry. Multiplying the initial change in income by the income multiplier for the industry provides

an estimate of the increase in income for all individuals in the study area resulting from the initial growth of one industry.

Value Added Multiplier

The value added multiplier provides an estimate of the additional value added to the product as a result of this economic activity. Value added includes employee compensation, indirect business taxes, proprietary and other property income.