

PROPERTY **E**CONOMICS



SILVERDALE INDUSTRIAL

PRIVATE PLAN CHANGE

ECONOMIC ASSESSMENT

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Client: Fletcher Development Ltd



SCHEDULE

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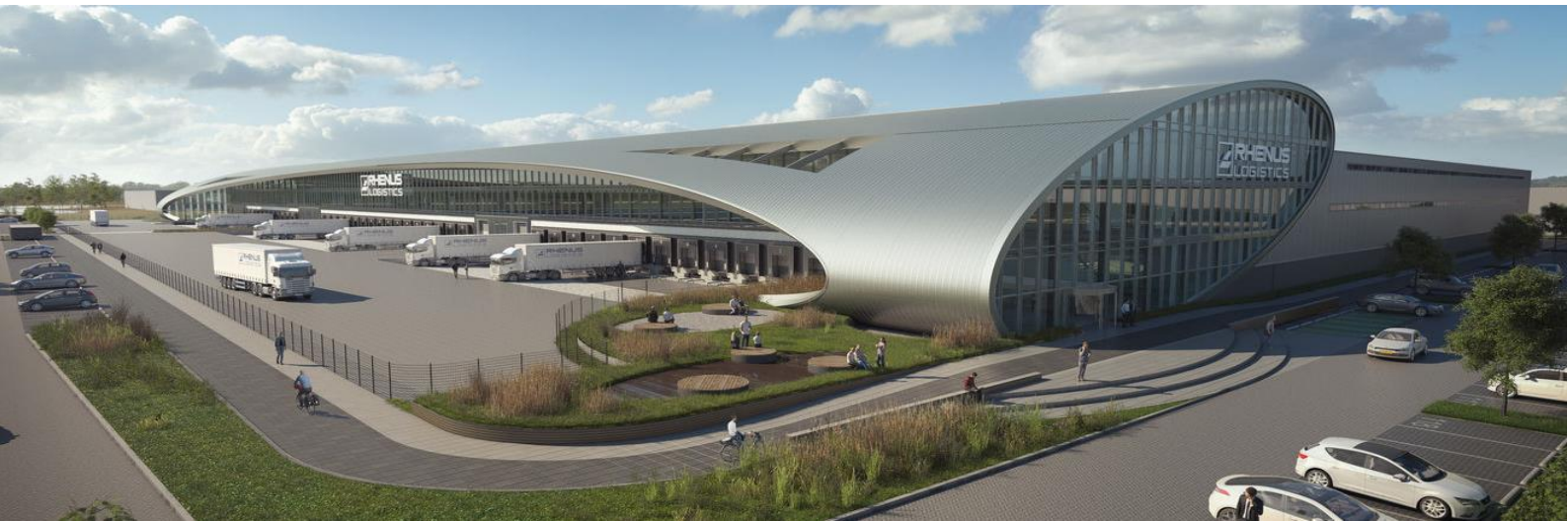
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1. INTRODUCTION

Property Economics has been engaged by Fletcher Development Limited (**Fletchers**) to undertake an economic assessment for the proposed Private Plan Change (**PPC**) to live zone 107.4ha of land currently zoned Future Urban Zone (**FUZ**) to Business – Light Industry zone (**LIZ**) under the Auckland Unitary Plan - Operative in Part (**AUP(OIP)**).

The economic assessment identifies the core economic catchment for light industrial activity at the PPC site and outline the existing market in terms of business activity and light industrial land provision. Additionally, the report will provide a high-level economic analysis assessing the economic merits of the PPC to accommodate the expected future industrial land demand within the identified economic catchment and whether the subject site provides a competitive location for such activity.

This report will also provide a high-level overview of the economic costs and benefits of the PPC for the accommodation of light industrial activities at the subject site and identify the type of activities that would be appropriate for the PPC. The findings from this economic assessment will form a view of whether the PPC can be supported from an economic perspective in the RMA context.

1.1. RESEARCH OBJECTIVES

The core research objectives of this economic assessment include:

- Quantify and geospatially map the PPC's core economic market and a more localised Hibiscus Coast catchment for assessment of local employment flows.
- Determine the size of the core economic market's current (2022) population base and project this to 2048 based on the latest Stats NZ High and Medium growth scenarios.

- Geospatially map and quantify the current zoned industrial land provision (ha) within the core catchment.
- Break down and quantify the amount (ha) of vacant industrial land / capacity within the core catchment based on the latest geospatial data.
- Breakdown and assess the industrial activity within the identified core and localised catchments by sector and identify industrial employment trends in the industrial market over the last 22 years.
- Assess the industrial land provision within the catchment on a ha/capita basis and provide comparative context against the Auckland region.
- Determine the amount of industrial zoned land (ha) required to accommodate the core economic catchment's projected industrial growth.
- Identify potential growth opportunities available within the localised Hibiscus Coast catchment to internalise employment / economic activity.
- Review the suite of industrial activities enabled in the industrial zones under the Unitary Plan.
- Identify the locational attributes of the PPC site against the key industrial locational criteria to assess the appropriateness and efficiency of the PPC land for light industrial activity.
- Identify current resident workers and their travel to work patterns to identify the potential influence of the proposed PPC or additional industrial land supply at the proposed PPC site on business and employment work travel efficiencies.
- Provide a high-level economic cost-benefit analysis for the PPC land being rezoned for industrial activities.

1.2. INFORMATION SOURCES

Information and data have been obtained from a variety of reputable sources and publications available to Property Economics, including:

- NZ Census Data (2006, 2013 & 2018) – Stats NZ
- Auckland City Unitary Plan (Operative in Part) – Auckland Council
- Business Demography Statistics – Stats NZ
- Catchment Map – Google Maps, ESRI, LINZ
- Future Urban Land Supply Strategy – Auckland Council
- Housing and Business Development Capacity Assessment 2017 – Auckland Council
- Industrial Business Classifications – Property Economics
- Australia New Zealand Standard Industrial Classifications (ANZSIC) – Stats NZ
- Industrial Land Capacity Estimates – Property Economics
- Land Use Capability Classification – LRIS
- Population and Household Projections – Stats NZ
- Silverdale Business Land Assessment 2018 – ME
- Silverdale West Dairy Flat Industrial Area Structure Plan 2020 – Auckland Council
- Statistical Areas 1 & 2 – Stats NZ
- Proposed PPC Site Area – Fletchers
- Site Visit September 2022 – Property Economics
- NPS – HPL 2022 – Ministry for the Environment
- NPS – UD 2020 – Ministry for the Environment

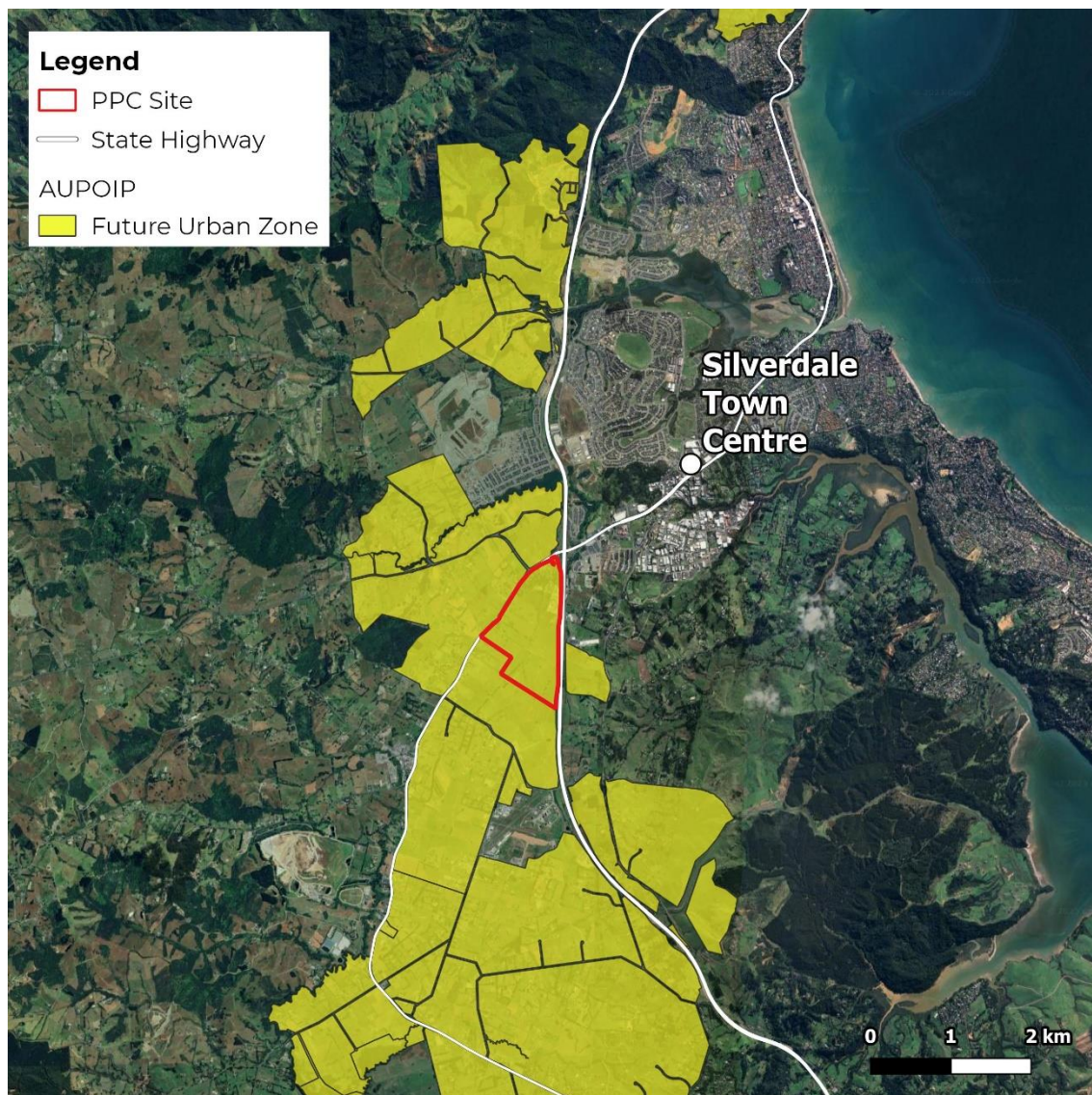
2. PROPOSED PPC OVERVIEW

Fletchers is seeking to live-zone 107.4ha of land in Dairy Flat North from FUZ to LIZ, under the AUP(OIP). The FUZ is a transitional zone applied to greenfield land that has been identified as suitable for urbanisation. Under the AUP(OIP), land within the FUZ can be used for a range of general rural activities but cannot be used for urban activities until the site is rezoned for urban purposes (H18.2.4 Objectives).

The following map shows the geospatial extent of the PPC site in the context of the surrounding FUZ environment.

The PPC site is located at the intersection of the Dairy Flat Highway and State Highway 1 and is within close proximity to the amenities of the Silverdale Town Centre to the northeast.

FIGURE 1: LOCATION AND EXTENT OF THE PPC

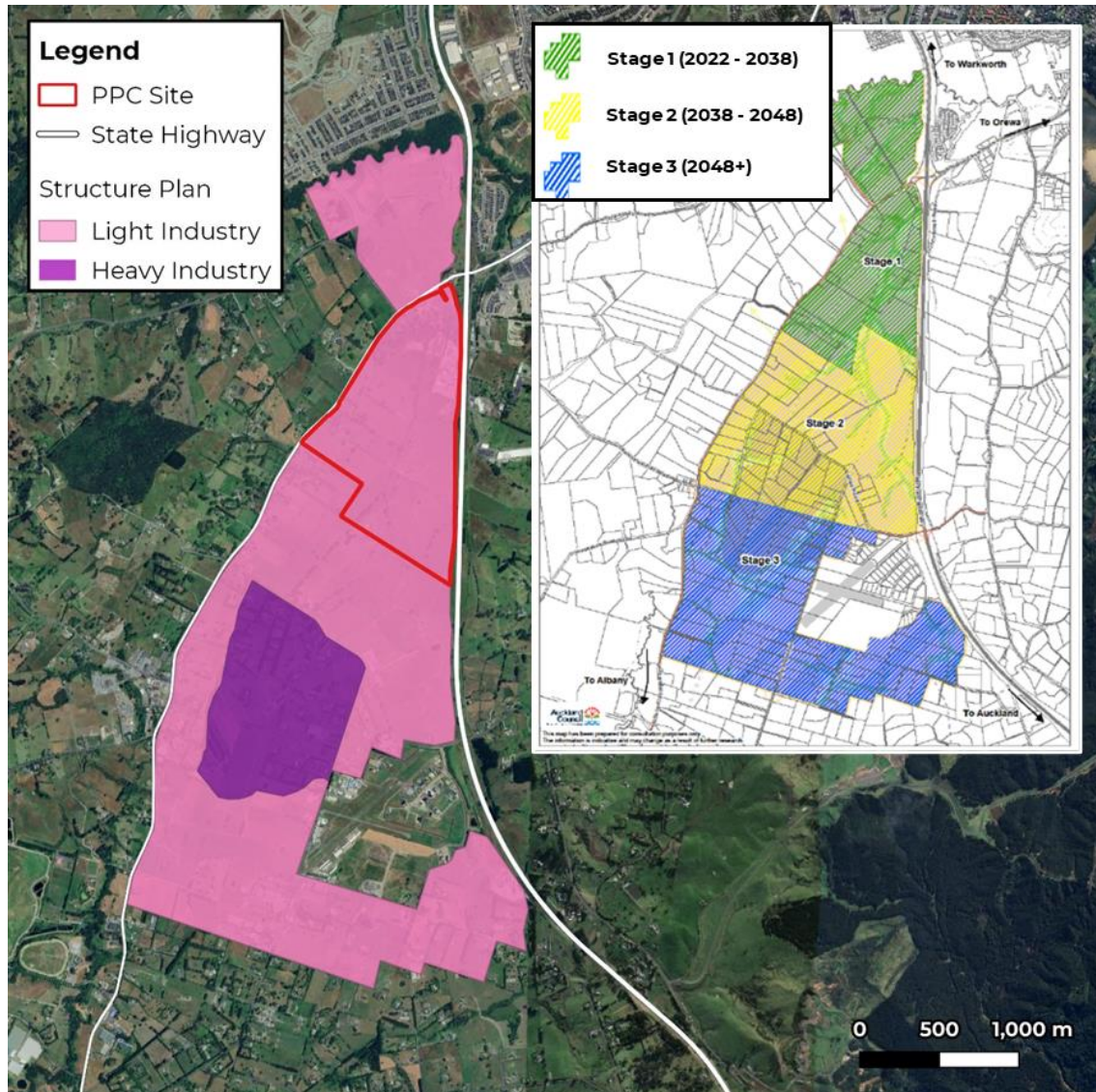


Source: Auckland Council, LINZ, Google Maps, Property Economics

The following figure shows the PPC site in the context of the Silverdale West Dairy Flat Structure Plan area and its associated development timing.

The Staging Plan identified most of the PPC site to be Stage 1 (2022 - 2038) of the Silverdale West Dairy Flat Industrial Area, with the remainder of it identified as Stage 2 (2038 – 2048).

FIGURE 2: INDUSTRIAL AREA STRUCTURE PLAN AND DEVELOPMENT TIMING



Source: Auckland Council, LINZ, Google Maps, Property Economics

3. EXECUTIVE SUMMARY

This report aims to provide a high-level economic assessment of the proposed PPC to live zone 107.4ha of the FUZ land in Silverdale West to LIZ, under the AUP(OIP).

Property Economics considers that the core economic market of the proposed PPC is likely to primarily service North Shore and all areas between the Harbour Bridge and halfway to Warkworth.

The proposed PPC would provide additional industrial land and employment opportunities, particularly for the localised (Hibiscus Coast) catchment which is significantly under provided for in terms of industrial land provision and employment opportunities to the detriment of the local economy and market efficiencies.

The industrial employment of the localised catchment has been growing significantly faster than the balance of the core market and the regional average. This high growth is projected to continue in the foreseeable future, creating significant additional demand for industrial land provision (and business land in general), particularly within the Silverdale area.

Based on a comparative analysis of Auckland's industrial land provision on a per capita basis, it is clearly evident that the existing industrial land provision within the core catchment is heavily under supplied relative to the balance of Auckland. This gives rise to potential latent demand (and typically land price increase issues) that limits the opportunities for industrial demand to be realised within the catchment.

Having undertaken a review and update of Council's Silverdale BLA 2018, Property Economics considers that there is a significant future industrial land requirement of additional 498ha within the catchment by 2048 to accommodate projected industrial land demand. This essentially means that live zoning the subject PPC land is required to meet both short term shortfall of industrial land supply within the core catchment and contribute to meeting longer term land requirements. The PPC land area only represents part of the core catchment's future industrial land requirement.

	2028	2038	2048
Industrial Zone Employment (MECs) Net Growth (rounded)	2,100	6,550	12,500
Workspace Ratio	89		
Industrial Floorspace (sqm)	186,900	583,000	1,112,500
Floor Area Ratio (FAR)	0.32		
Land Area Required (ha) + NPS Buffer	70	210	400
<i>Less Updated Vacant Industrial Zoned Land (net, ha)</i>	39		
Additional Land Required (net, ha)	31	171	361
Additional Land Required (gross, ha)	43	235	498

In terms of timing, the above projections would suggest that the core catchment requires (at a minimum) approximately 43ha of additional developable industrially zoned land over the next five years to accommodate growth, excluding the latent demand that currently exists in the market, which if provided for would increase the short-term requirement further.

In terms of relating to potential for business growth and opportunities to grow the local economy, for efficiency reasons larger industrial businesses typically make locational decisions over a longer (10 – 20 year) period. In order to facilitate this market it is important that the core catchment is enabled to meet at least the next 10 years of growth (approximately 150ha of additional vacant industrial land).

The level of industrial employment internalisation in the localised Hibiscus Coast catchment is low at present as a result of the limited opportunities for industrial development in the catchment. This results in a significant level of industrial employment leakage out of Hibiscus Coast south to industrial employment locations in North Harbour, Rosedale, Wairau Valley and further afield to Onehunga, Auckland Airport and Wiri. Over 4,000 industrial employees leave the local Hibiscus Coast catchment for work, generating a high level of inefficiency in the market.

With the PPC industrial area potentially accommodating around 2,100 industrial employees, the current level of industrial employment leakage of over 4,000 can by itself cover to potential employment base of the PPC. This clearly highlights the potential for the PPC to improve market efficiencies, reduce travel / transport costs for industrial employment, enhance the local economy, and deliver more employment choice to the local community.

In terms of the industrial sectors where industrial opportunity exists in Silverdale West – this is across the board from manufacturing, wholesale trade, transport, postal and warehousing to rental and, hiring services. This is shown in the underrepresentation of employment in these sectors relative to the employees residing in the area. Again, this signals increased industrial employment opportunities are crucial to improving market efficiency and opportunities for the local Hibiscus Coast employment base.

In terms of the PPC site itself, while recognised specifically in the council Structure Plan, it is considered an optimal location for this catchment when considered against key industrial location criteria. The PPC site is located beside a major SH1 interchange with north / south access and direct access to major arterial roads (Dairy Flat Highway and Hibiscus Coast Highway). The PPC site is also well located for employee access by public transport being within 1-minute drive of the Hibiscus Coast Bus Terminal / Park 'n Ride Station.

The proposed PPC is considered to provide significantly more economic benefits than economic costs to North Shore's economy and the local market, providing greater certainty to the future growth of the local industrial economy. Some of the economic benefits associated with the PPC include:

- ⊕ Provision of industrial land to satisfy demand for industrial land over the short-, medium. The PPC represents a first step in the long-term industrial land requirements for the northern Auckland market, but a lot more will be required.
- ⊕ Enablement of economies of scale and industrial agglomeration effects to be generated.
- ⊕ Increased industrial employment opportunities and economic profile for the high growth Hibiscus Coast market.
- ⊕ Improved certainty for the location of industrial activity.
- ⊕ Reduction in marginal cost of infrastructure provision.
- ⊕ Potential for mitigation of industrial land prices.
- ⊕ Increased flexibility for industrial growth and new entrants.
- ⊕ Improved industrial employment opportunities locally and increased industrial employment retention.

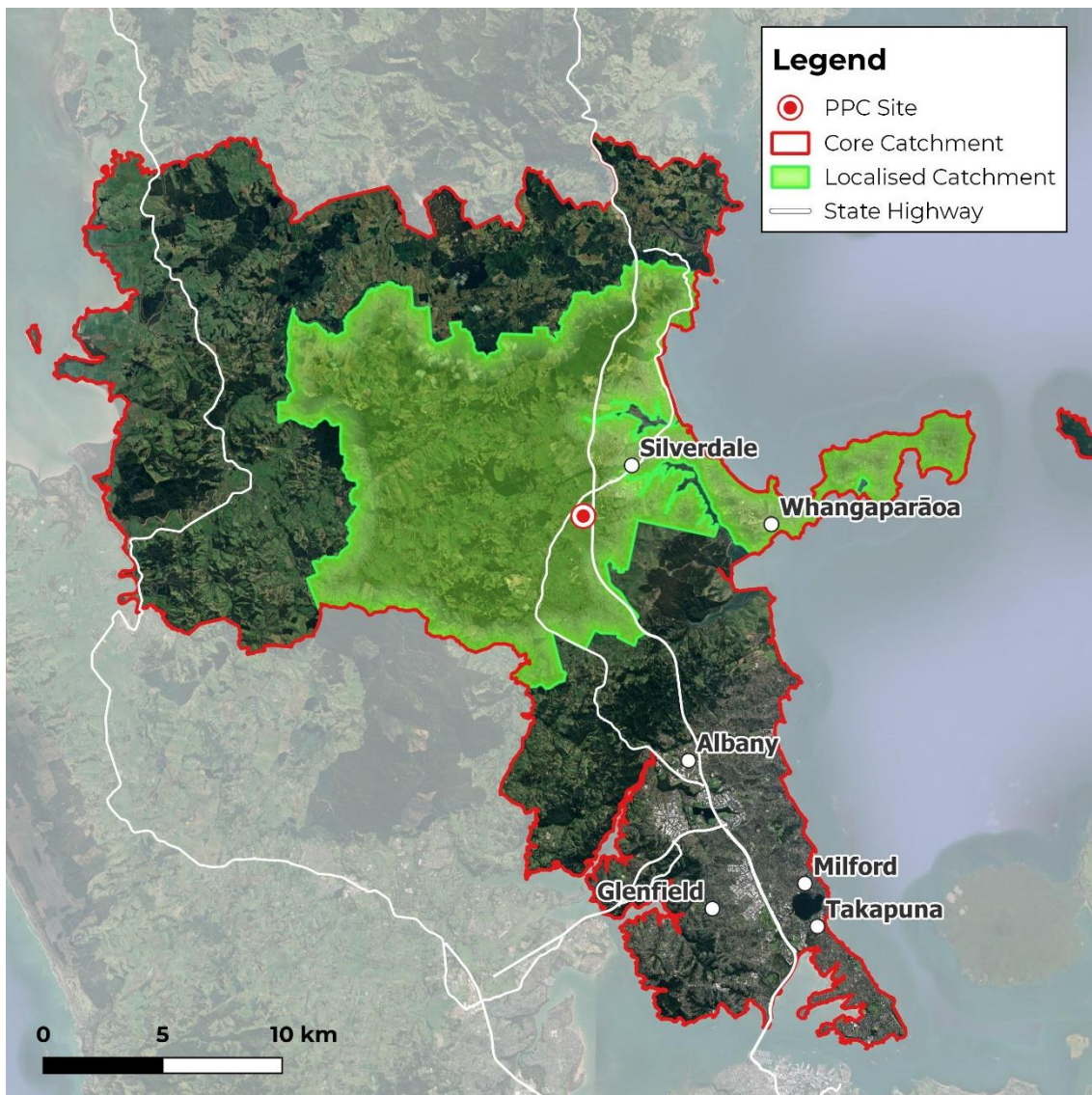
On balance, having considered all the economic matters related to the proposed PPC, Property Economics considers that the proposed PPC has the potential to generate significant economic benefits that would outweigh any economic costs. As such the PPC is supported from an economic perspective under the context of RMA.

4. ECONOMIC INDUSTRIAL MARKET

The figure below delineates the core economic catchments considered most relevant to the PPC in terms of the proposed light industrial activity. For consistency, the core economic market was generated based on the catchment area defined and used in the Silverdale Business Land Assessment 2018 (hereafter, **Silverdale BLA**). This is the geographic area represented with a **red** border in the following figure.

This core catchment includes North Shore and all areas between the Harbour Bridge and halfway to Warkworth. Property Economics concurs this geographic area represents the core economic market for industrial activity located within the PPC.

FIGURE 3: EXTENT OF THE PPC'S CORE AND LOCALISED CATCHMENTS



Source: Auckland Council, LINZ, Google Maps, Property Economics



Note that this identified catchment is not intended to represent the entire market as some industrial activities likely to locate in the PPC area will serve the broader Auckland markets (and beyond as well). However, given Property Economics professional experience, the core catchment is the geographic area from which industrial activities within the PPC are likely to primarily service. This core economic market of the PPC, or core catchment, is utilised throughout the balance of the report.

Additionally, the figure above also illustrates a more localised '*Hibiscus Coast*' catchment of the PPC (shaded **Green** area), which encompasses the immediate areas around the PPC site, including Silverdale, Dairy Flat, Wainui, Orewa and Whangaparāoa. This localised catchment is identified for analytical purposes only to quantify the geographical area from which industrial activities at the subject would assist in retaining Silverdale's current employment leakage to other areas (e.g., North Shore) within the wider core catchment.

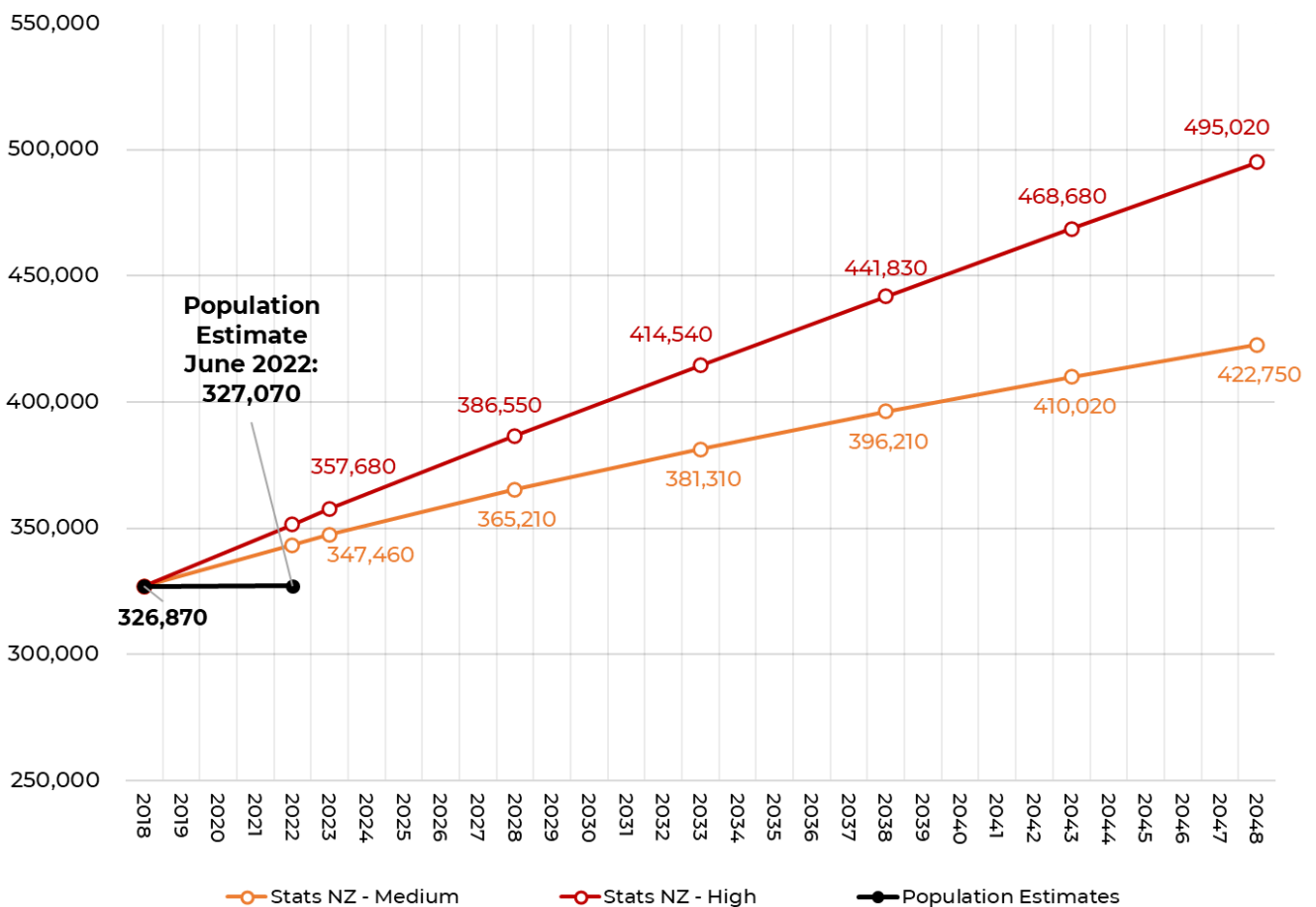
5. CORE ECONOMIC MARKET GROWTH

This section assesses the recent, current, and projected growth of the identified catchments based on the latest Stats NZ population estimates under their latest Medium and High growth scenarios. This assists in identifying the market size of the core catchment both at present and over a longer-term period.

The current tracking of the population growth profile for the total core catchment is tracking below the Medium growth projection series. This is the result of the COVID-19 pandemic border closures reducing brownfield residential 'infill' development significantly over this period.

However, the total core catchment represents a significant current population base of around 327,000 people, meaning that any short-term fluctuations in the growth profile have only a negligible impact on the market size. The reopening of NZ's border is likely to stimulate growth back up toward pre-pandemic growth rates, signalling the longer-term population base of the market is still considered appropriate to adopt.

FIGURE 4: CORE CATCHMENT POPULATION ESTIMATES AND PROJECTIONS



Source: Stats NZ



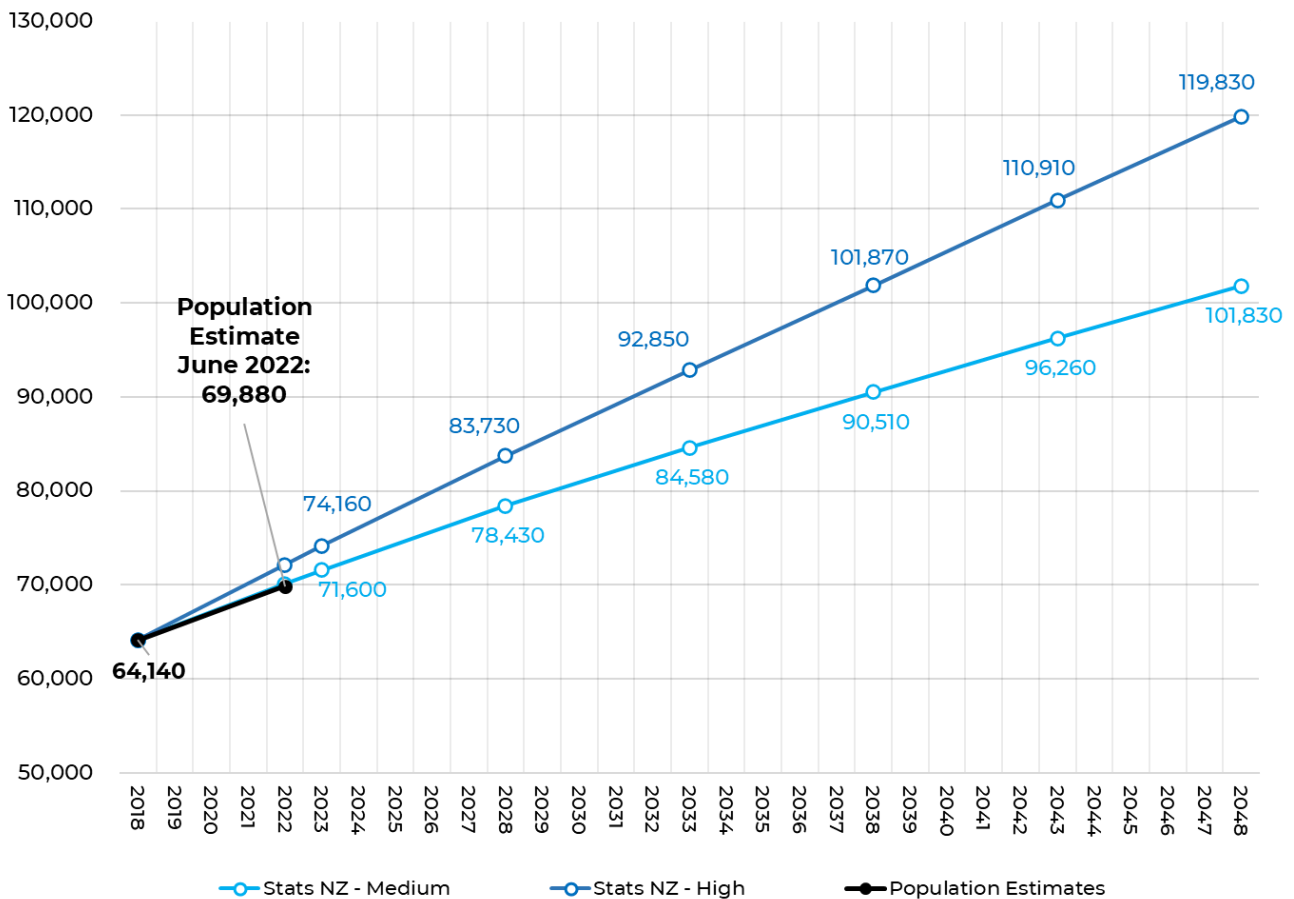
Under the Stats NZ High growth scenario, the core catchment’s population is forecast to grow by around +51% net between 2022 and 2048. This equates to annual average growth of around 6,500 people net and result in a population base of up to 500,000 people by mid-century.

The Medium growth projection has the highest probability of being realised which would represent a future core catchment population base of around 423,000 people by 2048, or +29% net growth in population. This equates to net growth of 3,680 people per annum over the assessed period.

The following figure presents the population estimates and projections for the localised ‘Hibiscus Coast’ catchment. It shows that the localised catchment population is currently tracking between the Medium and High growth scenario with a 2022 population base of nearly 70,000 people, which is around 9% net growth above the 2018 population base.

This growth is proportionally higher than the total core catchment’s average growth rate for the same period. This is a result of the significant greenfield development occurring around Silverdale including Millwater, Milldale, Ara Hills and Pacific Heights, which are all large-scale developments with numerous building projects under construction.

FIGURE 5: LOCALISED CATCHMENT POPULATION ESTIMATES AND PROJECTIONS



Source: Stats NZ

In the long-term, it is anticipated that the High growth scenario would better represent the likely future population growth track of the localised '*Hibiscus Coast*' catchment due the vast amount of growth areas identified within the catchment both under development and planned. This would mean that the localised catchment would reach a population base of around 120,000 people by 2048.

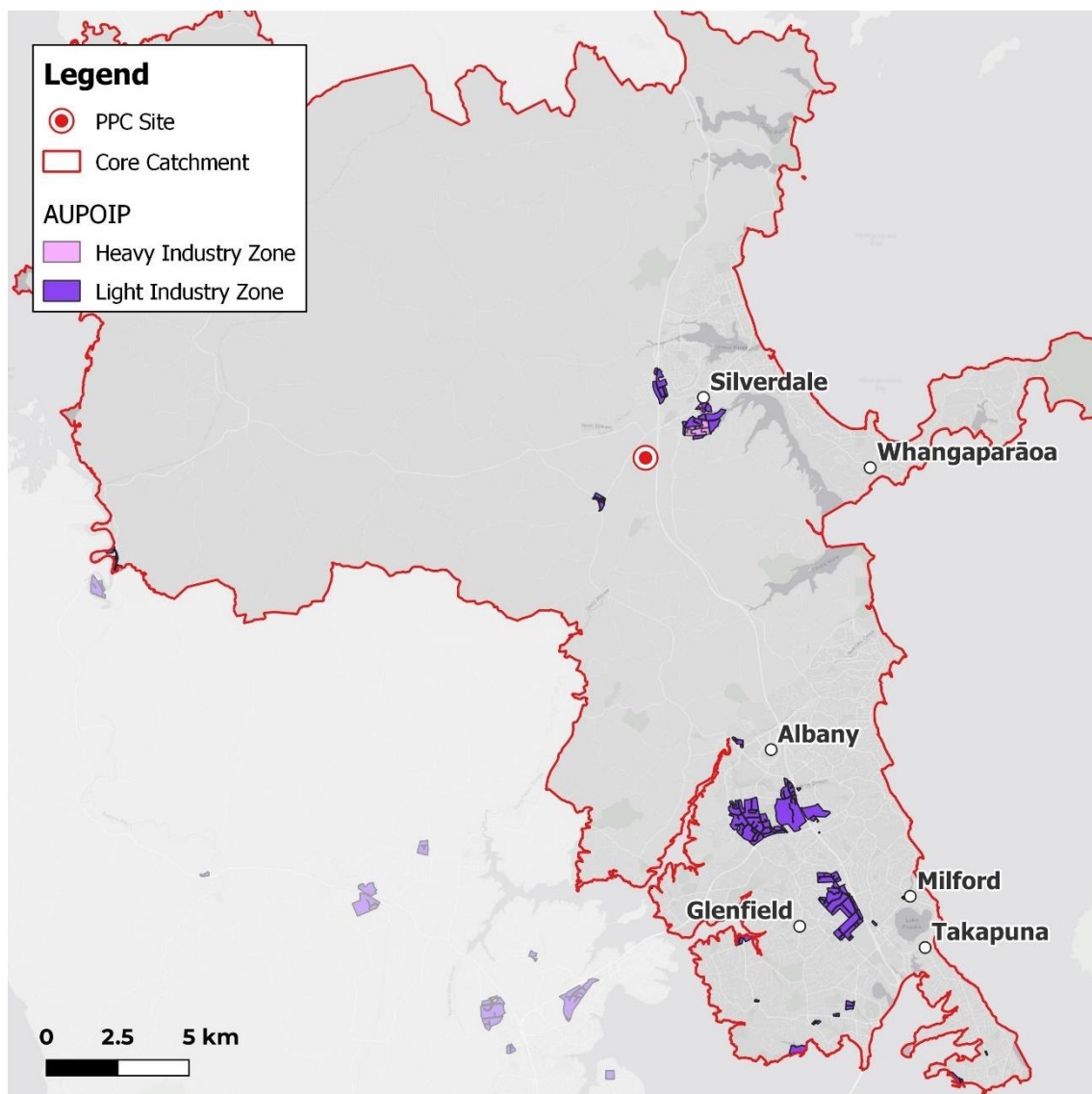
This represents population growth of about +72% net over the period. This would create significant growth locally and would generate additional demand for industrial activities and employment opportunities, particularly within the local economy that needs to be satisfied to create an efficient urban environment.

6. INDUSTRIAL LAND PROVISION (SUPPLY)

This section quantifies the current zoned industrial land provisions (ha) within the core catchment under the AUP(OIP) to understand the supply of the industrial land in the identified industrial market.

The figure below geospatially maps the distribution of the industrial zoned land within the catchment, with the vacant industrial land identified and presented in Appendix 1.

FIGURE 6: EXISTING INDUSTRIAL ZONED LAND WITHIN THE CORE CATCHMENT AREA



Source: Auckland Council, Google Maps, Property Economics

The existing industrial zoned land within the catchment is primarily located in urban North Shore (e.g., Wairau Valley, Rosedale and North Harbour), Silverdale Central and Highgate in Millwater South. These industrial areas span a total of around 616ha of land cumulatively.

More specific, around 587ha (95%) is identified as LIZ and only 29ha is identified as Heavy Industry Zone (HIZ), which is situated in Silverdale Central only.

Based on a set of geospatial layers, including LINZ primary parcels, 2022 building outlines, flood-sensitive areas, significant ecological areas overlay, roading network, and Google Map Street View, the core economic catchment of the PPC is estimated to have only 54ha of vacant industrial zoned land. This represents only 8.7% of the existing industrially zoned land within the core catchment.

For reference, the Silverdale BLA identified around 66ha of vacant industrial land within the catchment area. Some of these previously identified sites have been developed in recent years.

Importantly, this 54ha of vacant land also contains vacant lots with proposed development (i.e., the Mitre 10 Mega store in Highgate under construction) and the Rosedale wastewater lake front lots which are considered unlikely to be available for development given their location, market practicalities and roading constraints. Excluding these land parcels would further decrease the zone vacant land available to accommodate industrial development to around 34ha (or only 5.5% of total industrial zoned land in the core economic market).

As such, 54ha is considered to better represent the maximum gross amount of vacant industrial land zoned within the catchment to accommodate future industrial growth.

With a conservative assumption that 27.5% of the identified vacant land would be used for infrastructure on average (accounting for roads, easements, paths, landscaping, etc.), the net developable vacant industrial land within the catchment would be decreased from 54ha to only 39ha.

Property Economics is unaware of any lived zoned or rezoned industrial land on top of the AUP(OIP) existing industrial provisions in recent years within the catchment to accommodate the growing resident population and industrial employment requirements.

TABLE 1: CORE CATCHMENT AREA INDUSTRIAL LAND SUPPLY AND CAPACITY

AUPOIP	Land Area (ha)	Vacant Land (ha)	Net Developable Land (ha)
Heavy Industry	29	0	0
Light Industry	587	54	39
Total Industrial Zones	616	54	39

Source: Property Economics









7. INDUSTRIAL EMPLOYMENT GROWTH

This section assesses the industrial employment trends of the core catchment based on the latest Stats NZ Business Demography Statistics for the last two decades and Property Economics assumptions on the industrial business classifications. The latter is presented in Appendix 2.

The table below shows that the catchment has a current (2022) industrial employment base of around 38,560 employees, equating to net growth of +43% above the 2000 industrial employment base of about 26,900 people.

Construction is the largest industrial sector within the core catchment and has experienced the most significant growth over the last 22 years both nominally (+11,320 employees) and proportionally (+242%). This partly reflects the increasing demand within the catchment for retail, commercial and infrastructure development over the period and confirms the high level of construction activity and development required to accommodate the fast-growing population base of the catchment.

TABLE 2: CORE CATCHMENT INDUSTRIAL SECTOR EMPLOYMENT TRENDS

ANZSIC Sector	2000	2005	2010	2015	2020	2022	2000-22 Growth (#)	2000-22 Growth (%)
 A - Agriculture, Forestry and Fishing	53	65	40	41	24	33	-20	-38%
 B - Mining	8	8	2	2	3	4	-3	-44%
 C - Manufacturing	9,491	11,208	8,656	8,628	9,568	9,440	-51	-1%
 D - Electricity, Gas, Water and Waste Services	92	53	52	92	107	140	48	52%
 E - Construction	4,674	6,580	6,535	8,634	14,060	15,989	11,315	242%
 F - Wholesale Trade	7,889	9,305	9,680	10,005	10,241	10,253	2,364	30%
 I - Transport, Postal and Warehousing	4,274	2,881	2,620	2,553	2,616	1,909	-2,365	-55%
 L - Rental, Hiring and Real Estate Services	420	643	572	678	730	789	369	88%
Total Industrial Employment	26,901	30,744	28,156	30,632	37,349	38,557	+11,656	+43%

Source: Stats NZ, Property Economics









Wholesale Trade, with a current employment base of around 10,250 employees, has the second largest industrial employment base within the core catchment, contributing 27% of the total industrial employment base within the core catchment.

Another large industrial employer is the Manufacturing sector with around 9,440 employees in 2022. However, this sector has represented a diminishing proportion of the core catchment employment base over the last two decades from 35% in 2000 to 24% in 2022. This represents a sharp proportional decline but is a trend that has been observed across the country as manufacturing either automates (and becomes more capital intensive) or moves offshore due to NZ's fall in competitiveness internationally.

Nevertheless, this sharp decline in the core catchment has been exacerbated due to lack of industrial land opportunities for manufacturing businesses wanting to locate on the North Shore and Silverdale (supply side constraint) and uncompetitive land prices.

The following table outlines the current employment levels within the more localised 'Hibiscus Coast' catchment by industrial sector and the growth trends over the last 22 years. Auckland regional industrial employment data is provided for comparative context.

TABLE 3: INDUSTRIAL EMPLOYMENT GROWTH COMPARISON

ANZSIC Sector	Localised Catchment			Auckland Region		
	2000	2022	Growth	2000	2022	Growth
 A - Agriculture, Forestry and Fishing	10	13	+3	643	552	-92
 B - Mining	2	1	-1	30	41	+11
 C - Manufacturing	1,001	1,079	+78	81,279	78,706	-2,573
 D - Electricity, Gas, Water and Waste Services	27	66	+39	839	1,810	+971
 E - Construction	1,404	2,986	+1,582	24,310	70,691	+46,381
 F - Wholesale Trade	208	680	+472	46,984	60,948	+13,964
 I - Transport, Postal and Warehousing	286	486	+200	31,370	37,382	+6,012
 L - Rental, Hiring and Real Estate Services	72	104	+32	2,975	5,884	+2,909
Total Industrial Employment	3,010	5,415	+2,405	188,430	256,014	+57,494

Source: Stats NZ, Property Economics

The employment base within the localised catchment currently equates to around 5,420 employees, representing net growth of +80% since 2000. Over the same period, the Auckland region grew by about 57,500 industrial employees, representing net growth of +31%. Note caution should be placed when comparing proportional growth given the localised catchment is off a very low employment base.

As referred to earlier, the localised catchment is a high-growth area, so strong levels of industrial employment growth are a natural by-product to facilitate and service this growth. However, supply-side constraints with a lack of vacant industrial land opportunities locally



suggest the growth of the localised catchment industrial employment base will be compromised moving forward unless additional industrial land is provided to satisfy short-, medium- and long-term market demand. This is considered imperative to ensure increased local employment opportunities and enable the local economy to grow commensurately.

8. FUTURE INDUSTRIAL LAND DEMAND AND SUFFICIENCY

8.1. INDUSTRIAL LAND PER CAPITA

The following table provides a high-level comparative analysis of the industrial provision on a sqm of land / capita basis across the region by local board group. This highlights the core catchment's current industrial land provision against the rest of the region and identify whether the core catchment has an appropriate provision of industrial land on a comparative basis.

Appendix 3 shows the geospatial extent of the local board groups assessed. Note that the core catchment encompasses a portion of the Urban North and Rural North areas. As such, the balance of the Urban North and Rural North areas are assessed and presented separately.

The core catchment has an industrial land provision per capita ratio of 19sqm per resident. This is around half the regional average of 37sqm per resident. In fact, the core catchment's ratio is the lowest in the region by some margin and indicates the region's industrial land provision lacks balance across the region relative to the distribution of the population base.

Based on the above comparison, it is clearly evident that the industrial land provision within the core catchment is significantly under what it should be to create an efficient industrial and employment market. As such, there is likely to be a latent demand within the core catchment for industrial zoned land due to this under provision.

TABLE 4: INDUSTRIAL LAND (SQM) PER RESIDENT BY LOCAL BOARD GROUP

Local Board Group	Industrial Zoned Land (ha)	2022 Population	sqm per capita
Core Catchment Area	616	327,070	19
Urban Central	994	410,350	24
Urban South	2,960	515,010	57
Urban West	592	207,710	29
Rural South	804	94,770	85
Balance of Rural North	269	118,470	23
Balance of Urban North	62	21,870	28
Auckland Region	6,351	1,695,250	37
Auckland Region (excl. Catchment)	5,735	1,368,180	42

Source: Stats NZ, Property Economics.

Note that the local board group population estimates do not add up to the Auckland regional total due to Stats NZ's rounding approach.

8.2. INDUSTRIAL LAND SUFFICIENCY

The Silverdale BLA has forecast the future industrial land demand within the core catchment for the 2028 – 2048 period, with the results summarised in the following table.

It was estimated that the expected industrial employment growth within the catchment would require a total of 423ha of industrial zoned land from 2016 to 2048. However, this estimate did not include the NPS buffers and therefore the 'Land Area Required' was underestimated in the Silverdale BLA.

Based on these estimates, the catchment would require an additional 77ha of (gross) industrial zoned land by 2028, 209ha by 2038 and 410ha by 2048 on top of the identified vacant industrial land (66ha, net), including the NPS buffer.

TABLE 5: CATCHMENT INDUSTRIAL LAND GROWTH OVER 2016

	2016	2028	2038	2048
Industrial zone employment	-	4,190	9,010	15,390
Workspace ratio (sqm/MEC)		89		
Industrial floorspace (sqm)		372,900	801,900	1,369,700
Floor area ratio (FAR)		0.32		
Land area required (ha)		115	248	423
Additional land required (net, ha)		56	209	410
Additional land required (gross, ha)		77	288	566

Source: Silverdale BLA

Even though the Silverdale BLA estimates are four years past, they provide a basis for understanding the industrial land sufficiency within the catchment. Given the continuous growth in industrial employment in recent years, the current vacancy level across the core catchment is lower than that estimated by the Silverdale BLA, as shown earlier.

Therefore, the following table updates the estimated sufficiency of the industrial land capacity within the catchment based on the estimated current industrial land vacancy and the industrial land demand forecast in the Silverdale BLA.

Note that the Silverdale BLA used 2016 as the base year of forecast. Property Economics, therefore, has proportionalized these estimates to reflect the growth over the current year (2022).

It is estimated that the industrial zone employment within the catchment area would grow by additional 2,100 people by 2028, increasing further to additional 6,550 people by 2038 and 12,500 people by 2048.

This growth would require 70ha by 2028, 210ha by 2038 and 400ha by 2048, with the NPS-UD buffer included. Taking into account the updated industrial land vacancy of 39ha (net), that

level of growth would require net additional 31ha of industrial zoned land by 2028, 171ha by 2038 and 361ha by 2048.

Having applied a 72.5% net to gross conversion ratio to account for roads, landscaping, etc., the additional industrial zoned land within the catchment would be 43ha by 2028, 235ha by 2038 and 498ha by 2048.

TABLE 6: CATCHMENT UPDATED INDUSTRIAL LAND DEMAND AND SUFFICIENCY FORECASTS

	2028	2038	2048
Industrial Zone Employment (MECs) Net Growth (rounded)	2,100	6,550	12,500
Workspace Ratio	89		
Industrial Floorspace (sqm)	186,900	583,000	1,112,500
Floor Area Ratio (FAR)	0.32		
Land Area Required (ha) + NPS Buffer	70	210	400
<i>Less Updated Vacant Industrial Zoned Land (net, ha)</i>	39		
Additional Land Required (net, ha)	31	171	361
Additional Land Required (gross, ha)	43	235	498

Source: Property Economics, ME

Based on the Silverdale BLA's forecast and the updated industrial land capacity, it is evident that there is a significant future demand and additional requirement for industrial zoned land within the core catchment to accommodate the expected population and industrial employment growth.

Even though the forecast additional industrial land demand within the catchment would be around 43ha (gross) in the following 6 years (i.e., by 2028), this ignores any latent demand in the market and the long lead times required to facilitate new industrial land and development.

In Property Economics view, most industrial businesses with significant capital investment costs into plant and machinery like to have a level of certainty that they will be able to operate from the site for an extended period of time (mostly 10 – 20 years) to ensure they achieve a return on their investment.

As such, any potential short-term industrial land surplus would be offset by the economic benefits generated around long term industrial land supply certainty for the market, appease any latent demand in the market, preserve efficient locations and land use for industrial businesses, as well as safeguard supply and efficient operation of the industrial market in both the short, medium, and long term.

9. APPROPRIATE INDUSTRIAL ACTIVITIES

9.1. AUP(OIP) CONTEXT

Under the Unitary Plan, the LIZ anticipates industrial activities that do not generate objectionable odour, dust, or noise. This includes manufacturing, production, logistics, storage, transport, and distribution activities.

The objectives (H17.2) of the LIZ are defined as:

- (1) *Light industrial activities locate and function efficiently within the zone.*
- (2) *The establishment of activities that may compromise the efficiency and functionality of the zone for light industrial activities is avoided.*
- (3) *Adverse effects on amenity values and natural environment, both within the zone and on adjacent areas, are managed.*
- (4) *Development avoids, remedies or mitigate adverse effects on the amenity of adjacent public open spaces and residential zones.*

Given the H17.4.1 Activity Table, activities that are permitted within the LIZ primarily include:

- **Industry**¹: General industrial activities, wholesaler, storage, and lock-up facilities, etc.
- **Rural**: Rural activities such as animal breeding or boarding and horticulture.
- **Commerce**: Activities such as dairies, food and beverage, garden centres, motor vehicle sales, marine retail, retail and offices that are accessory to the primary activity on the site, service stations, show homes, trade suppliers (some of these activities are subject to GFA restrictions).
- **Community**: Such as emergency services and tertiary education facilities that are accessory to an industrial activity on the site.

The list of permitted activities identified within the LIZ under the AUP(OIP) is generally what is appropriate and expected on the subject land. Of the permitted activities, a comprehensive list of the suite of business types and activities appropriate for the PPC are identified within a detailed ANZSIC sector list included in Appendix 6.

In terms of an approximate split of industrial activities likely to be developed within the Plan Change area these are likely to have a bias towards warehousing / distribution / logistics given its direct motorway access and cheaper land prices relative to other North Shore industrial

¹ As defined by AUP(OIP), industrial activities include freight depots and warehousing and storage, industrial laboratories, manufacturing and light manufacturing and servicing, repair and maintenance services, waste management facilities, refuse transfer station and recycling facilities, rail siding, bus depots, storage and lockup facilities, wholesalers.

areas. The value of the land would also be cheaper making it an attractive location for for more land extensive industrial activities, and general industrial hub activity.

Manufacturing would likely be lower proportion as this sector is not a growing proportion of the market. It is likely to be smaller scale industrial servicing businesses consuming much of the balance of the land.

Also potential land consumption should be considered by land area and not nominal number as ten warehouse / logistics operations would consume a far greater amount of land compared to ten general industrial activities.

With this in mind the suggested developable land use proportion of these categories are given below:

- General Industrial – 20%
- Industrial Park – 15%
- Manufacturing – 15%
- Warehousing / Logistics / Distribution – 50%

10. EMPLOYMENT INTERNALISATION POTENTIAL









10.1. EMPLOYMENT INTERNALISATION

To better understand the extent of industrial employment opportunities available within the localised catchment to internalise a higher proportion of industrial employment, and to the benefit of the local economy, the following table compares the differences in the number of employees residing within the localised catchment against the catchment's employment base across ANZSIC sectors that are likely to be located in the industrial zones, based on Stats NZ 2018 Census and 2018 Business Demography Statistics.

The right-most column shows the employee internalisation ratio by sector and can be interpreted as, for every one employee in a sector within the Hibiscus Coast catchment there is this many employees in that sector that live in the localised catchment. A ratio above 1 indicates that there is a net inflow of employees in that sector to the catchment while a ratio below 1 indicates a net outflow of employees in that sector.

It is important to note that it would be unrealistic to expect a one-to-one match of residents within the catchment to localised employment across all sectors due to the competitive nature of the employment market. However, the lower the rate, the lower the level of employment internalisation for that sector in the catchment and, therefore, the greater the market opportunity, growth potential and market efficiencies can be gained.

TABLE 7: LOCALISED CATCHMENT INDUSTRIAL EMPLOYMENT INTERNALISATION RATES

ANZSIC Sector	Local Resident Employment Base	Employed with the Catchment	Local Employment Base Rate
 A - Agriculture, Forestry and Fishing	231	111	0.48
 B - Mining	42	12	0.29
 C - Manufacturing	2,280	1,229	0.54
 D - Electricity, Gas, Water and Waste Services	132	184	1.39
 E - Construction	4,506	2,933	0.65
 F - Wholesale Trade	2,184	705	0.32
 I - Transport, Postal and Warehousing	945	421	0.45
 L - Rental, Hiring and Real Estate Services	849	282	0.33

Source: Stats NZ, Property Economic

Based on the results in the table, it is estimated that industrial sectors have an average internalisation rate of around 0.53. This indicates only just over half of employment in this localised catchment is internalised, or conversely 47% of employees across these sectors leave

the local economy for employment. This indicates there is a significant industrial employment base within the localised market but not enough industrial activity and employment opportunities locally to satisfy this demand.

Across the large industrial employers of Manufacturing, Construction and Wholesale Trade, the level of employment internalisation is low at 0.54, 0.65 and 0.32 respectively. This can be seen on the daily commuting patterns with large volumes of people travelling down the motorway to the industrial hubs of North Harbour, Rosedale and Wairau Valley.

Based on this high-level analysis, Property Economics considers that the proposed PPC would support the diversification of industrial employment opportunities in the localised market and increase employment internalisation.

10.2 SILVERDALE INDUSTRIAL EMPLOYEE TRAVEL TO WORK PATTERNS

This section assesses the travel to work patterns of Silverdale and surrounding areas² (i.e., the assessed area) employed residents to identify the economic market potential of the PPC site to increase market efficiencies.

As part of the 2018 NZ Census, Stats NZ recorded the location the residents commute to work at the SA2 level. It was recorded that 9,231 employed residents left Silverdale and surrounding areas to 65 different locations for work. Property Economics, therefore, has aggregated these locations by broader area to highlight the major employment nodes.

The following table summarises the key employment / travel to work destinations for employed residents living within the assessed area, with the industrial employment locations highlighted. Also included in the table is the travel distance to each employment node (one way), so a round trip would be double the distance identified in the table.

North Harbour was the largest travel to work destination of employees residing in Silverdale and surrounding areas. It was estimated that around 2,480 departures (27% of the total work departures) travelled to the North Harbour area. This was followed by Auckland Central (1,776 departures), Takapuna (1,095 departures), and Albany (879 departures).

In total there are over 4,000 employees who leave the assessed area each day for work to other industrial locations within the city. This accounts for around 44% of the total employee departures for work, suggesting the PPC has the potential to internalise a lot the current industrial employment leakage from the local area, and therefore lower travel distances and improve market efficiency.

² This assessed area includes the SA2 combined area of Silverdale Central (Auckland), Dairy Flat North, Millwater South, Silverdale South (Auckland), Millwater North, Red Beach West, Red Beach East, Vipond, Stanmore Bay West, Whangaparāoa Central, Stanmore Bay East, Manly West, Manly East, Tindalls-Matakatia, Gulf Harbour North, Army Bay, Gulf Harbour South, Kingsway, Orewa North, Orewa South, and Orewa Central.

It is estimated that the PPC site with a land area of around 107ha would accommodate circa 2,100 industrial employees. With 4,000 industrial employees leaving the localised catchment on a daily basis, this suggests the entire PPC employment base could be sourced from the local industrial employment pool, providing a more 'travel-efficient' employment location. This would also have positive benefits for reducing CO2 emissions as a result of significantly less 'travel to work' distances for a large proportion of the local industrial employees.

TABLE 8: SILVERDALE AND SURROUNDING AREAS TRAVEL TO WORK PATTERNS SUMMARY

Travel to Work Destination	Departures Count (employee, 2018)	Departures Share (%)	Commuting Distance (km)
Albany	879	10%	18
North Harbour	2,478	27%	22
Browns Bay	105	1.1%	20
Wairau Valley	600	6%	25
Takapuna	1,095	12%	30
Auckland Central	1,776	19%	35
Henderson	132	1.4%	40
Rosebank Peninsula	99	1.1%	45
Penrose and Onehunga-Te Papapa	546	6%	45
East Tamaki	105	1.1%	55
Auckland Airport	192	2.1%	60
Manukau and Wiri	45	0.5%	60
Other areas	1,179	13%	-
Total Employee Departures for Work	9,231	100%	-

Source: Stats NZ, Property Economics

11. INDUSTRIAL ACTIVITY LOCATIONAL ATTRIBUTES

This section identifies the main characteristics influencing the attractiveness and competitiveness of the PPC site for LIZ activity.

Note that the location decision process of many industrial companies in Auckland, as in other areas around the country, is often complex and is specific to each business and its operational requirements. There are, however, a set of key locational criteria that gives an understanding of the factors affecting business location, albeit to varying degrees. These are outlined below.

- **Good access to transportation network:** Sites (or locations) adjacent to major arterial roads are preferred and often receive a premium in the market. Industrial activities that require an efficient delivery of materials or products often prefer these locations.

As part of this criterion, improved transportation in industrial areas is also seen as a future requirement for growing industrial businesses, particularly in regard to better roading networks, traffic management, and close to public transport services.

- **Proximity to an appropriate labour supply:** This varies between sectors based on the skill level of the workers required. For example, many manufacturing businesses require lower skilled workers compared to businesses in the professional services sectors, so the location requirements are slightly different.

For many industrial businesses access to labour is an important consideration in their location decision making processes, especially for manufacturing businesses where access to semi-skilled labour is vital. In general, business locations in areas that have a lower level of access to the workforce are seen as problematic.

- **Access to customers or target markets:** This has a strong influence on location depending on whether the business is servicing a localised market, a regional market or the national or international market. For those businesses servicing the localised market a central location is preferable to reduce travel costs as these industries generally work on the orders placed by other industries.

For those servicing the national and international markets and those businesses that have large transport costs, locations in close proximity to the main state highway network, rail, port or airport networks are preferable.

- **Room for potential expansion and growth on the site:** For most businesses relocating is a very expensive exercise, and for businesses with significant capital investment costs into plant and machinery, they like to have a level of certainty that they will be able to operate from the site for a long period of time to ensure they achieve a return on their investment.

Thus, having the ability to expand their operation to allow for business growth onsite is important. It's an important consideration for businesses who want to mitigate long term risks on their capital investment.



- **Location of suppliers:** This can be especially important for businesses that have significant raw material inputs and freight costs.
- **Exposure / Profile:** Most businesses seek locations that offer some level of exposure and profile. This is a cost-effective method of marketing and is able to elevate the brand of a business significantly.
- **Undisrupted water and electricity supply:** Note for some businesses the escalating price of electricity translates into lower profit margins, especially in power intensive industries. Black-outs and power surges are costly occurrences for businesses, especially if generators need to be hired.
- **A company's existing network and infrastructure:** This can have a major influence on location, especially for national franchises to avoid inefficiencies.
- **Land and property costs:** This is a key criterion in the location decision of almost all businesses, particularly those that operate on low margins.
- **Level of congestion in peak times:** This is becoming increasingly important, as it can have a significant influence on delivery businesses. In many main centres for example, this is now a major consideration where time delays and trucks getting caught in traffic is having significant flow-on implications for company logistics and their ability to service clients to the level required.

Based on this overview, the PPC site is considered to provide a competitive and attractive industrial land location for multiple industrial businesses within the market

12. ECONOMIC COSTS AND BENEFITS

The proposed PPC to live zone the subject land to LIZ would generate a range of potential economic costs and benefits. This section outlines the high-level economic costs and benefits of the PPC in the context of the AUP(OIP) and RMA.

ECONOMIC BENEFITS

- **Provision of sufficient industrial land to satisfy demand for industrial land over the short-, medium and most of the long-term timeframe, including additional buffer:** As forecast earlier, the core industrial catchment would require nearly 500ha of industrial land to accommodate industrial employment and local industrial sector growth by 2048. The additional industrial land capacity provided by the PPC can be expected to contribute to accommodating the projected demand, ensuring the continuous growth of the local and regional industrial economy.
- **Enablement of economies of scale and industrial agglomeration effects:** The subject site is a part of the extensive structure plan industrial area and is proximate to the Silverdale and other existing industrial business areas. The proposed provision of industrial activities would gain benefits and efficiencies working with the existing operations. The broader the range of industrial activities enabled in the PPC site, the more agglomeration benefits, efficiencies and improved business performance can be generated.
- **Mitigation of adverse environmental effects (or reverse sensitivity effects) by containing the activities within a defined area:** Many industrial activities generate reverse sensitivity issues in urban environments, particularly rural oriented activities. The PPC land would provide a location where any reverse sensitivity issues with more urban environments can be more easily mitigated.
- **Increased industrial employment and economic profile:** The PPC land would directly promote Auckland's industrial economy by providing more industrial employment opportunities to the local market in an existing industrial area and zone. The PPC site has the potential to increase the industrial market of Auckland North by attracting industrial activity to that may not have been attracted to an alternative location. In this regard the PPC would increase the market size and not simply redistribute industrial activity from the market. This would increase the profile of the district as an industrial location and improve the district's business location competitiveness. This would facilitate further growth of the district's primary production sector.
- **Reduction in marginal cost of infrastructure provision:** Additional development that is proximate to the existing industrial activities would enable infrastructure investment to be more efficiently utilised and lower marginal infrastructure cost. This would also provide the opportunity for the district to accommodate industrial growth without the

requirement duplicate investment and resources in new infrastructure by the community.

- + **Potential for mitigation of industrial land prices:** With additional industrial land supply for a broader range of industrial activities, the average industrial land price within the district could fall and make the district a more competitive location to establish an industrial business. Additional industrial land capacity within the district would also reduce the likelihood of industrial land banking and one developer controlling industrial land prices given the limited industrial location choices in the district and vacant zoned land supply.
- + **Increased flexibility for industrial growth and new entrants:** Industrial land supply does not have to match the projected industrial land demand exactly. However, in contrast to the adverse impacts caused by a shortfall of industrial land capacity (e.g., limited industrial economic growth, and less competitive industrial land price), additional industrial land supply would significantly enhance the industrial land use flexibility and location choice.

ECONOMIC COSTS

- **Loss of rural land production (i.e., opportunity cost of the live zoning):** Live zoning the subject site could lead to a loss of rural land production potential given the existing grazing / farming land uses. However, the subject land has a FUZ zoning which services as a transitional zone for future urban uses. This essentially means that the proposed light industrial uses would coincide with the expected provisions for the subject land with no detrimental impact on the integrity of AUP(OIP) provisions and the receiving environment. Moreover, the Land Use Capability (LUC) classification identified the subject land as Class 3 and 4 soil, which are not high-class productive soil best for primary production³. As such, there is a sound reason to consider that the opportunity cost of the subject land for more intensive rural uses and activities would be no more than minor in the context of the NPS-HPL⁴.
- **Potential generation of adverse environmental effects (relative to no additional business activities at the subject site):** New industrial development at the subject site may have adverse off-site effects on adjacent or nearby rural properties and environment. These may be effects such as noise, visual effect of new industrial buildings, odour, dust and traffic. However, this is likely to be offset with management of any such potential by creating master plan for the entire site and developing a set of site focused planning provisions.

³ The subject land is identified as soils that are subject to periods of moisture deficiency and have the potential for slight wind erosion and moderate tunnel gully erosion when cultivated. See Appendix 5 for the productive soil distribution in and around the subject land.

⁴ National Policy Statement for Highly Productive Land 2022

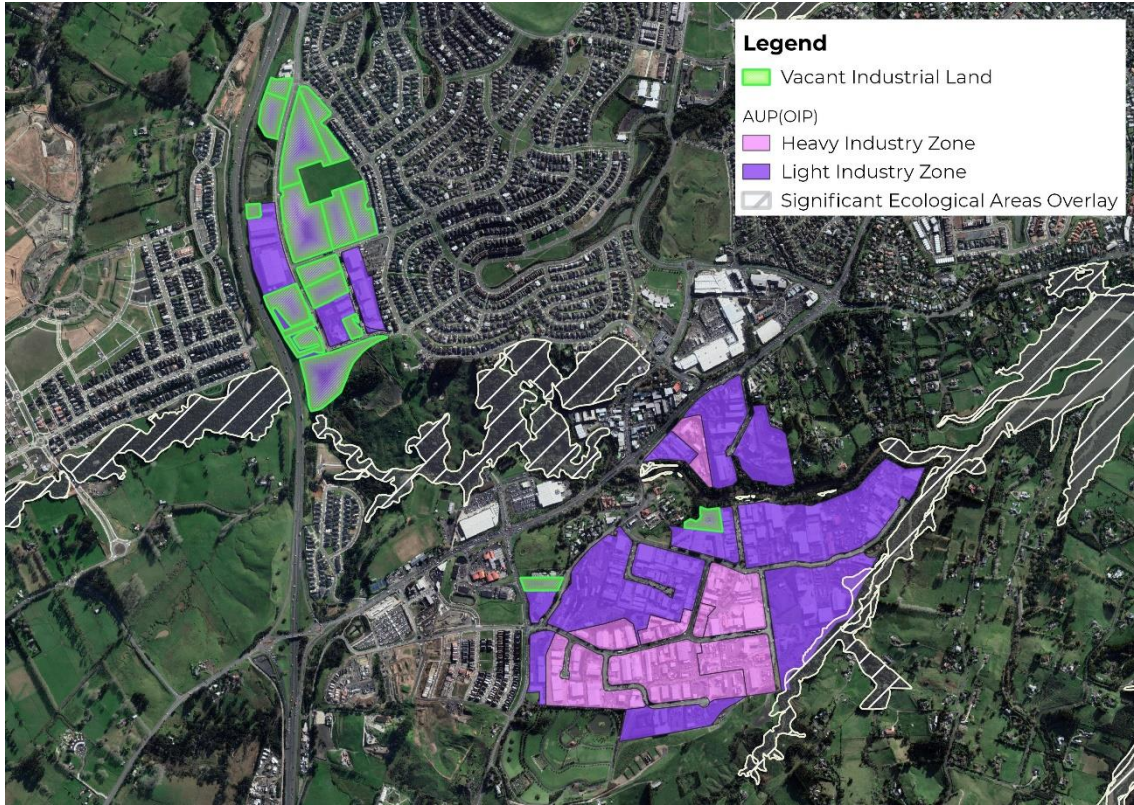


Additionally, the subject site is bounded by State Highway 1 and Dairy Flat Highway. These two roads may perform as a natural buffer preventing the landscape and amenity values of the receiving environment arising from the potential reverse sensitivity effects due to the proposed live zoning.

In Property Economics view, balancing all the economic considerations, the proposed PPC would generate significantly more economic benefits for the local and regional economy and communities than economic costs. As such, Property Economics supports that the proposed PPC from an economic perspective in the context of the RMA.

APPENDIX 1. CATCHMENT VACANT INDUSTRIAL LAND

SILVERDALE



ROSEDALE



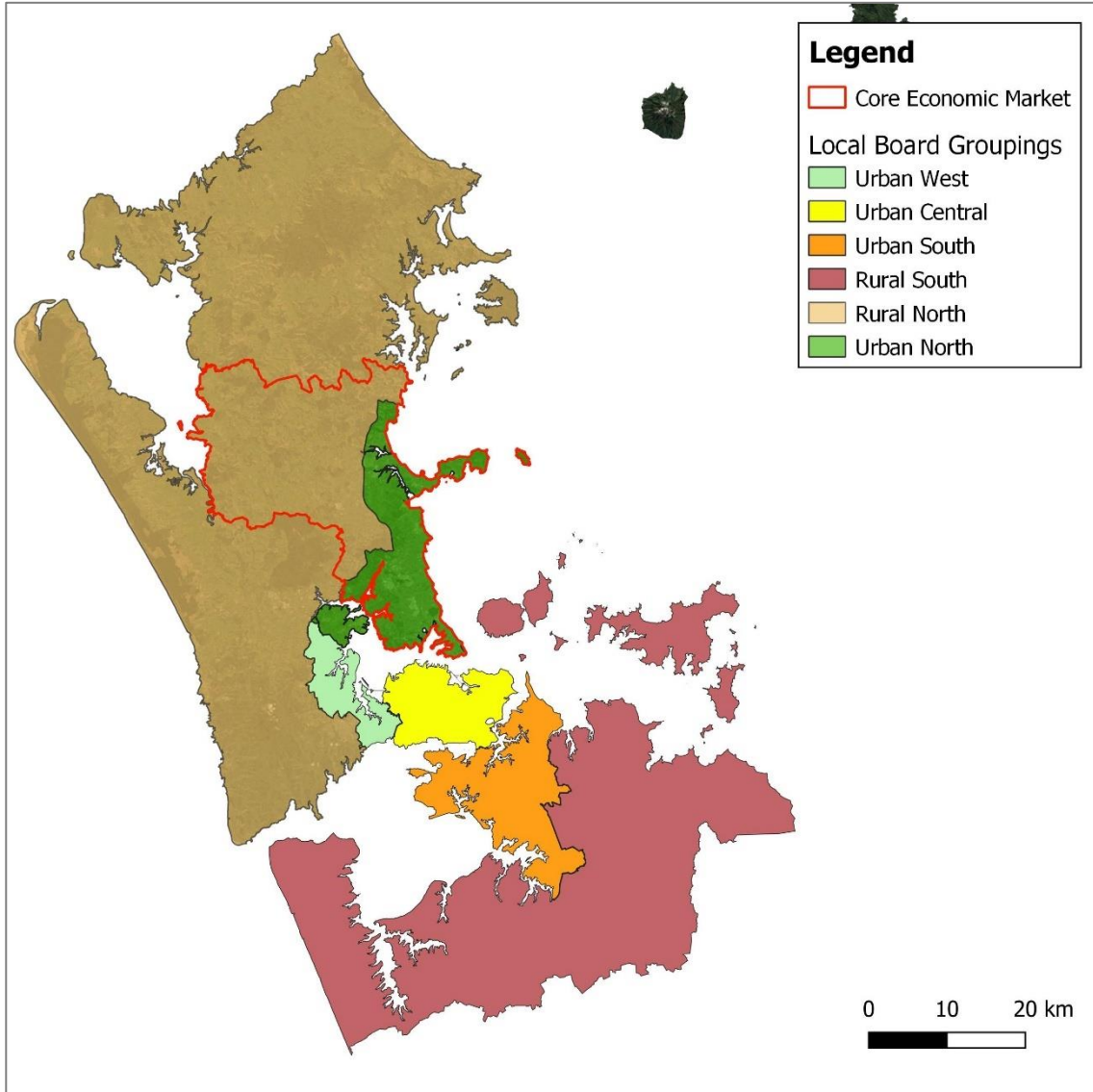
APPENDIX 2. INDUSTRIAL BUSINESS CLASSIFICATIONS

Property Economics utilises the 2006 Australian and New Zealand Standard Industrial Classification (ANZSIC) as guidance, whereby businesses are assigned an industry according to their predominant economic activity.

Industrial activities, in general, refer to land extensive activities, including part of the primary sector, largely raw material extraction industries such as mining and farming; the secondary sector, involving refining, construction, and Manufacturing; and part of the tertiary sector, which involves distribution of manufactured goods. The employees work for the following sectors are considered an industrial sector employee:

- 10% of Agriculture, Forestry and Fishing
- 10% of Mining
- Manufacturing
- 30% Electricity, Gas, Water and Waste Services
- Construction
- Wholesale Trade
- Transport, Postal and Warehousing
- 40% Rental, Hiring and Real Estate Services

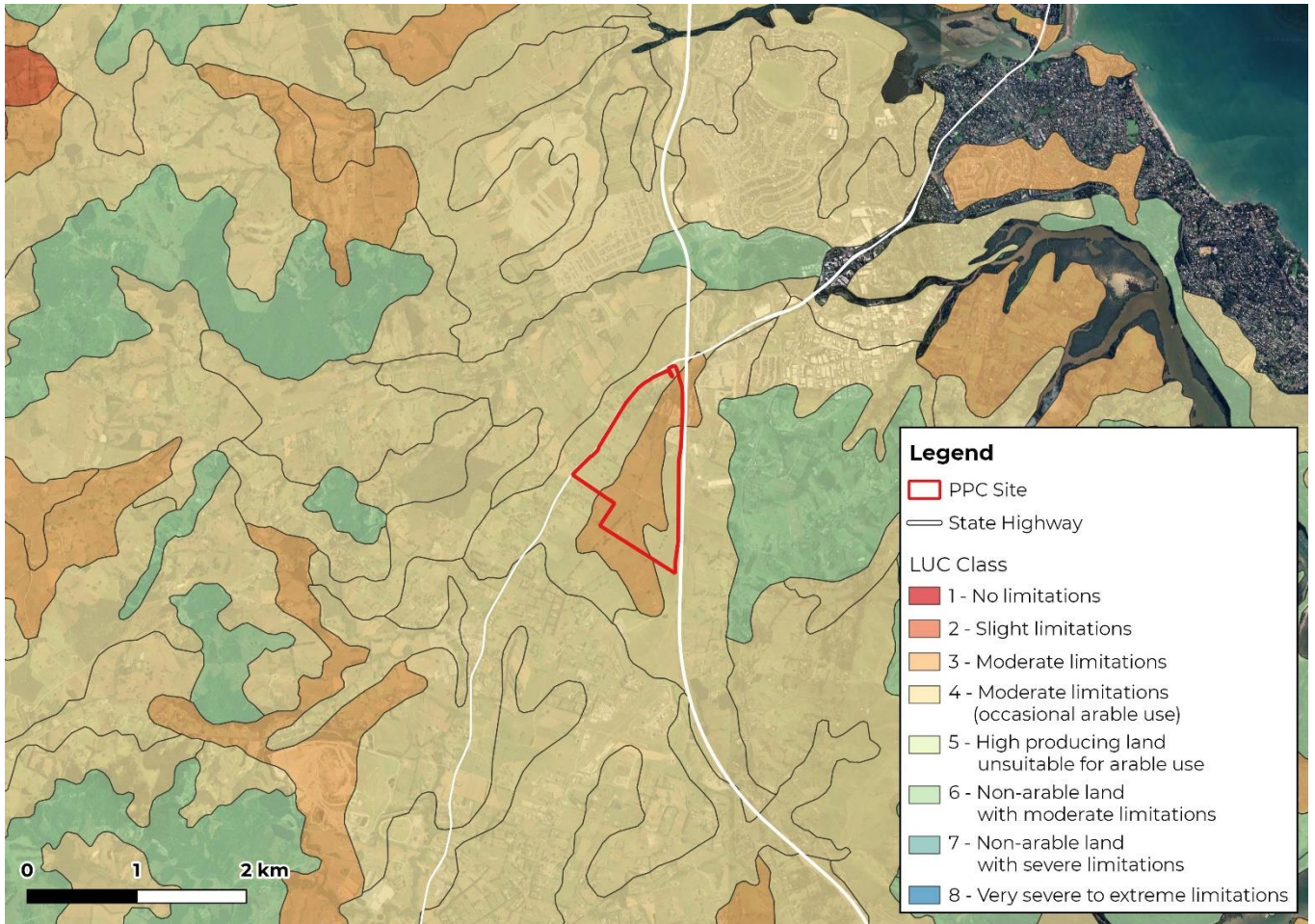
APPENDIX 3. AUCKLAND LOCAL BOARD GROUPINGS



APPENDIX 4. INDICATIVE STRATEGIC TRANSPORT NETWORK



APPENDIX 5. LAND USE CAPABILITY (LUC) CLASSIFICATION



Source: NZLRI, Google Maps, Property Economics

APPENDIX 6. APPROPRIATE INDUSTRIAL ACTIVITIES

Note following list represents a comprehensive list of business operations / activity types from the ANZSIC classification system – Level 4. The blue shaded activities are considered appropriate for the Silverdale West industrial zone. The activity types not highlighted are not considered appropriate for Silverdale West. The retail activities classified under ‘H’ Accommodation and Food Services are recommended to be capped at 1,200sqm GFA.

ANZSIC	Description
A	Agriculture, Forestry and Fishing
A011100	Nursery Production (Under Cover)
A011200	Nursery Production (Outdoors)
A011300	Turf Growing
A011400	Floriculture Production (Under Cover)
A011500	Floriculture Production (Outdoors)
A012100	Mushroom Growing
A012200	Vegetable Growing (Under Cover)
A012300	Vegetable Growing (Outdoors)
A013100	Grape Growing
A013200	Kiwifruit Growing
A013300	Berry Fruit Growing
A013400	Apple and Pear Growing
A013500	Stone Fruit Growing
A013600	Citrus Fruit Growing
A013700	Olive Growing
A013900	Other Fruit and Tree Nut Growing
A014100	Sheep Farming (Specialised)
A014200	Beef Cattle Farming (Specialised)
A014300	Beef Cattle Feedlots (Specialised)
A014400	Sheep-Beef Cattle Farming
A014500	Grain-Sheep or Grain-Beef Cattle Farming
A014600	Rice Growing
A014900	Other Grain Growing
A015100	Sugar Cane Growing
A015200	Cotton Growing
A015900	Other Crop Growing n.e.c.
A016000	Dairy Cattle Farming
A017100	Poultry Farming (Meat)
A017200	Poultry Farming (Eggs)
A018000	Deer Farming
A019100	Horse Farming
A019200	Pig Farming
A019300	Beekeeping

A019900	Other Livestock Farming n.e.c.
A020100	Longline and Rack (Offshore) Aquaculture
A020200	Caged (Offshore) Aquaculture
A020300	Onshore Aquaculture
A030100	Forestry
A030200	Logging
A041100	Rock Lobster and Crab Potting
A041200	Prawn Fishing
A041300	Line Fishing
A041400	Fish Trawling, Seining and Netting
A041900	Other Fishing
A042000	Hunting and Trapping
A051000	Forestry Support Services
A052100	Cotton Ginning
A052200	Shearing Services
A052900	Other Agriculture and Fishing Support Services
C	Manufacturing
C111100	Meat Processing
C111200	Poultry Processing
C111300	Cured Meat and Smallgoods Manufacturing
C112000	Seafood Processing
C113100	Milk and Cream Processing
C113200	Ice Cream Manufacturing
C113300	Cheese and Other Dairy Product Manufacturing
C114000	Fruit and Vegetable Processing
C115000	Oil and Fat Manufacturing
C116100	Grain Mill Product Manufacturing
C116200	Cereal, Pasta and Baking Mix Manufacturing
C117100	Bread Manufacturing (Factory based)
C117200	Cake and Pastry Manufacturing (Factory based)
C117300	Biscuit Manufacturing (Factory based)
C117400	Bakery Product Manufacturing (Non-factory based)
C118100	Sugar Manufacturing
C118200	Confectionery Manufacturing
C119100	Potato, Corn and Other Crisp Manufacturing
C119200	Prepared Animal and Bird Feed Manufacturing
C119900	Other Food Product Manufacturing n.e.c.
C121100	Soft Drink, Cordial and Syrup Manufacturing
C121200	Beer Manufacturing
C121300	Spirit Manufacturing
C121400	Wine and Other Alcoholic Beverage Manufacturing
C122000	Cigarette and Tobacco Product Manufacturing
C131100	Wool Scouring
C131200	Natural Textile Manufacturing

C131300	Synthetic Fibre Textile Manufacturing
C132000	Leather Tanning, Fur Dressing and Leather Product Manufacturing
C133100	Textile Floor Covering Manufacturing
C133200	Rope, Cordage and Twine Manufacturing
C133300	Cut and Sewn Textile Product Manufacturing
C133400	Textile Finishing and Other Textile Product Manufacturing
C134000	Knitted Product Manufacturing
C135100	Clothing Manufacturing
C135200	Footwear Manufacturing
C141100	Log Sawmilling
C141200	Wood Chipping
C141300	Timber Resawing and Dressing
C149100	Prefabricated Wooden Building Manufacturing
C149200	Wooden Structural Fitting and Component Manufacturing
C149300	Veneer and Plywood Manufacturing
C149400	Reconstituted Wood Product Manufacturing
C149900	Other Wood Product Manufacturing n.e.c.
C151000	Pulp, Paper and Paperboard Manufacturing
C152100	Corrugated Paperboard and Paperboard Container Manufacturing
C152200	Paper Bag Manufacturing
C152300	Paper Stationery Manufacturing
C152400	Sanitary Paper Product Manufacturing
C152900	Other Converted Paper Product Manufacturing
C161100	Printing
C161200	Printing Support Services
C162000	Reproduction of Recorded Media
C170100	Petroleum Refining and Petroleum Fuel Manufacturing
C170900	Other Petroleum and Coal Product Manufacturing
C181100	Industrial Gas Manufacturing
C181200	Basic Organic Chemical Manufacturing
C181300	Basic Inorganic Chemical Manufacturing
C182100	Synthetic Resin and Synthetic Rubber Manufacturing
C182900	Other Basic Polymer Manufacturing
C183100	Fertiliser Manufacturing
C183200	Pesticide Manufacturing
C184100	Human Pharmaceutical and Medicinal Product Manufacturing
C184200	Veterinary Pharmaceutical and Medicinal Product Manufacturing
C185100	Cleaning Compound Manufacturing
C185200	Cosmetic and Toiletry Preparation Manufacturing
C189100	Photographic Chemical Product Manufacturing
C189200	Explosives Manufacturing
C189900	Other Basic Chemical Product Manufacturing n.e.c.
C191100	Polymer Film and Sheet Packaging Material Manufacturing
C191200	Rigid and Semi-Rigid Polymer Product Manufacturing

C191300	Polymer Foam Product Manufacturing
C191400	Tyre Manufacturing
C191500	Adhesive Manufacturing
C191600	Paint and Coatings Manufacturing
C191900	Other Polymer Product Manufacturing
C192000	Natural Rubber Product Manufacturing
C201000	Glass and Glass Product Manufacturing
C202100	Clay Brick Manufacturing
C202900	Other Ceramic Product Manufacturing
C203100	Cement and Lime Manufacturing
C203200	Plaster Product Manufacturing
C203300	Ready-Mixed Concrete Manufacturing
C203400	Concrete Product Manufacturing
C209000	Other Non-Metallic Mineral Product Manufacturing
C211000	Iron Smelting and Steel Manufacturing
C212100	Iron and Steel Casting
C212200	Steel Pipe and Tube Manufacturing
C213100	Alumina Production
C213200	Aluminium Smelting
C213300	Copper, Silver, Lead and Zinc Smelting and Refining
C213900	Other Basic Non-Ferrous Metal Manufacturing
C214100	Non-Ferrous Metal Casting
C214200	Aluminium Rolling, Drawing, Extruding
C214900	Other Basic Non-Ferrous Metal Product Manufacturing
C221000	Iron and Steel Forging
C222100	Structural Steel Fabricating
C222200	Prefabricated Metal Building Manufacturing
C222300	Architectural Aluminium Product Manufacturing
C222400	Metal Roof and Guttering Manufacturing (except Aluminium)
C222900	Other Structural Metal Product Manufacturing
C223100	Boiler, Tank and Other Heavy Gauge Metal Container Manufacturing
C223900	Other Metal Container Manufacturing
C224000	Other Sheet Metal Product Manufacturing
C229100	Spring and Wire Product Manufacturing
C229200	Nut, Bolt, Screw and Rivet Manufacturing
C229300	Metal Coating and Finishing
C229900	Other Fabricated Metal Product Manufacturing n.e.c.
C231100	Motor Vehicle Manufacturing
C231200	Motor Vehicle Body and Trailer Manufacturing
C231300	Automotive Electrical Component Manufacturing
C231900	Other Motor Vehicle Parts Manufacturing
C239100	Shipbuilding and Repair Services
C239200	Boatbuilding and Repair Services
C239300	Railway Rolling Stock Manufacturing and Repair Services

C239400	Aircraft Manufacturing and Repair Services
C239900	Other Transport Equipment Manufacturing n.e.c.
C241100	Photographic, Optical and Ophthalmic Equipment Manufacturing
C241200	Medical and Surgical Equipment Manufacturing
C241900	Other Professional and Scientific Equipment Manufacturing
C242100	Computer and Electronic Office Equipment Manufacturing
C242200	Communication Equipment Manufacturing
C242900	Other Electronic Equipment Manufacturing
C243100	Electric Cable and Wire Manufacturing
C243200	Electric Lighting Equipment Manufacturing
C243900	Other Electrical Equipment Manufacturing
C244100	Whiteware Appliance Manufacturing
C244900	Other Domestic Appliance Manufacturing
C245100	Pumps and Compressor Manufacturing
C245200	Fixed Space Heating, Cooling and Ventilation Equipment Manufacturing
C246100	Agricultural Machinery and Equipment Manufacturing
C246200	Mining and Construction Machinery Manufacturing
C246300	Machine Tool and Parts Manufacturing
C246900	Other Specialised Machinery and Equipment Manufacturing
C249100	Lifting and Material Handling Equipment Manufacturing
C249900	Other Machinery and Equipment Manufacturing n.e.c.
C251100	Wooden Furniture and Upholstered Seat Manufacturing
C251200	Metal Furniture Manufacturing
C251300	Mattress Manufacturing
C251900	Other Furniture Manufacturing
C259100	Jewellery and Silverware Manufacturing
C259200	Toy, Sporting and Recreational Product Manufacturing
C259900	Other Manufacturing n.e.c.
D	Electricity, Gas, Water and Waste Services
D261100	Fossil Fuel Electricity Generation
D261200	Hydro-electricity Generation
D261900	Other Electricity Generation
D262000	Electricity Transmission
D263000	Electricity Distribution
D264000	On Selling Electricity and Electricity Market Operation
D270000	Gas Supply
D281100	Water Supply
D281200	Sewerage and Drainage Services
D291100	Solid Waste Collection Services
D291900	Other Waste Collection Services
D292100	Waste Treatment and Disposal Services
D292200	Waste Remediation and Materials Recovery Services
E	Construction
E301100	House Construction

E301900	Other Residential Building Construction
E302000	Non-Residential Building Construction
E310100	Road and Bridge Construction
E310900	Other Heavy and Civil Engineering Construction
E321100	Land Development and Subdivision
E321200	Site Preparation Services
E322100	Concreting Services
E322200	Bricklaying Services
E322300	Roofing Services
E322400	Structural Steel Erection Services
E323100	Plumbing Services
E323200	Electrical Services
E323300	Air Conditioning and Heating Services
E323400	Fire and Security Alarm Installation Services
E323900	Other Building Installation Services
E324100	Plastering and Ceiling Services
E324200	Carpentry Services
E324300	Tiling and Carpeting Services
E324400	Painting and Decorating Services
E324500	Glazing Services
E329100	Landscape Construction Services
E329200	Hire of Construction Machinery with Operator
E329900	Other Construction Services n.e.c.
F	Wholesale Trade
F331100	Wool Wholesaling
F331200	Cereal Grain Wholesaling
F331900	Other Agricultural Product Wholesaling
F332100	Petroleum Product Wholesaling
F332200	Metal and Mineral Wholesaling
F332300	Industrial and Agricultural Chemical Product Wholesaling
F333100	Timber Wholesaling
F333200	Plumbing Goods Wholesaling
F333900	Other Hardware Goods Wholesaling
F341100	Agricultural and Construction Machinery Wholesaling
F341900	Other Specialised Industrial Machinery and Equipment Wholesaling
F349100	Professional and Scientific Goods Wholesaling
F349200	Computer and Computer Peripheral Wholesaling
F349300	Telecommunication Goods Wholesaling
F349400	Other Electrical and Electronic Goods Wholesaling
F349900	Other Machinery and Equipment Wholesaling n.e.c.
F350100	Car Wholesaling
F350200	Commercial Vehicle Wholesaling
F350300	Trailer and Other Motor Vehicle Wholesaling
F350400	Motor Vehicle New Parts Wholesaling

F350500	Motor Vehicle Dismantling and Used Parts Wholesaling
F360100	General Line Grocery Wholesaling
F360200	Meat, Poultry and Smallgoods Wholesaling
F360300	Dairy Produce Wholesaling
F360400	Fish and Seafood Wholesaling
F360500	Fruit and Vegetable Wholesaling
F360600	Liquor and Tobacco Product Wholesaling
F360900	Other Grocery Wholesaling
F371100	Textile Product Wholesaling
F371200	Clothing and Footwear Wholesaling
F372000	Pharmaceutical and Toiletry Goods Wholesaling
F373100	Furniture and Floor Covering Wholesaling
F373200	Jewellery and Watch Wholesaling
F373300	Kitchen and Diningware Wholesaling
F373400	Toy and Sporting Goods Wholesaling
F373500	Book and Magazine Wholesaling
F373600	Paper Product Wholesaling
F373900	Other Goods Wholesaling n.e.c.
F380000	Commission-Based Wholesaling
G	Retail Trade
G391100	Car Retailing
G391200	Motor Cycle Retailing
G391300	Trailer and Other Motor Vehicle Retailing
G392100	Motor Vehicle Parts Retailing
G392200	Tyre Retailing
G400000	Fuel Retailing
G411000	Supermarket and Grocery Stores
G412100	Fresh Meat, Fish and Poultry Retailing
G412200	Fruit and Vegetable Retailing
G412300	Liquor Retailing
G412900	Other Specialised Food Retailing
G421100	Furniture Retailing
G421200	Floor Coverings Retailing
G421300	Houseware Retailing
G421400	Manchester and Other Textile Goods Retailing
G422100	Electrical, Electronic and Gas Appliance Retailing
G422200	Computer and Computer Peripheral Retailing
G422900	Other Electrical and Electronic Goods Retailing
G423100	Hardware and Building Supplies Retailing
G423200	Garden Supplies Retailing
G424100	Sport and Camping Equipment Retailing
G424200	Entertainment Media Retailing
G424300	Toy and Game Retailing
G424400	Newspaper and Book Retailing

G424500	Marine Equipment Retailing
G425100	Clothing Retailing
G425200	Footwear Retailing
G425300	Watch and Jewellery Retailing
G425900	Other Personal Accessory Retailing
G426000	Department Stores
G427100	Pharmaceutical, Cosmetic and Toiletry Goods Retailing
G427200	Stationery Goods Retailing
G427300	Antique and Used Goods Retailing
G427400	Flower Retailing
G427900	Other Store-Based Retailing n.e.c.
G431000	Non-Store Retailing
G432000	Retail Commission-Based Buying and/or Selling
H	Accommodation and Food Services
H440000	Accommodation
H451100	Cafes and Restaurants <i>(H classification activities are recommended to be capped at 1,200sqm GFA)</i>
H451200	Takeaway Food Services
H451300	Catering Services
H452000	Pubs, Taverns and Bars
H453000	Clubs (Hospitality)
I	Transport, Postal and Warehousing
I461000	Road Freight Transport
I462100	Interurban and Rural Bus Transport
I462200	Urban Bus Transport (Including Tramway)
I462300	Taxi and Other Road Transport
I471000	Rail Freight Transport
I472000	Rail Passenger Transport
I481000	Water Freight Transport
I482000	Water Passenger Transport
I490000	Air and Space Transport
I501000	Scenic and Sightseeing Transport
I502100	Pipeline Transport
I502900	Other Transport n.e.c.
I510100	Postal Services
I510200	Courier Pick-up and Delivery Services
I521100	Stevedoring Services
I521200	Port and Water Transport Terminal Operations
I521900	Other Water Transport Support Services
I522000	Airport Operations and Other Air Transport Support Services
I529100	Customs Agency Services
I529200	Freight Forwarding Services
I529900	Other Transport Support Services n.e.c.
I530100	Grain Storage Services
I530900	Other Warehousing and Storage Services

J	Information Media and Telecommunications
J541100	Newspaper Publishing
J541200	Magazine and Other Periodical Publishing
J541300	Book Publishing
J541400	Directory and Mailing List Publishing
J541900	Other Publishing (except Software, Music and Internet)
J542000	Software Publishing
J551100	Motion Picture and Video Production
J551200	Motion Picture and Video Distribution
J551300	Motion Picture Exhibition
J551400	Post-production Services and Other Motion Picture and Video Activities
J552100	Music Publishing
J552200	Music and Other Sound Recording Activities
J561000	Radio Broadcasting
J562100	Free-to-Air Television Broadcasting
J562200	Cable and Other Subscription Broadcasting
J570000	Internet Publishing and Broadcasting
J580100	Wired Telecommunications Network Operation
J580200	Other Telecommunications Network Operation
J580900	Other Telecommunications Services
J591000	Internet Service Providers and Web Search Portals
J592100	Data Processing and Web Hosting Services
J592200	Electronic Information Storage Services
J601000	Libraries and Archives
J602000	Other Information Services
K	Financial and Insurance Services
K621000	Central Banking
K622200	Building Society Operation
K622300	Credit Union Operation
K622900	Other Depository Financial Intermediation
K623000	Non-Depository Financing
K624000	Financial Asset Investing
K631000	Life Insurance
K632100	Health Insurance
K632200	General Insurance
K633000	Superannuation Funds
K641100	Financial Asset Broking Services
K641900	Other Auxiliary Finance and Investment Services
K642000	Auxiliary Insurance Services
L	Rental, Hiring and Real Estate Services
L661100	Passenger Car Rental and Hiring
L661900	Other Motor Vehicle and Transport Equipment Rental and Hiring
L662000	Farm Animal and Bloodstock Leasing
L663100	Heavy Machinery and Scaffolding Rental and Hiring

L663200	Video and Other Electronic Media Rental and Hiring
L663900	Other Goods and Equipment Rental and Hiring n.e.c.
L664000	Non-Financial Intangible Assets (Except Copyrights) Leasing
L671100	Residential Property Operators
L671200	Non-Residential Property Operators
L672000	Real Estate Services
M	Professional, Scientific and Technical Services
M691000	Scientific Research Services
M692100	Architectural Services
M692200	Surveying and Mapping Services
M692300	Engineering Design and Engineering Consulting Services
M692400	Other Specialised Design Services
M692500	Scientific Testing and Analysis Services
M693100	Legal Services
M693200	Accounting Services
M694000	Advertising Services
M695000	Market Research and Statistical Services
M696100	Corporate Head Office Management Services
M696200	Management Advice and Related Consulting Services
M697000	Veterinary Services
M699100	Professional Photographic Services
M699900	Other Professional, Scientific and Technical Services n.e.c.
M700000	Computer System Design and Related Services
N	Administrative and Support Services
N721100	Employment Placement and Recruitment Services
N721200	Labour Supply Services
N722000	Travel Agency and Tour Arrangement Services
N729100	Office Administrative Services
N729200	Document Preparation Services
N729300	Credit Reporting and Debt Collection Services
N729400	Call Centre Operation
N729900	Other Administrative Services n.e.c.
N731100	Building and Other Industrial Cleaning Services
N731200	Building Pest Control Services
N731300	Gardening Services
N732000	Packaging Services
O	Public Administration and Safety
O751000	Central Government Administration
O752000	State Government Administration
O753000	Local Government Administration
O754000	Justice
O755100	Domestic Government Representation
O755200	Foreign Government Representation
O760000	Defence

O771100	Police Services
O771200	Investigation and Security Services
O771300	Fire Protection and Other Emergency Services
O771400	Correctional and Detention Services
O771900	Other Public Order and Safety Services
O772000	Regulatory Services
P	Education and Training
P801000	Preschool Education
P802100	Primary Education
P802200	Secondary Education
P802300	Combined Primary and Secondary Education
P802400	Special School Education
P810100	Technical and Vocational Education and Training
P810200	Higher Education
P821100	Sports and Physical Recreation Instruction
P821200	Arts Education
P821900	Adult, Community and Other Education n.e.c.
P822000	Educational Support Services
Q	Health Care and Social Assistance
Q840100	Hospitals (Except Psychiatric Hospitals)
Q840200	Psychiatric Hospitals
Q851100	General Practice Medical Services
Q851200	Specialist Medical Services
Q852000	Pathology and Diagnostic Imaging Services
Q853100	Dental Services
Q853200	Optometry and Optical Dispensing
Q853300	Physiotherapy Services
Q853400	Chiropractic and Osteopathic Services
Q853900	Other Allied Health Services
Q859100	Ambulance Services
Q859900	Other Health Care Services n.e.c.
Q860100	Aged Care Residential Services
Q860900	Other Residential Care Services
Q871000	Child Care Services
Q879000	Other Social Assistance Services
R	Arts and Recreation Services
R891000	Museum Operation
R892100	Zoological and Botanical Gardens Operation
R892200	Nature Reserves and Conservation Parks Operation
R900100	Performing Arts Operation
R900200	Creative Artists, Musicians, Writers and Performers
R900300	Performing Arts Venue Operation
R911100	Health and Fitness Centres and Gymnasias Operation
R911200	Sports and Physical Recreation Clubs and Sports Professionals

R911300	Sports and Physical Recreation Venues, Grounds and Facilities Operation
R911400	Sports and Physical Recreation Administrative Service
R912100	Horse and Dog Racing Administration and Track Operation
R912900	Other Horse and Dog Racing Activities
R913100	Amusement Parks and Centres Operation
R913900	Amusement and Other Recreation Activities n.e.c.
R920100	Casino Operation
R920200	Lottery Operation
R920900	Other Gambling Activities
S	Other Services
S941100	Automotive Electrical Services
S941200	Automotive Body, Paint and Interior Repair
S941900	Other Automotive Repair and Maintenance
S942100	Domestic Appliance Repair and Maintenance
S942200	Electronic (except Domestic Appliance) and Precision Equipment Repair and Maintenance
S942900	Other Machinery and Equipment Repair and Maintenance
S949100	Clothing and Footwear Repair
S949900	Other Repair and Maintenance n.e.c.
S951100	Hairdressing and Beauty Services
S951200	Diet and Weight Reduction Centre Operation
S952000	Funeral, Crematorium and Cemetery Services
S953100	Laundry and Dry-Cleaning Services
S953200	Photographic Film Processing
S953300	Parking Services
S953400	Brothel Keeping and Prostitution Services
S953900	Other Personal Services n.e.c.
S954000	Religious Services
S955100	Business and Professional Association Services
S955200	Labour Association Services
S955900	Other Interest Group Services n.e.c.
S960100	Private Households Employing Staff
S960200	Undifferentiated Goods-Producing Activities of Private Households for Own Use
S960300	Undifferentiated Service-Producing Activities of Private Households for Own Use