

## Draft Silverdale West Structure

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October 2010

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**DRAFT**

Silverdale West

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## **STRUCTURE PLAN**

Prepared for

Rodney District Council

By

O'Connor Planning Consultants Limited

October 2010

**DRAFT**

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## 1.0 EXECUTIVE SUMMARY

The Silverdale West Area has been identified as a suitable area for additional business land within Rodney District. The vision for the area includes an industrial business park with the protection of waterways and an inward focus to minimise the adverse effects on the wider environment.

The business park focus is on the provision of additional industrial land due to the severe shortage within Rodney District and further afield, and in order to provide additional employment for residents within the District.

The Silverdale West area is suitably located near State Highway 1, State Highway 16 and the Silverdale Interchange. However, due to potential traffic congestion, the area could not be developed prior to the Peninsula Link Road (Penlink) being in place.

The Silverdale West area is outside of the Metropolitan Urban Limits and would require a shift to these limits concurrently with any proposed Plan Change to the Rodney District Plan.

The draft Structure Plan overlays and considers, key information relevant to the Silverdale West area and arrives at a proposed structure. This information includes the following:

- Stormwater,
- Geotechnical Information,
- Ecological,
- Archaeological,
- Landscape and Visual,
- Traffic, and
- Infrastructure.

The final structure plan proposes a landscaped and earthworked buffer along State Highway 1 and the retention of watercourses which are to be enhanced with riparian planting.

The development should be screened from Wilks Road and SH17.

A number of stormwater ponds are required due to the catchment size, the proposed land uses and the existing flood potential of the lower parts of the area near waterways.

The suggested land uses within the business park propose a mixed use centre, a trade retail area with the remainder of the land outside of ecological areas being available for industrial activities with a variety of footprint sizes for the remaining buildings.

Significant landscaping is proposed along the key watercourses and collector roads as well as other landscaping to reduce the visual effects of the development.

It is anticipated that the Structure Plan will be notified for public comment once a decision has been made by Government to proceed with Penlink.

## 2.0 PURPOSE AND OVERVIEW

### 2.1 THE PURPOSE OF STRUCTURE PLANS

A Structure Plan is a tool for the Council to manage development pressures and set a framework for the development of growth. The Silverdale West Structure Plan considers the appropriateness or otherwise of utilising an area of land west of Silverdale for business purposes and develops a plan to guide this development over the next 10 years.

It should be noted that a Structure Plan is essentially a policy document on the Council's position on the establishment of an area of business land in Silverdale West. A Structure Plan is not a statutory document (such as the District Plan) and it does not contain any rules.

Following the adoption of the Structure Plan, aspects of the Structure Plan would be carried through into the District Plan to give it statutory weight. In this instance a change to the zone would be required. This will be done through a Plan Change process after the Structure Plan has been adopted by Council. Capital works projects will also be added to the Council's Long Term Council Community Plan (LTCCP).

### 2.2 THE PURPOSE OF THE SILVERDALE WEST STRUCTURE PLAN

In February 2008 the Council resolved to prepare a structure plan for an area of land to the west of the Motorway at Silverdale to indicate the potential use of this land for business activities. The area is currently outside of the Metropolitan Urban Limits (MULs) that are boundaries stated in the Auckland Regional Policy Statement (ARPS) to contain urban growth. A structure plan is required to apply to change the ARPS to amend the MULs. A structure plan guides the strategic development of greenfield areas.

Development of Greenfield areas for business activities must be balanced with the need to maintain a high quality environment and achieve quality social, cultural and economic outcomes. The first stage of compiling the Silverdale West Structure Plan has been to investigate and report on the constraints and opportunities for the Silverdale West area (refer to Section 11 Supporting Documents). This helps to inform the Council and the

community and assist in making a determination as to whether a balance can be reached between providing employment opportunities on the Silverdale West site and maintaining environmental values, whether development of the land would achieve the values stated in Vision Rodney and ultimately whether this is in the best interests of Rodney District and the wider Auckland Region. This information has been refined, updated and used as the basis of this Structure Plan.

### 2.3 THE NEED FOR BUSINESS DEVELOPMENT LAND

#### **Background: The Need for Business Development**

The Silverdale West structure plan is being prepared in response to a need for further land in the Hibiscus Coast to support Group 1 business development in Rodney District and the North West Sector of the Auckland Region.

A number of factors have resulted in an insufficient amount of land available for Group 1 employment in the Auckland Region to match residential growth. Group 1 businesses include those in the following sectors; construction, wholesale trade, manufacturing, distribution, transport and storage.

Based on research by McDermott Consultants (refer to Section 11, Supporting Documents, 2010) and the recently adopted Rodney District Council Industrial Land Strategy September 2010 which builds upon this work, it is estimated that an additional 1,000 ha (net area) of land is needed to provide Group 1 employment in the Auckland Region until 2030 and that all of "...the industrial land planned in Rodney, Waitakere and North Shore will all be needed to meet the future demand. In other words, these areas of planned industrial land are not in direct competition, but all serve an overall need in the north west sector." (refer to Section 11, Supporting Documents, Industrial Land Strategy).

#### **Supply of Industrial Land within Rodney District**

As stated in the Rodney District Industrial Land Strategy "Industrial land demand studies estimate that there is demand in Rodney for approximately 234ha of industrial land over the

next 20 years. An assessment has been made of the existing vacant land within the current Industrial zoned areas of Rodney showing that there is approximately 68ha of vacant land. The planned areas for industry (not yet zoned) identified in Structure Plans has also been calculated (386ha). ..The demand can easily be accommodated within the existing vacant industrial zoned land and the planned new (but not yet zoned) industrial areas..." The 386ha includes the Silverdale West area.

### **Supply of Industrial Land within the Hibiscus Coast Catchment (or Subdivision)**

The focus of industrial activities within this catchment is the Silverdale South industrial area and the Knowledge Economy Zone within Silverdale North which is yet to be developed and is dependent to some degree on the provision on a new SH1 interchange with south facing ramps at Bankside Road and to a lesser degree on the provision of Penlink to connect the Whangaparaoa Peninsula to the northern motorway.

The future Silverdale Industrial areas include Silverdale South and Silverdale West (or an alternative area nearby).

The Rodney District Industrial Land Strategy suggests that *"It is anticipated that approximately 200ha gross (approximately 140ha net) of additional land will be needed in Silverdale to meet demand for industrial development by 2031"*. (refer to Section 11, Supporting Documents, Phil McDermott Consultants 2005).

McDermott consultants (refer to Section 11, Supporting Documents, Phil McDermott Consultants 2008) consider *"Employment growth is likely to continue to focus in the south of Rodney because of the concentration of population growth there, as well as the advantages associated with the convergence of arterial north-south routes and proximity to the metropolitan area."* A significant factor driving employment growth is likely to be employment decentralisation, a trend that has been evident in the Auckland Region over the past 7 years.

### **Sub Regional Demand**

Business land in North Shore City is reaching depletion, with only 2 – 3 years supply remaining. In addition, much of the available land is unaffordable. For these reasons,

projected Group 1 employment growth in North Shore City will not be able to be accommodated within North Shore City boundaries. It is reasonable to expect that a portion of this growth will be displaced to the Hibiscus Coast, being the southern most part of Rodney District, closest to the North Shore City boundary. The remainder is likely to be displaced to Waitakere City or South to the remainder of the Auckland Region and possibly Waikato.

### **Sequencing**

The recent North West Sector Group 1 Business Land Demand report by McDermott Consultants (refer Section 11, Supporting Documents, 2010) specifically refers to Silverdale West and in terms of timing it suggested that *"Any failure to maintain the momentum behind the development of both Whenuapai Industrial area and Silverdale West could depress growth by maintaining high land prices and leading to a renewed shortage of Group 1 land beyond say, five years. The consequences would include increased underemployment and commuting."* The report goes on to suggest that *"Advancing Silverdale West may be the more immediate priority given that there is virtually no Group 1 land available on the Hibiscus Coast today and only a small increment likely in the near future. Silverdale West is also likely to play a role catering for investment and commuters displaced from the northern North Shore."*

## **2.4 THE STRATEGIC VISION**

The Strategic Vision is to provide land for industrial activities to establish and/or expand so that collectively the needs of the region are met, along with the needs of individual communities who will have the ability to work, live and play in the same general locality.

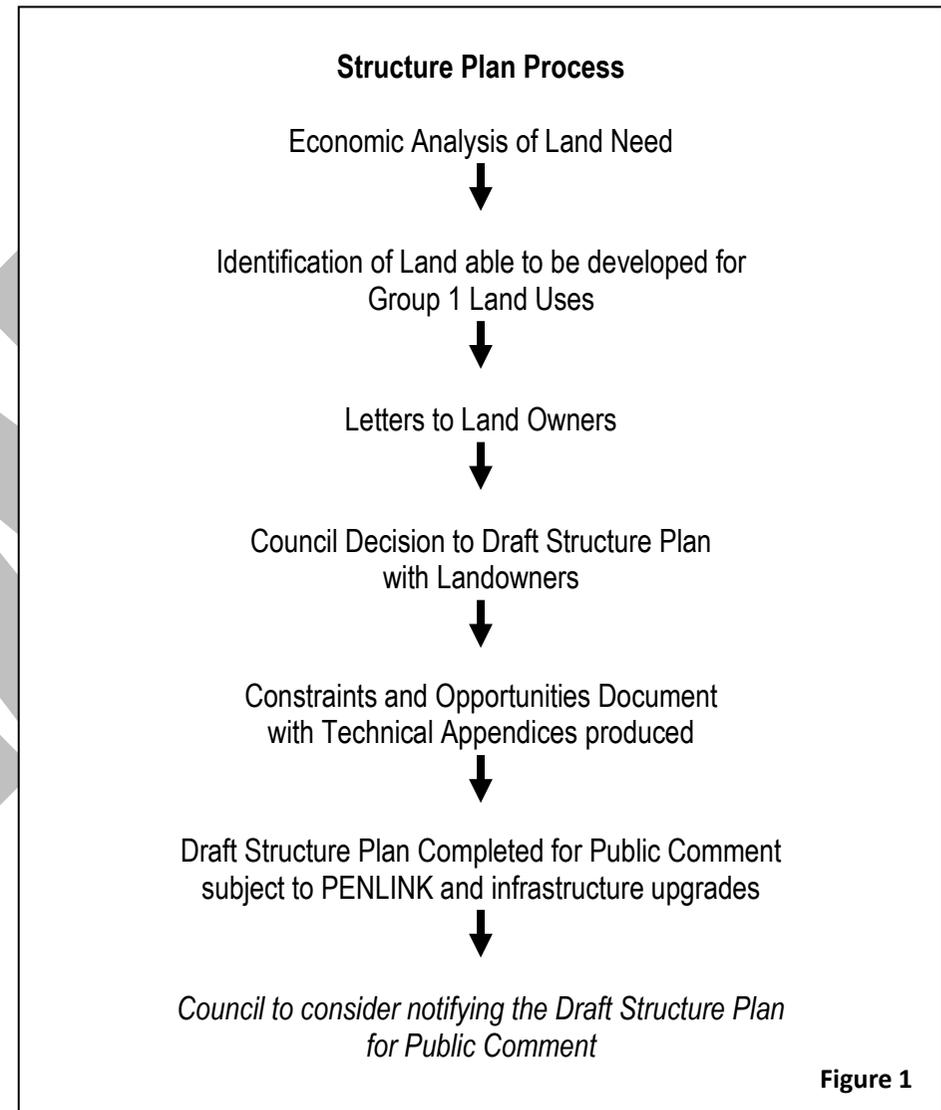
## 3.0 BACKGROUND / STRUCTURE PLAN PROCESS

As outlined above, the need for additional business land has been clearly identified. In particular an increase in industrial land close to the Hibiscus Coast is required in order to provide opportunities for current businesses in warehousing, manufacturing, logistics, transport and distribution activities to expand and for people who live on the Hibiscus Coast to work close to their place of residence.

Rodney District commissioned independent research to investigate the supply of land in Silverdale and where additional land could be provided. McDermott Consultants undertook this research and published three reports: an interim report in 2003, a report on Silverdale business land in 2005 and an update report in 2006. The 2005 McDermott report identified that there was just over 30 ha of potentially vacant business land in Silverdale (including land not used to full capacity) and demand for approximately 140 ha until 2050. Subsequently the McDermott report concluded that there was a shortage of business land in Silverdale for large floor plate business activities and ranked a number of land areas that could be rezoned to allow for these types of business activities. The criteria used to rank the areas assessed environmental, social and economic factors. Two sites west of SH1 and SH1A were identified. The area that is the subject of this structure plan was determined to be the most suitable. The second less suitable area is bound by Old Pine Valley Road and Wainui Road. It is possible that both areas could be utilised in the future if there is a need. These recommendations were presented to Council in August 2006 and the Council resolved to continue to work with stakeholders in relation to the recommendations in the McDermott report until such time as traffic solutions for Whangaparaoa access and access to Orewa and Silverdale are committed to in principle by the appropriate agencies.

Owners of properties within the Silverdale West study area were notified of Councils intent to undertake investigations and ultimately a structure plan, and invited to attend two meetings. The meetings provided an opportunity for landowners to be introduced to the rationale for undertaking a structure plan and provided an opportunity to ask questions.

As previously mentioned in February 2008 the Council resolved to work with the landowners to prepare a structure plan for the area. As the first step to preparing the Structure Plan, a number of technical reports were completed and compiled as a "Constraints and Opportunities" document. This was then made available to the public on



Councils website. This information also forms the basis of Section 4.0 *Current Base Site Information*, of this report.

Iwi were also asked to comment on a draft of the “Constraints and Opportunities” document and invited to discuss the document if they wish to do so.

This first part of the structure plan process was to determine whether it was possible to develop the area for business activities. The stability of the land, flooding, visual impact, ecology of the area, contamination of the land, traffic effects and archaeological considerations were assessed. An initial assessment was made as to whether infrastructure could be provided to the area and whether providing infrastructure to the area was affordable.

Following the production of the “Constraints and Opportunities” document, workshops with landowners were undertaken and Council gave consideration to development yield options. Refer to Section 7.1.10 for more detail on these options. It was determined that the subject site would only be viable if a minimum of approximately 70% of the site is able to be developed, and only if the Peninsula Link Road is constructed (or an alternative transport solution is reached).

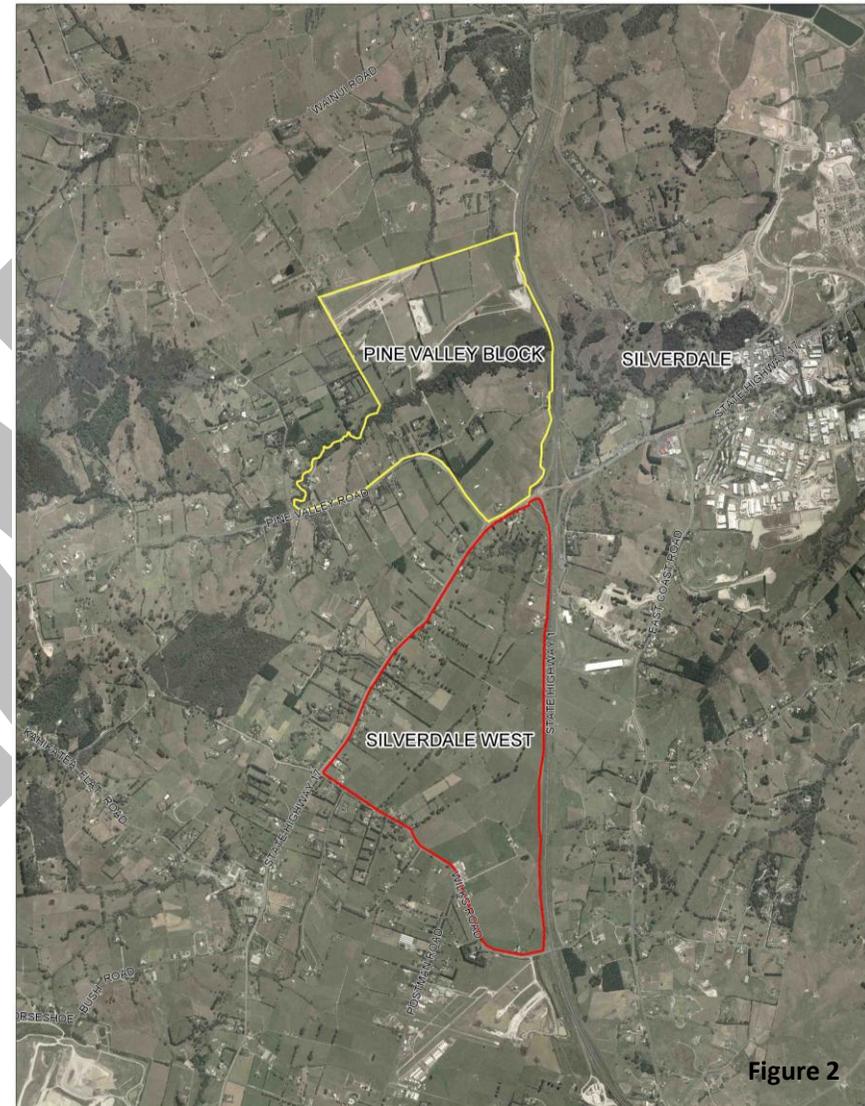


Figure 2

## 4.0 CURRENT BASE SITE INFORMATION

This section outlines the key base site information for the Silverdale West area and does not assess its appropriateness or otherwise as land for future business purposes.

### 4.1 LOCATION

The study area, referred to as Silverdale West, is located to the West of the motorway (SH1) at Silverdale. It is bordered to the North West by State Highway 17, and South West by Wilks Road. At present the primary motorway exit to the site is the Silverdale interchange.



**Photograph 1** Taken looking south east over the Silverdale West Area.



**Figure 3**

## 4.2 CURRENT ZONING

The site is currently zoned General Rural in the Rodney District Plan 2000 – Operative in Part. The southern portion of the study area is overlaid with air field restriction rules. The area is outside of the Metropolitan Urban Limit as stated in the ARPS.

The site adjoins an area of Countryside Living Rural zoned land and an area of land zoned Special 17 (North Shore Aero Park) Zone on the southern side of Wilks Road. All other boundaries adjoin rural land.

Variations have also been notified for an extension of the Silverdale Industrial Area, specifically on Peters Way and also for the rezoning of an area of land north east of Silverdale West for entertainment purposes.

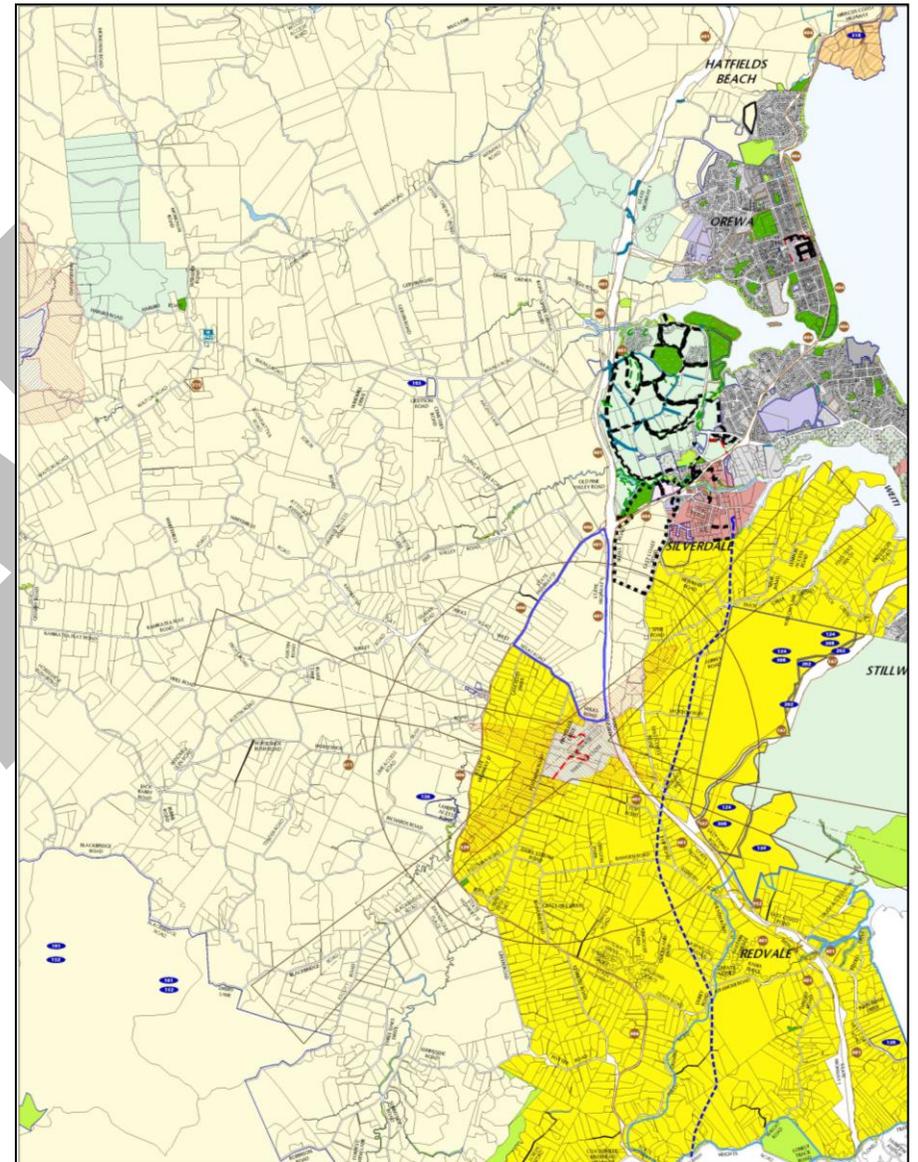
## 4.3 CURRENT LAND USES

Activities occurring within the study area include lifestyle living, light pastoral grazing and limited commercial activity. A bus depot is located to the South West of the site and a brick making and boat building activity on a site to the north of the area.

It is understood that a limestone quarry was established to the south of the site. Consent was gained in 1995 to use the quarried site as a cleanfill.

### Legend

	General Rural		Airfield Height Boundary
	Countryside Living Rural		Centreline of Take Off Fan
	Designation		Boundary between Special Zones
	Airfield Noise Restriction		HV Transmission Lines



#### 4.4 SURROUNDING ENVIRONMENT

Rural residential activity surrounding the study area is gradually intensifying. To the south of the site land is zoned Special Zone 17 to facilitate the development of the North Shore Airpark around the adjoining North Shore Airfield. The North Shore Airpark offers opportunities for low density residential subdivision incorporating aircraft hangars and runway access from individual lots.

Along State Highway 17 to the South West and North West of the site, land use is predominantly rural with some associated rural commercial activities such as bed and breakfast facilities and produce sales. To the North of the study area, across State Highway 17, there is a site that has consent for a limestone quarry.

A number of recreation activities are located to the east of the site, on the opposite side of the Motorway (Snow Planet, Silverdale Luge, Go Karting). A plan change has been notified to change the zoning of this area to allow for the development of further recreation and ancillary activities. An application to shift the Metropolitan urban limits (MULs) in the vicinity of the recreation precinct is has also been lodged with the ARC and notified.

To the north of the future recreation precinct is Silverdale North (Millwater). Council adopted a structure plan for mixed residential, open space and commercial zonings on greenfield land at Silverdale North in May 2004. The structure plan has been implemented by Variation 52 to the Proposed District Plan. Earthworks have commenced following obtaining the relevant resource consents and construction is underway.



Figure 5

## 4.5 GEOTECHNICAL AND SOILS

Riley Consultants Ltd have investigated the geotechnical constraints to development of the site (Refer Section 11 Supporting Documents, Geotechnical Constraints and Opportunities). Riley Consultants undertook this investigation by drilling machine boreholes, hand augerholes, a site walk over and literature review.

Based on the findings of drilling, the geology of the site, and evidence of past soil creep or slope failure, they have classified the study area into three zones (Figure 6). Zone 1 has low stability constraints. This area covers 34% of the site, and is generally on the mid slopes of the area. It does not include the central parts of the site. Zone 2 has moderate to high stability constraints, this zone, that covers 43% of the study area, includes flat areas that would be inundated if the slopes above were to fail (i.e. material from the slope would fall on to these sites). Riley Consultants describe zone 3 as having settlement constraints. Zone 3 covers the lower, central parts of the study area and the flood plain. Zone 3 is underlain by alluvium deposits.

Two parts of the study area have specific geotechnical constraints. The first is the site of the old limestone quarry and consented clean fill.

The soils of the site are not considered to be elite soils.

### Stability Constraint Zones

-  Settlement Constraint
-  Low Stability Constraint
-  Moderate to High Stability Constraint

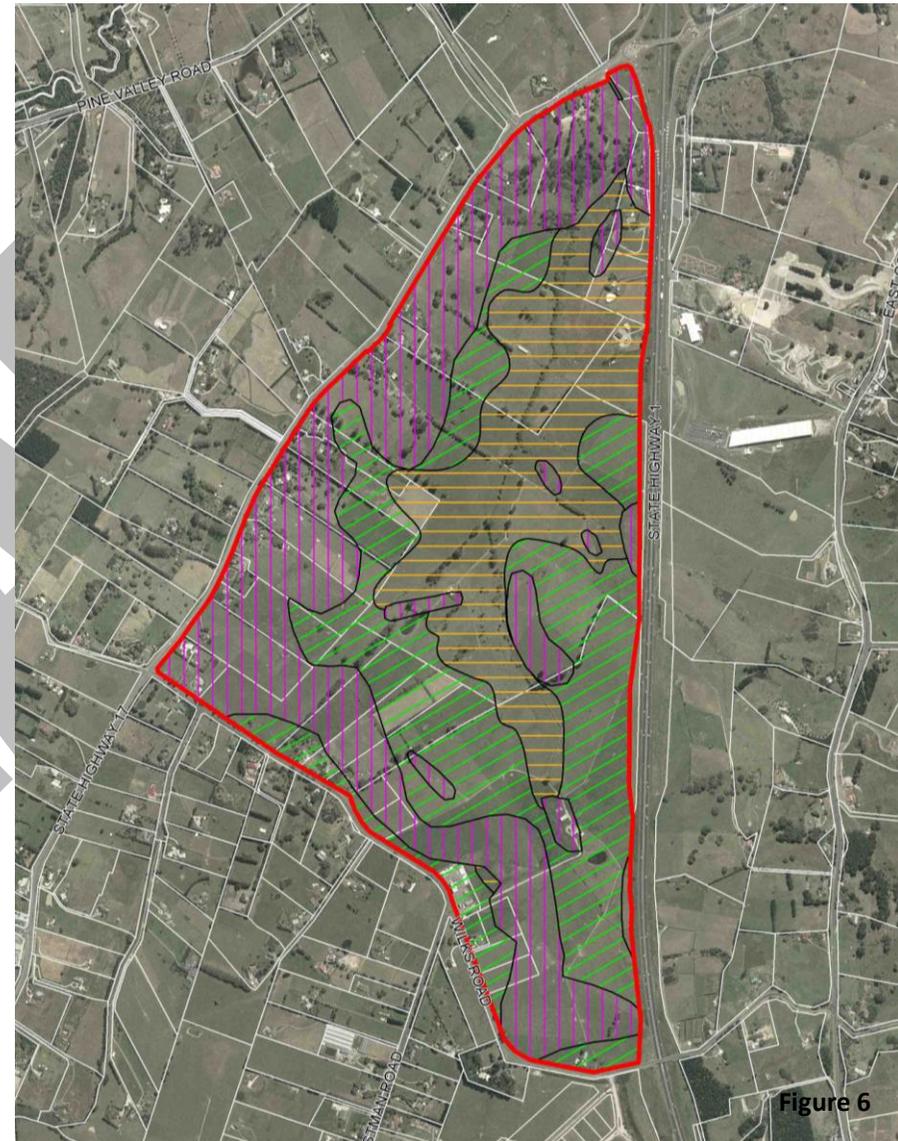


Figure 6

## 4.6 STORMWATER

The existing 226.8 hectare site is located within the upper reaches of the John Creek, which is a tributary of the Weiti Stream. The total catchment is approximately 365.6 hectares. A watercourse (John Creek) runs through the site from south to north with the some mature vegetation along parts of the northern portion of the watercourse. The main watercourse has a number of smaller tributaries branching off to the north-east and south-east, some of which pass under SH1 through culverts. The main watercourse drains beneath the Silverdale Motorway interchange and on to the Weiti Stream.

The tributaries of John's Creek have been modified and many are used as farm drains. They are a mixture of "permanent and intermittent streams" under the Auckland Regional Plan: Air Land and Water as shown on Figure 7. The main stem of John's Creek is a category 1 permanent stream.

There are a number of on and off line farms dams and stormwater ponds throughout the site, including stormwater ponds to provide treatment and attenuation for SH1.

Riley consultants advise that from the extensive backwater effects and potential depth of flooding, it appears that flood storage and the pipe culvert will control stormwater flows from the upper catchment to the downstream catchments. It also appears that the 1 in 10 and 1 in 100 year flood events may overtop the channel banks and extend across the valley floor, particularly within the mid and lower sections of the site.

### Legend

-  Intermittent
-  Permanent
-  Pond
-  1% AEP Flood Extents  
(1 in 100 year flood)
-  10% AEP Flood Extents  
(10 in 100 year flood)

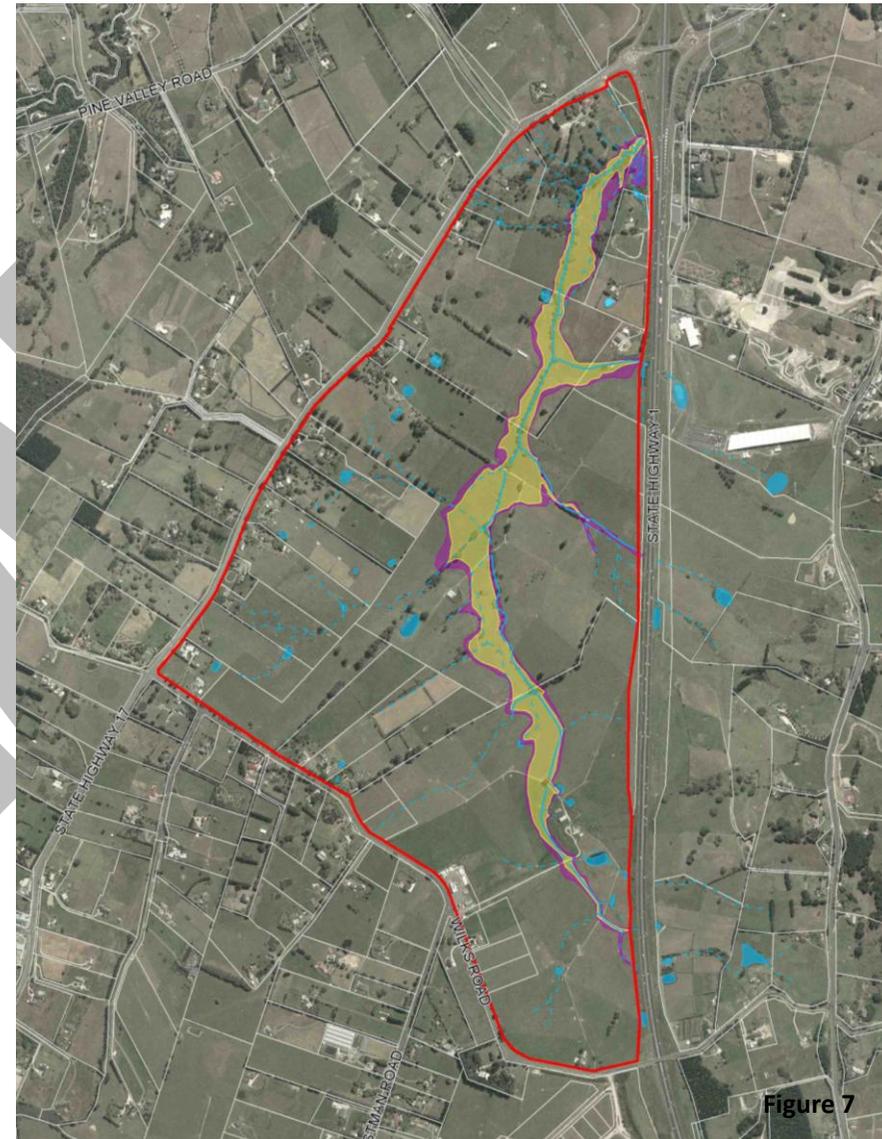


Figure 7

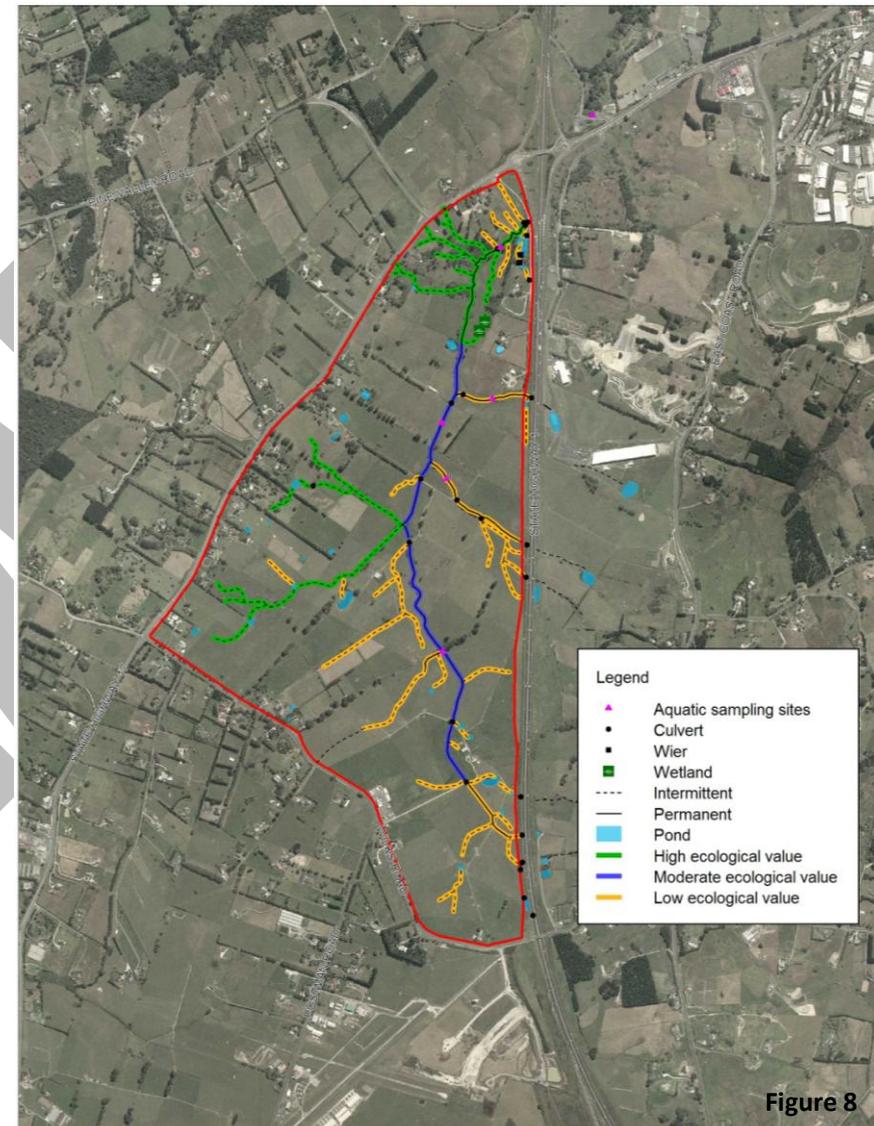
## 4.7 ECOLOGY

Golder Associates have assessed the ecological aspects of the study area (Refer Section 11 Supporting Documents, Assessment of Ecological Constraints). Overall the study area has low terrestrial and aquatic ecological values due to the highly modified nature of the surrounding land and its freshwater resources (both streams and ponds). The area has been highly modified by past landuse practices including forest clearance, drainage, and pastoral conversion and it now retains few remnant nature features.

Pastureland and large windrows of exotic trees cover more than 90% of the site. These areas provide poor habitat for native fauna and have a low ecological value. However, there are two areas of native bush (small kanuka original forest fragments of 0.5 hectares) to the north of the study area which are heavily degraded by large weed infestations and are contiguous with small pockets of exotic forest and scrub. The bird species located are common or abundant. No lizards have been recorded on the site and the pastureland does not provide a good habitat for native lizards.

The area has low aquatic ecological value due to the above mentioned modification. Furthermore, the intermittent waterways in the catchment have been significantly modified, with only two of these tributaries on the western side of the catchments retaining an element of natural character and flowing within relatively natural flow paths.

There are a total of twenty eight ponds within the study area, thirteen of these are farm ponds, primarily used for stock watering, have low ecological values, and are likely to be dry in summer months. There is also a perched culvert to the north of the study area that is a barrier to fish passage, and is currently broken. Other potential natural and man-made barriers to fish passage such as waterfalls, dams and in stream structures also exist. Erosion and slumping as a result of cattle damage and high flows have also significantly affected sections of the streambank. Overall, Golder Associates conclude that ponds and wetlands within the Silverdale West site are of low ecological value and generally provide poor aquatic habitat. Although the aquatic habitat within planted wetland areas around the stormwater ponds in the north-east corner of the site was of a higher quality due to the riparian vegetation and macrophyte beds present.



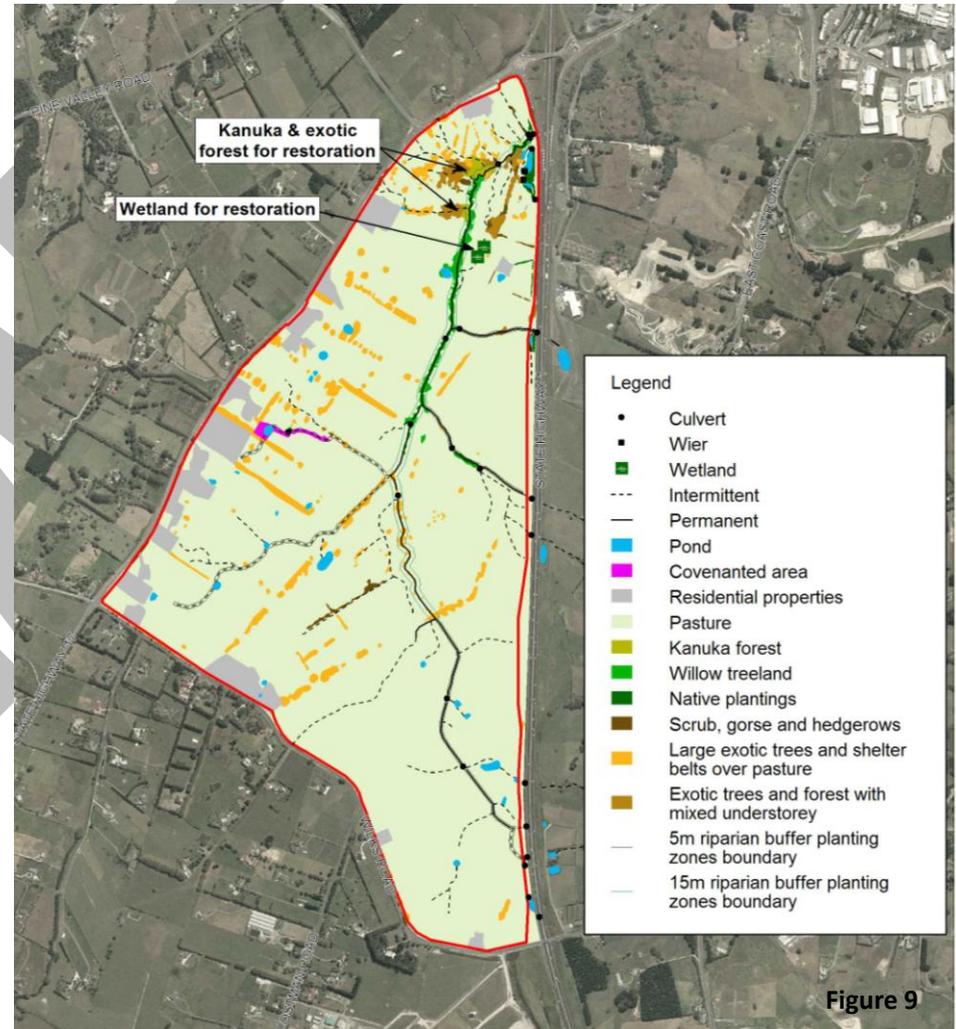
One naturally occurring wetland, also exists to the north east of the study area, that contains some remnant wetland vegetation. Small areas of native plantings have also been established around stormwater ponds along the SH1 boundary of the site as well as along a small tributary section on the western side of Johns Creek. Large crack willows, along with occasional hawthorn and poplars, grow in and along much of the length of Johns Creek. However, these trees form no riparian buffer as they either grow within the pasture lined stream channel, or are sparsely spaced and therefore do not provide effective shade or filter overland runoff.



**Photograph 2** Willows and riparian vegetation (photo Golder Associates).

There is also an area of exotic covenanted bush to the south west of the site. These areas have some value as remnants of a Northern Lowlands landscape. Northern Lowlands is the classification given to the landscape of the Silverdale West study area through the Landscape Environment Classification System. The Northern Lowlands landscape is acutely threatened and severely under protected throughout New Zealand. This increases the value of any remnant pieces of the landscape. Figure 9 shows the ecological value of streams in the study area. Ecological features, including the strands of Kanuka are shown on Figure 8.

The downstream estuarine environs of the Weiti River and Karepiro Bay are of high conservation value and moderate sensitivity.



**Figure 9**

## 4.8 ARCHAEOLOGY / HERITAGE

Clough & Associates undertook an archaeological assessment of the structure plan area and slightly beyond. The area's Maori history is shown to be complex, reflecting both the mobile nature of Maori settlement and political changes through time. No permanent Maori occupation has been recorded on the Silverdale West site, however the Silverdale area, previously known as Te Weiti or the Wade, and Whangaparaoa have a long history of Maori settlement and conquest. Post the late 1400's, Ngati Tahuu and the descendants of Tainui, who became Ngati Tai occupied Whangaparaoa.

In the 1620's a group of Ngati Awa migrated north to the Tamaki Isthmus and later spread further north, conquering and absorbing Ngati Tai on the Whangaparaoa. These people became Te Kawerau.

In the 1720's Ngati Whatua moved into the Tamaki isthmus. Te Kawerau were then pushed out, but through peace agreements and marriages Ngati Kahu remained at Whangaparaoa and developed strong ties to Ngati Whatua.

Hauraki tribes including Ngati Paoa also exerted pressure on Te Kawerau and Ngati Kahu. However, Ngati Kahu remained secure in Whangaparaoa, defeating the Hauraki tribe Ngati Paoa, until they were defeated in battle by Nga Puhī in 1821. The area was

left largely deserted being used as a hunting and resource collection area by Ngati Whatua and Ngati Paoa. Te Kawerau repopulated the area from about 1836. The land including the study area was sold to the Crown by the Hauraki Tribe who claimed



ownership by conquest, as part of the Mahurangi Purchase in 1841. In the 1850s Te Kawerau were resettled on Native Reserves' to the north.

Around this time early European Settlers located in the wider Hibiscus Coast area in temporary sawyers camps. Timber was demanded for the Auckland market. The land of which the study area is a part was purchased from the Crown by Maurice Kelly in 1854. In 1859 Kelly undertook large scale bush clearance in Paremoremo and in Silverdale, and it is expected that the study area was cleared around this time. Kelly built a homestead, stables, stockyard and public house which may have been known as the "Gumdiggers Arms." Kelly held licences to sell alcohol from his property to local farmer workers, timber fellers and gumdiggers around the 1860s. The homestead and stables portion of Kelly's property are a recorded archaeological item R10/737 (Figure 10). However, this item has been removed and replaced with a new more modern house.

Clough & Associates undertook detailed investigations and probing in this area, and did not uncover any archaeological items, with the exception of an unidentified circular slump, that may have been an old well.

The property was conveyed to Maurice Kelly the Younger and Honorah Kelly during 1874 and 1875. It was divided into smaller farms in the early 20<sup>th</sup> Century.

No other archaeological or heritage items were discovered during the field work undertaken by Clough & Associates.



## 4.9 LANDSCAPE AND VISUAL

Overall the site is characterised by rural activity, in particular pasture and hedgerows. The site is located at the Southern gateway to Rodney District. The first views of the rural environment of Rodney are gained through the study area.

In terms of context, Stephen Brown Environments Ltd (refer to Section 11 Supporting Documents) suggest that *“The subject site is located within the rural hinterland that backs the future residential and commercial suburbs of Silverdale North and ‘Silverstone’...Ascending a low ridge to the south of the subject site, the motorway crosses under several overpasses and runs alongside the Dairy Flat Service Centre and several large battered slopes that enclose the North Shore Airfield immediately to the south...Here, the combination of largely utilitarian landscape elements – highway infrastructure and cartilage, roadside cuttings, overbridges, exotic vegetation, open pastures and more peripherally, the North Shore Airfield – imbue the rural landscape with an appreciable sense of modification and relatively intensive rural land uses.”*

A low ridgeline traces Wilks Road and SH17 as the south western and north western boundaries of the subject area, separating the landform from rural residential and farming uses. With regard to the site itself, Stephen Brown Environments Ltd (refer to Section 11 Supporting Documents) state that *“The site itself is a rather simple landscape enclosed by the gentle ridges that ascent SH17, Wilks Road and to a lesser degree, SH1. The side slopes of these gentle ridgelines meet in the centre of the site where a shallow perennial stream drains the local catchment into the headwaters of the Weiti River. This stream is sparsely vegetated with a mix of exotic species – predominantly willow – and joins an area of kanuka, mature pine and wetlands in the north of the site. The large majority of the site’s built development is concentrated along the SH17 frontage whereby the roadside is planted in a mix of exotic shelterbelts and dense amenity plantings. The north-eastern edge of the site – fronting SH17- has been subdivided similar to the rural residential lots opposite. However, with dense roadside vegetation fronting SH17, all but fleeting views into the site have been screened.”*

Views from the site can currently be gained from State Highway 17, East Coast Road, and predominantly from State Highway 1. Existing roadside plantings mitigate views into the

site from State Highway 17 State Highway 1, and to some extent the State Highway 1 interchange. In particular there are a number of view shafts that offer views from the motorway to the surrounding rural environment, extending beyond State Highway 17. These and other existing viewshafts are shown on Figure 11.

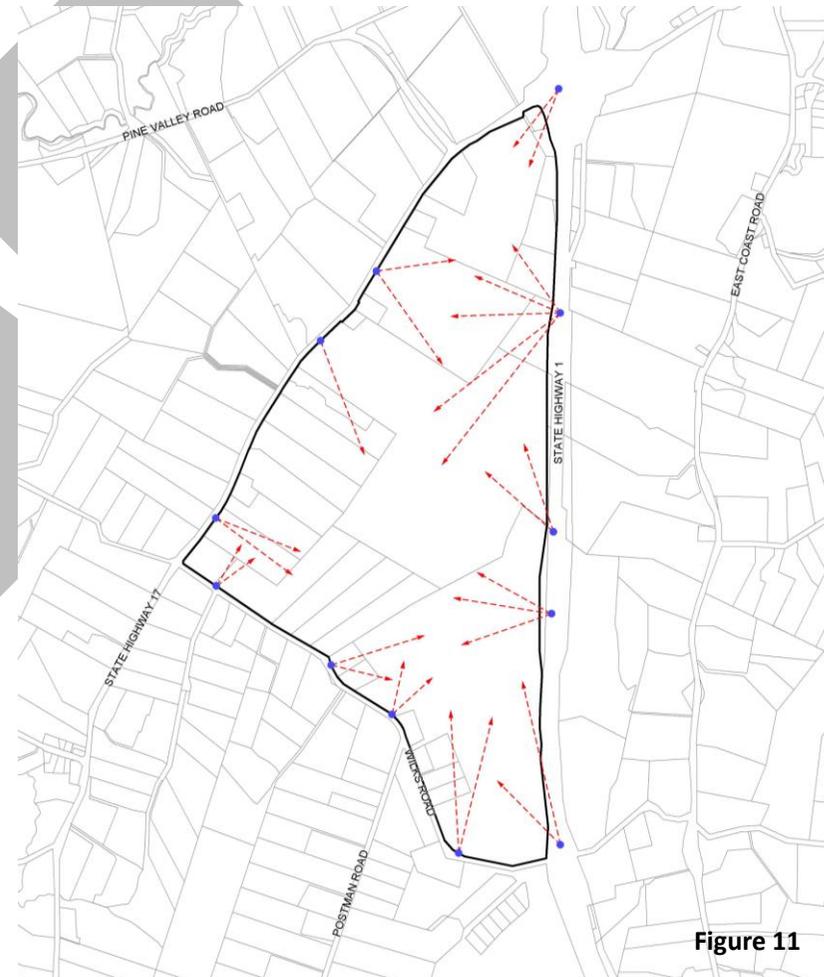


Figure 11

## 4.10 TRAFFIC

The subject site is bounded by State Highway 1 (the Motorway) to the east, State Highway 17 to the north east and Wilks Road to the south west. State Highway 1 is the primary strategic road system through the Rodney District, providing access to regional traffic between Auckland and the Far North. The Silverdale Interchange on SH1 provides a direct connection to traffic in the Hibiscus Coast area including Silverdale and the Whangaparaoa Peninsula.

State Highway 17, which joins the Silverdale interchange from the west, services the predominantly rural land in Silverdale West and acts as a corridor between Rodney District and North Shore City.

East Coast Road is a local arterial, running parallel to SH1 and providing an alternative corridor between Rodney District and North Shore City.

Other roads in the study area include Pine Valley Road, Kahikatea Flat Road and Wilks Road. These roads are rural roads which currently carry low volumes of local traffic.

Crash statistics for the area for 2003 – 2007 note 55 reported crashes in the area, 31 at the Silverdale Interchange and the remaining 24 along State Highway 17 and Wilks Road.

Bus routes exist on SH17 and SH1 connecting the Hibiscus Coast with Auckland City. Buses travel regularly throughout the day, increasing at peak morning and evening periods. There is currently no provision for dedicated walking paths as this is a rural area. Cycling is undertaken on the SH17 shoulder along SH17 and East Coast Road is a part of the Auckland Regional Transport Authority's (ARTA) indicative cycle network 2009 – 2016.

At the time of writing this structure plan, the Peninsula Link Road (Penlink) was not in place. Should Penlink go ahead, it will connect with State Highway 1 south of the subject area and south of Bawden Road.

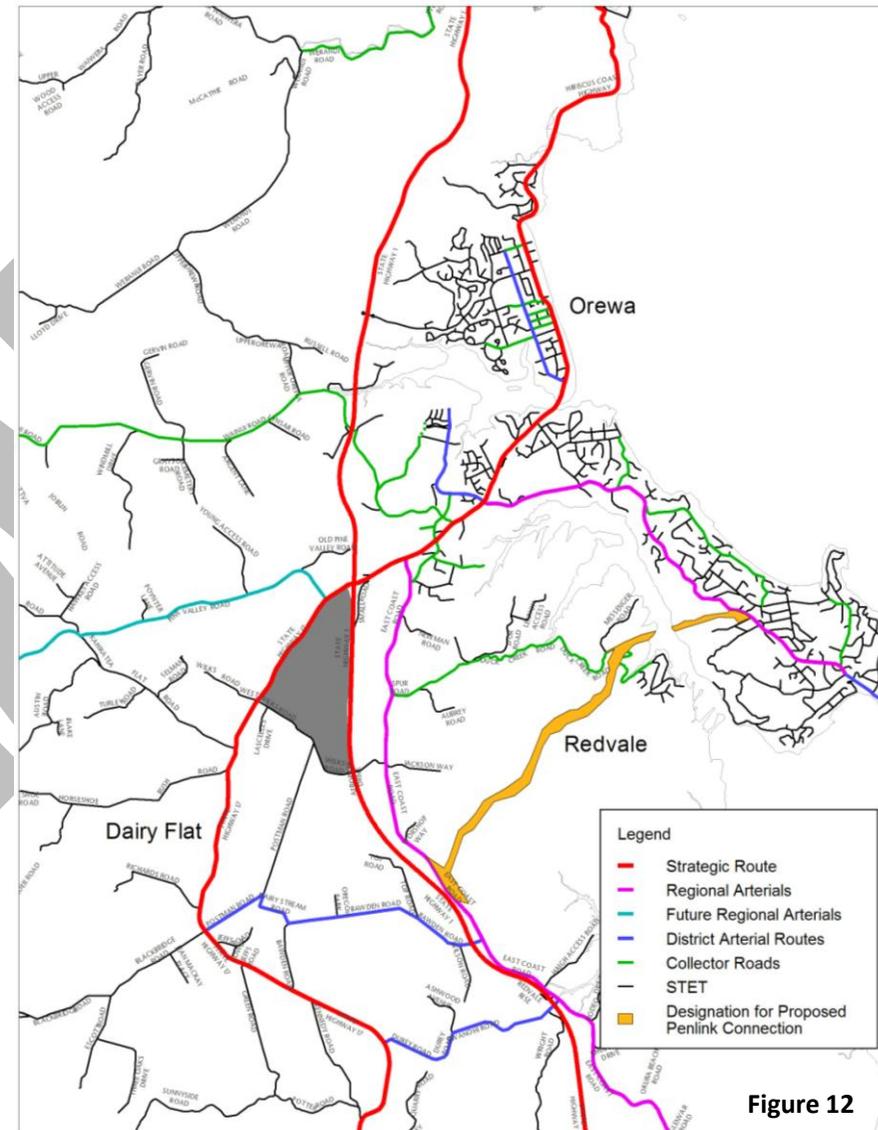


Figure 12

## 4.1.1 INFRASTRUCTURE

### ○ **Wastewater**

Currently the study area is not serviced by reticulated wastewater infrastructure with each property having on site wastewater treatment (primarily septic tanks).

### ○ **Water Supply**

Water is currently supplied to the Hibiscus Coast from WaterCare, through a mains pipeline on East Coast Road. The subject area is currently not supplied by Watercare.

### ○ **Stormwater**

Stormwater runoff is currently overland to the main watercourse which has a number of smaller tributaries branching off it. This watercourse drains to the northern extent of the site and passes through a series of 4m diameter corrugated steel culverts and open channels before connecting with the Weiti Stream. The photograph below demonstrates the low point in the site in which the main watercourse is located.

### ○ **Electricity**

Dwellings and other activities within the subject area are currently served with electricity.

### ○ **Telecommunications**

Dwellings and other activities within the subject area currently have telephone connections and cellphone coverage. Broadband is also available to the Silverdale Area with some sites being serviced by an exchange which has been upgraded with faster broadband equipment.



**Photograph 4** View across the subject site from SH1 just north of the Wilks Road overbridge (Photograph from Stephen Brown Environments Limited)

## 5.0 REGIONAL PLANNING FRAMEWORK

### 5.1 AUCKLAND REGIONAL POLICY STATEMENT

The Auckland Regional Policy Statement (ARPS) is a relevant consideration to this structure plan along with any relevant changes such as Plan Change 6, the purpose of which is to integrate land transport and land use provisions and make these consistent with the Auckland RGS.

Section 59 of the RMA states that the purpose of a regional policy statement is; “... to achieve the purpose of the Act by providing an overview of the resource management issues of the region and policies and methods to achieve integrated management of the natural and physical resources of the whole region.”

Section 2.6 of the ARPS identifies a Strategic Direction for the Auckland region. This Strategic Direction is “one of containment of urban development within defined limits and accommodating future growth within and around high density centres and corridors linked by an effective public transport system. [Section 2.6 ARPS]”. The containment of urban activities within the MUL is identified in the ARPS as a means of “...protecting the Region’s natural resources and significant heritage resources from the adverse effects of development.” (Section 2.6.4 Reasons – Urban Containment).

Metropolitan Urban Limits" are defined in the ARPS as; “...the boundary between the rural area and the urban area. The urban area includes both the existing built-up area and those areas committed for future urban expansion in conformity with the objectives and policies expressed in the Regional Development chapter of the RPS. The metropolitan urban limits are delineated on the Map Series 1, Sheets 1-20. [ARPS - Appendix D]”

The Silverdale West area is currently zoned General Rural and is outside the Metropolitan Urban Limits (MULs) outlined in the ARPS. To provide land for large floor plate business activities, a plan change will be required to change the zoning. A plan change to the Regional Policy Statement will be required to extend the MULs. In accordance with the ARPS, to undertake these two plan changes, a structure plan must be prepared to test the viability of rezoning and to refine the zoning.

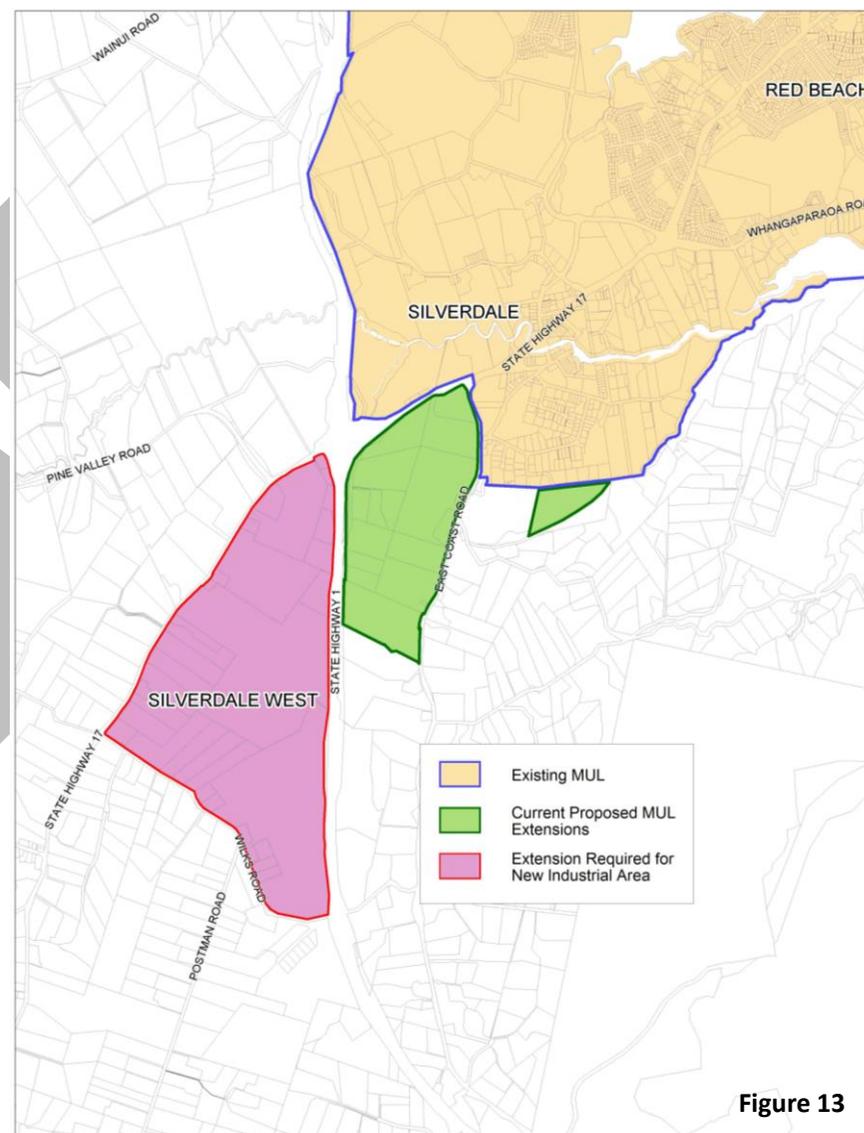


Figure 13

The industrial land will provide support for Orewa, Silverdale and North Shore City. The land outside of the MUL is needed because there is no other suitable land within the urban area that could support the growth of the district/region. Failure to take any action is likely to lead to sporadic applications for non complying industrial activities in the rural zone which poses a far greater threat to urban containment.

Other MUL shift applications for business purposes in Rodney District currently being considered by Auckland Regional Council have been identified on Figure 13. They include the Silverdale South Entertainment Zone and an extension to the existing Industrial area in Silverdale.



**Photograph 5** Aerial view to the east across SH1 at the northern end of the subject site, Snow Planet in the centre.

To justify shifting the MULs and make it efficient to do so, a yield above 50% of the total site area would be preferable. The MULs constrain growth, under a restrictive policy. There has to be significant benefit to the community at large to justify departing from the policy. As mentioned later in this structure plan two design options were considered, one high yield option and one low yield option. It was determined that the high yield option was the most appropriate option.

In considering any new urban areas, it is also essential that the defensible nature of the proposed urban – rural boundary is considered. Development of the study area will change the character of the area from rural to urban. The transition between the study area and surrounding environment which will remain rural needs to be carefully managed to ensure that the urban boundaries are defensible. Any change to the MUL should not result in undue pressure on neighbouring areas to become ‘urban’. The previous western boundary for the MUL in the Hibiscus Coast was State Highway 1, and all urban areas around the Hibiscus Coast/Silverdale area, have to date been kept to the eastern side of this Highway. As previously mentioned in the Structure Plan, a study of alternative areas for industrial land was commissioned by Council and the Silverdale West area was identified as the most appropriate.

Silverdale West is considered defensible from the point of view of ‘urban sprawl’ for the following reasons:

- State Highway 1 will remain as a fixed boundary to the east.
- State Highway 17 and Wilks Road will form the eastern and southern boundaries of the urban area.
- The contour is such that the study area will ‘fall away’ from State Highway 17 and Wilks Road, being the rural area, which avoids the urban development on hill slopes above rural areas.
- The future design of the industrial business park is able to place additional restrictions on landscaping resulting in a screened boundary when viewed from roads between urban and rural.
- Although there will be views of business development from rural properties on the eastern side of State Highway 1, this will be for a limited number of properties and it may be possible to soften these views through additional

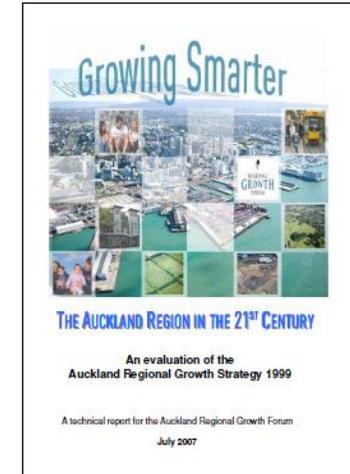
restrictions on development around the higher contours as well as the planting of trees on road reserves throughout to soften views.

- The extension would include the western portion of a stormwater catchment that is already compromised by urban development such as the Snow Planet and other entertainment businesses and is subject to a plan changes to rezone for urban purposes and to shift the MUL. The catchment is enclosed by SH17, Wilks Road and East Coast Bays Road.

recreational and other activities (mixed use);

- much less emphasis on general infill throughout suburban areas.

RGS has currently been evaluated in a new document entitled “*Growing Smarter - The Auckland Region in the 21<sup>st</sup> Century.*” This document states that “*The future lack of vacant business land is most pressing for Group 1 business sectors (manufacturing, wholesale trade, construction, transport and storage) and could undermine their future potential contribution to regional employment and GDP.*”



The evaluation also suggests that redevelopment of under-utilised business areas would provide an opportunity to use land more efficiently and review the appropriate mix of future business activities.

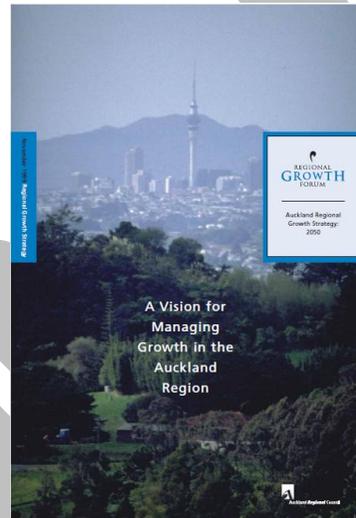
## 5.2 AUCKLAND REGIONAL GROWTH STRATEGY

The Auckland Regional Growth Strategy 2050 ("RGS") provides a vision for the long-term management of growth in the Auckland Region. A key feature of the RGS is that most future growth is to be within the existing metropolitan area with development outside the current urban area only where environmental, accessibility and community principles can be met.

The Growth Concept 2050 Plan from the RGS identifies the area proposed to be included within the MUL as rural land.

Key features of the "Growth Concept" are:

- that growth will be managed by promoting quality, compact urban environments (intensification);
- most growth within the existing metropolitan area with development outside current urban limits only where environmental, accessibility and community principles can be met;
- most urban growth focused around town centres and major transport routes to create higher density communities, with a variety of housing, jobs, services,



## 5.3 NORTHERN AND WESTERN SECTORS AGREEMENT

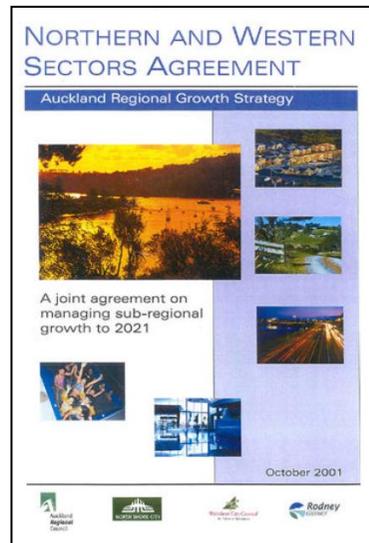
As part of the implementation of the RGS each territorial authority in the Auckland Region and the ARC signed a Memorandum of Understanding ("MoU") to define and agree upon the responsibilities of the main stakeholders responsible for the implementation of the RGS. This MoU established a sub-regional sector based approach to growth management. This resulted in the Northern and Western Sector Agreement between the territorial authorities in the north and west of the Auckland region (Rodney District Council, North Shore City Council, Waitakere City Council and the ARC).

The Northern and Western Sector Agreement provides a mechanism for strategic planning for the management, timing and release of land for urban growth in the three northern council areas over the next 20 years. The agreement covers greenfield development that requires amendment of the MULs, growth around existing town centres (particularly those in proximity to rail links) and infrastructure to service growth.

The Northern and Western Sector Agreement does not make provision for business land over the Silverdale West area. Although Section 3.4 *Employment* outlines the Council are working on several initiatives to encourage business to locate in the District and that the development of employment parks may involve identifying additional areas of business land.

Section 3.4 *Employment* of the Sectors Agreement also notes that at the time of writing, the Rodney District Economic Development Strategy was being developed. The strategy, now completed, and other supporting documents reinforce the importance of local employment and skill development in achieving sustainable communities in Rodney District. The strategy finds that the number of people who both live and work in the district needs to increase, supporting documents have found that this is only possible with an additional supply of business land. Section 3.4 of the Sectors Agreement also states that “*The Council is also looking at opportunities for developing employment parks which may involve identifying additional areas of business land. This may also mean re-evaluating growth capacities through the sector agreement review process.*” Effectively Silverdale West is in part a result of both the Economic Strategy and the Council considering opportunities for employment.

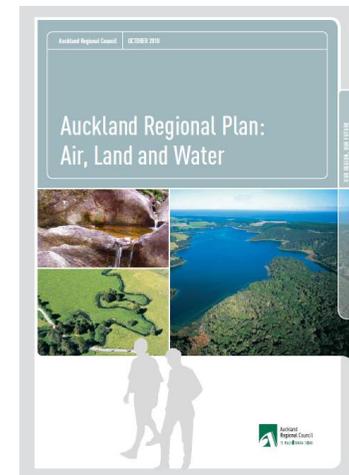
The Northern and Western Sector partners have been meeting over recent years to consider how much business land is required and where. It should also be noted that the ARC prepared a draft Auckland Regional Business Plan in 2005 which indicated that “*...the region faces shortages of vacant business land closer to 2011 than to 2021*”, making this “*...a pressing regional issue...*”.



## 5.4 AUCKLAND REGIONAL PLANS

Regional councils are required to prepare regional policy statements and may prepare regional plans under the RMA.

The Auckland Regional Plan: *Air, Land and Water* applies to the management of air, land and water resources in the region including air, soil, rivers and streams, lakes, groundwater, wetlands and geothermal water. The Plan promotes the sustainable management of Auckland Region's natural and physical resources through the interaction of air quality, land and water resources. In the event that any of the activities establishing in the Silverdale West Industrial Business Park intend to discharge to air, land, or water, these can be adequately managed through the Proposed Auckland Regional Plan: Air, Land and Water in the same manner as existing activities in the industrial zone. Once the structure plan is implemented through plan changes, a variation will be required to alter the Urban Air Quality Maps within the ARP: Air, Land and Water.



The Auckland Regional Plan: *Sediment Control* addresses the issue of sediment discharge, and defines the mechanisms the ARC has chosen for avoiding, mitigating or remedying any adverse effect on the environment due to sediment discharge from bare earth surfaces. Any future development of the site will need to be assessed against the provisions of this plan, which will adequately manage the potential effects of sediment runoff from the site. The Integrated Catchment Management Plan will also need to take into account the subject area an 'urban' area with an increase in impervious surfaces.

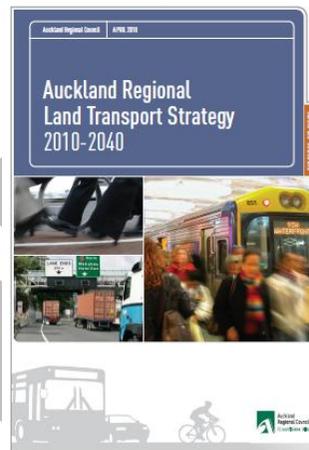
## 5.5 REGIONAL LAND TRANSPORT STRATEGY

The Auckland Regional Land Transport Strategy 2010 - 2040 was adopted in April 2010. The Strategy sets the direction for the regions transport system over the next 30 years. It outlines what is needed to achieve a land transport system that can cope with the additional demands placed on it by more people and business in a manner which assists in giving affect to the Regional Growth Strategy and ARPS.

The Strategy outlines a vision which includes 9 elements such as “...streets as safe and attractive places...” and that all modes of transport are “...integrated, safe, effective and accessible.” (ARLTS Executive Summary Page 8).

More emphasis is placed on public transport and on travel demand management (TDM) in particular on increasing walking and cycling. However, the strategy recognises the need to complete the regions strategic roading network as fast as funding will allow. *“The investment in public transport, walking, cycling and behaviour change measures will limit growth in private car use and when combined with some improvements to the road network, will be more effective in reducing growth in congestion and supporting national economic growth and productivity than road investment alone.”* (ARLTS Executive Summary Page 8).

In order to achieve these objectives, the RLTS proposes region-wide and area-wide policies. Some of the key regional objectives of the strategy of relevance to this Structure Plan include the objective to “Assist economic development”, “Improve access and mobility”, “Ensure environmental sustainability” and “Supporting the Auckland Regional Growth Strategy”.



## 6.0 LOCAL AUTHORITY PLANNING FRAMEWORK

### 6.1 RODNEY DISTRICT PLAN 2000 – OPERATIVE IN PART

In order to implement the Structure Plan once adopted, a plan change will be required to the Rodney District Plan 2000 – Operative in Part. As previously mentioned the zone of the site is currently General Rural. Any change would result in the area changing from 'rural' to 'urban' and more specifically 'industrial'. Therefore, as the site is located outside the current MUL and the District Plan must give effect to the ARPS, an amendment to the location of the MUL in the ARPS will be required.

The Rodney District Plan 2000 – Operative in Part includes a number of objectives relating to the provision of urban land including business land and the location of this land. The two key objectives in this regard are within Chapter 13 Future Urban and are as follows:

*Objective 13.3.1 To ensure that sufficient land is available for future urban growth including future residential activity and future urban business activity.*

*Objective 13.3.2. To ensure that urban growth occurs within metropolitan urban limits and in coastal and rural settlements on land that has been identified for urban growth.*

Proposed Variation 22 seeks to ensure that land use and transport activities are integrated and that the Rodney District Plan 2000 – Operative in Part is consistent with the ARPS and the growth strategy. Variation 22 has been publicly notified and is currently at the stage where submissions have been heard, decisions made and is currently subject to some appeals. Variation 22 which includes, although not exclusively, amendments to objectives and policies of the Proposed Plan that include specific reference to opportunities for employment areas and the location of new urban areas in those specifically identified areas "...or on the Hibiscus Coast and in Rodney's smaller urban settlements.", rather than in new areas.

### 6.2 PLANNING RODNEY

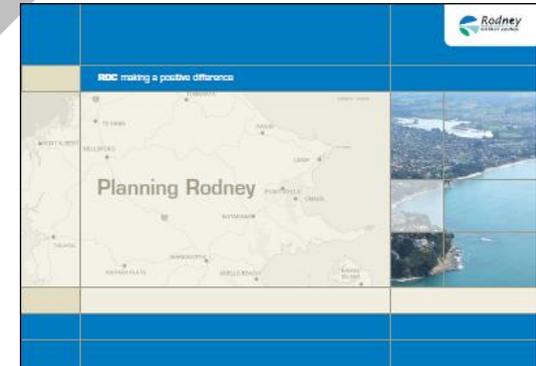
Planning Rodney 2009 is "A strategic, future focused 'picture' of the district based on known growth, economic, social, environmental and cultural factors, that indicates the direction we, as a district, are heading in. It provides focus and the staging by which we will get there." (Executive Summary – Planning Rodney). It proposes a conceptual future for the district of "Distinctive towns and villages set in a stable rural landscape and a well-protected natural environment." (Executive Summary – Planning Rodney).

The area is described as the "Central and Southern mixed rural area" (Map 2 Planning Rodney) which is defined as an area of mixed intensive rural activity, horticulture, viticulture and tourist related activities as well as a lifestyle lots and a large number of significant natural areas.

The Silverdale West area is also identified as a "Primary growth and employment centre". In particular

these growth areas, of which there are four in Rodney, are characterised by the following:

- Include Rodney's largest urban concentration.
- Are significant employment and economic generators.
- Include a wide range of services and facilities.
- Kumeu-Huapai and Silverdale are the largest employment centres in the district.

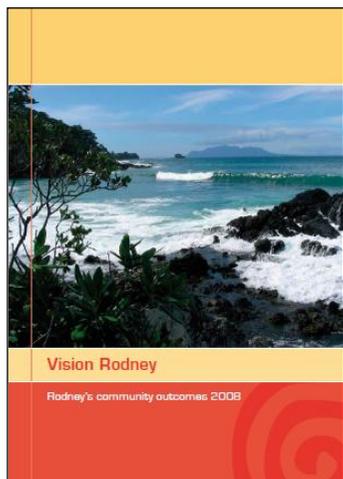


### 6.3 VISION RODNEY

Vision Rodney (July 2003) is a statement of the future that the people and communities of Rodney want for themselves. This document which was compiled following extensive consultation with the community. The Visions outlines six intents for which change will be managed. It is considered that all of these are relevant intent to this proposed variation and are as follows:

- 1 *We will keep our country look and feel.*
- 2 *We will not let our towns and villages sprawl.*
- 3 *We will maintain our lifestyle and look after the environment.*
- 4 *We will take care of ourselves while working with others.*
- 5 *We will be able to make our living in Rodney.*
- 6 *We will determine the future of our District.*

In order for the residents of the District to 'make their living' in Rodney, more business land is required. It is essential to ensure that the 'country look and feel' are retained and this



can be achieved through providing only for logical extensions to existing business areas to avoid towns and villages 'sprawling'. By ensuring that infrastructure and servicing is managed and additional land that will provide additional employment opportunities there will be consistency with 3, 5 and 6.

If the structure plan does not progress, the ability of people to make a living in Rodney will be reduced. To "keep and country look and feel" extensive planting may be required. This has the potential to substantially reduce the yield from the site. A low yield from the site will increase pressure for the development of further Greenfield areas, in conflict with the intent "we will not let our towns and villages sprawl."

Vision Rodney was updated in 2008 and it resulted in the Community Outcomes of "Prosperous, Vibrant, Distinctive, Connected, Safe and healthy and Clean and Green." Of particular relevance is the outcome "Prosperous" and the related statement that "We will have a growing and resilient economy based on a wide variety of businesses that fit our character."

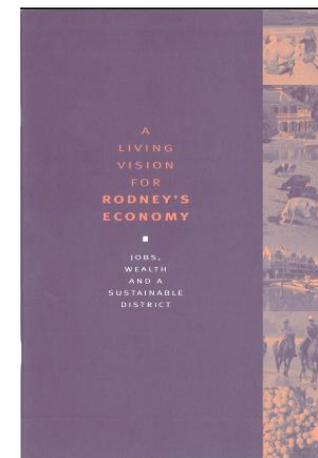
### 6.4 RODNEY ECONOMIC STRATEGY

Rodney District Council produced an economic strategy in July 2002 entitled "A Living Vision For Rodney's Economy – Jobs, Wealth and a Sustainable District". This economic development strategy reinforces the importance of local employment and skill development in achieving sustainable communities in Rodney District. The strategy finds that the number of people who both live and work in the district needs to increase.

The Rodney Employment and Employability Strategy 2005 – 2008 outlines four key barriers to achieving the above fundamental principal including the following:

- *Insufficient employment opportunities, especially in the higher paid end of the market.*
- *A 90% residential rating base.*
- *An economic base that faces stagnation if it remains largely inwardly focused.*
- *An economy driven largely by population growth and property development.*

Goal 5 of the above strategy seeks to "strategically influence the zoning of land in Rodney to promote appropriate business development that provides for Rodney's long-term sustainable economic future."

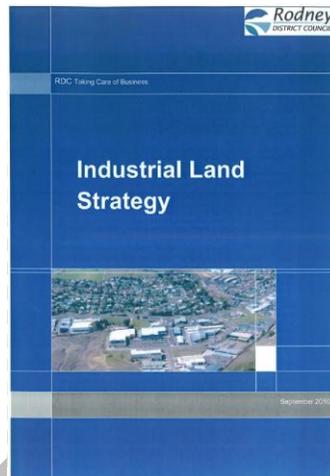


## 6.5 RODNEY INDUSTRIAL LAND STRATEGY

Council have recently completed the Industrial Land Strategy in September 2010. The Strategy gives a clear overview of industrial land needs in the northwest sector, particularly within the Rodney and Hibiscus and Bays Local Board areas.

The Strategy concludes that Silverdale, Warkworth and Kumeu-Huapai are the most appropriate locations to centralise industry and outlines the amount of infrastructure and land required.

Silverdale West is specifically identified as a 'Future Industrial Area' subject to the adoption of a structure plan for the area.



## 7.0 STRUCTURE PLAN SITE SUITABILITY

### 7.1 SITE SUITABILITY FOR DEVELOPMENT

Several studies have been undertaken to determine whether the Silverdale West site is suitable to provide for this development and the effects of allowing business development within the study area. The following factors have been considered:

- 7.1.1 Geotechnical
- 7.1.2 Stormwater - ICMP
- 7.1.3 Ecology
- 7.1.4 Archaeology/heritage
- 7.1.5 Landscape and Visual
- 7.1.6 Traffic
- 7.1.7 Infrastructure
- 7.1.8 North Shore Airfield
- 7.1.9 Development Intensity

The findings of these assessments are summarised and discussed in this section. Overall, there are moderate to high constraints to developing the Silverdale West site for Group 1 business or any other form of urban development, reducing the yield able to be achieved from development of the site.

It should be noted that an assessment of environmental contamination has also been undertaken. The level of contamination does not constrain the overall development of the study area for business activities.

#### 7.1.1 Geotechnical

As mentioned in Section 4 of this Structure Plan, Riley Consultants Ltd have investigated the geotechnical constraints to development of the site (Refer to Section 11, Supporting Documents, Geotechnical Constraints and Opportunities).

Three 'zones' were identified, Zone 1 – low stability constraint, Zone 2 – moderate to high

stability constraints and Zone 3 – settlement constraints.

**Zone 1** which has low stability constraints, generally includes areas which have slopes less than 8 degrees and Riley Consultants consider they are unlikely to fail. This area covers 34% of the site, and is generally on the mid slopes of the area. It does not include the central parts of the site.

**Zone 2** has moderate to high stability constraints and the slopes in this area are greater than 8 degrees and in some places there is evidence of past slope failure. This zone, that covers 43% of the study area, includes flat areas that would be inundated if the slopes above were to fail (i.e. material from the slope would fall on to these sites). A significant amount of engineering would be required to engineer building platforms for any development on these slopes. Site specific geotechnical advice would be required prior to the construction of building platforms. Riley Consultants consider that these slopes would be likely to fail if developed in their current condition.

**Zone 3** is described by Riley Consultants as having settlement constraints. Zone 3 covers the lower, central parts of the study area and the flood plain. Zone 3 is underlain by alluvium deposits. These deposits are not compacted, and are subject to differential settlement (i.e. different parts of the area settle at different rates). Differential settlement has the potential to damage structures. It is possible to develop on the settlement zone, however, to do so Riley Consultants recommend that material surrounding the tributaries of Johns Creek is removed, and that inorganic fill is placed over the area and compacted 12 months prior to development. Material removed will need to be beyond the area needed to enhance Johns Creek and establish a riparian margin. Building platforms in Zone 3 may have to be raised above the flood plain.

Two parts of the study area have specific geotechnical constraints. The first is the site of the old limestone quarry and consented clean fill. This site will require site specific geotechnical input prior to any development. The second is the northern most part of the site that has very high stability constraints and shows evidence of past failure. This area should be further defined and avoided, not only for geotechnical reasons but also to enable ecological enhancement and mitigate visual effects are discussed in respective sections of this report.

## 7.1.2 Stormwater

Riley Consultants have assessed the stormwater constraints to developing the study area (Refer to Section 11, Supporting Documents, December 2008 and October 2010). The current situation with regard to stormwater is discussed in Section 4 of this Structure Plan. The draft Silverdale South Integrated Catchment Management Plan (ICMP) prepared by URS includes the Silverdale West catchment. The ICMP does not currently consider the Silverdale West area as an urban area with a high level of impervious surfaces. However, it does note that “*Future development to the west of State Highway 1 and the Hibiscus Coast Highway may lead to an increase in surface runoff however; the hydraulic modelling results showed that the majority of culverts have sufficient capacity to convey the increased flow rates. This would need to be addressed further if the land to the west of the motorway was to be developed (Silverdale West).*”

Development of the site would increase the amount of stormwater flowing from the site, and the flow rate of water run off. In turn, this may increase the potential for stream erosion and flooding. Riley Consultants, based on a calculation of pre and post development flows, consider that without mitigation, development of the study area would have significant environmental effects, particularly on watercourses.

To ensure that stormwater flows post development do not increase the extent of flooding, water needs to be retained in the upstream sections of the area. Riley consultants consider that stormwater could be retained by a series of off line (out of stream) retention ponds within the riparian margins of John’s Creek and its tributaries where possible. The margins of the ponds would need to be suitably planted. One pond would be required for each sub catchment within the area, as shown below. It should be noted that these ponds are retention ponds only and do not provide stormwater treatment. On site stormwater treatment is recommended to provide differing levels of stormwater treatment to different activities. It is considered that the primary treatment of stormwater runoff should be achieved at the source (i.e. within the developable area) through filtration or biofiltration systems where possible. Treatment devices could include filtration, rain gardens, swales, and grass filter strips.

The ponds shown in Figure 14 are additional to the 5 ponds that retain stormwater from

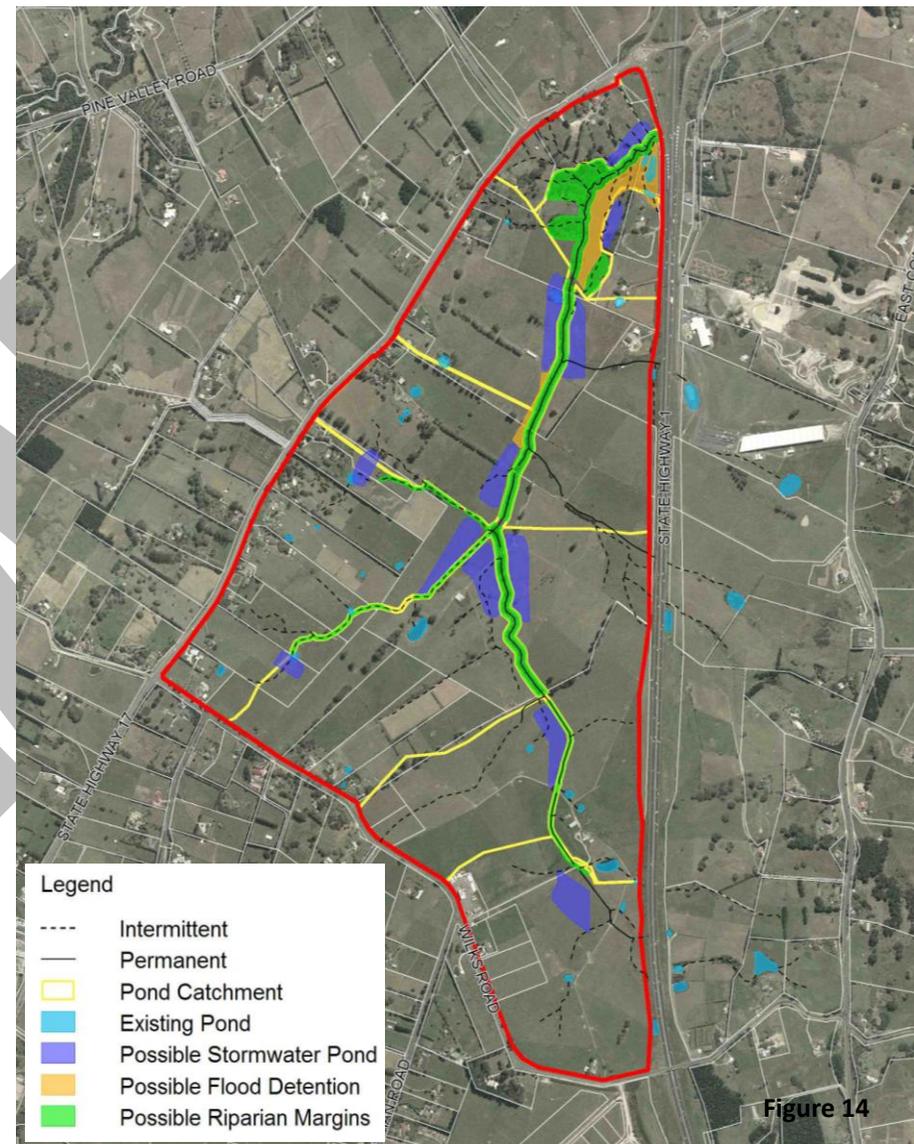


Figure 14

the motorway. These ponds would remain and continue to treat stormwater generated from the motorway.

Low impact design approaches have also been recommended in addition to stormwater ponds, particularly where the maximum 90% impervious surfaces are exceeded. These approaches include potable or non potable water recycling, rain detention tanks, flow dispersion devices, rock protection of culverts and enhancement of existing vegetation and planting of new areas, grass swales, grass filter strips and rain gardens. It is considered that the additional planting of riparian margins will also assist in the mitigation of stormwater.



Figure 14

Photographs 6 Instream and riparian habitat of willow tree lined sections of Johns Creek (Photo Golder Associates).

Flooding and stormwater is a significant constraint, and the ponds required to mitigate stormwater flows occupy a significant portion of the developable area of the site. The ground on which the ponds are situated has settlement constraints, and the soil the ponds are located on would need to be compacted prior to the ponds being established. Riley Consultants have advised that *“Preliminary sizing has been based on catchment areas, an anticipated development scenario (i.e. 80% site coverage of impervious areas – roof, roading, paved), indicative internal roading layout (based on BECA and WOODS recommendations) and ecological recommendations (GOLDERS). The indicative layout assumes that the eastern tributaries can be reticulated to the main watercourse and all pond features will be located off line of perennial watercourses.”* (Refer to Section 11 Supporting Document, Stormwater Memo).

It is recommended that the existing on-line earth dams are removed and the watercourse reinstated as part of mitigation for future development.

As part of the Stormwater Catchment Management Plan for the area, future consideration will need to be given to the effects on the capacity and flow conditions of culverts and channels downstream.

### 7.1.3 Archaeology/heritage

The archaeology / heritage features of the site will not constrain development of the Silverdale West area as the only site of known significance is the Kelly Homestead which has been removed and the site modified. Standard district plan rules, Historic Places Trust and Iwi procedures will apply to any future development and are able to be followed if any heritage item is discovered. Additionally it would be appropriate for site specific archaeological input prior to development of the former site of the Kelly Homestead

## 7.1.4 Ecology

Clearly the Silverdale West area does not have high ecological values. However, allowing development of the area presents several opportunities for the enhancement of ecological values. Ecological values can be enhanced by undertaking the following steps prior to and during development:

**A. Weed control along Johns Creek and its tributaries, including control of willows**  
Fallen Willows along John's Creek have obstructed water flow and fish passage. Weed species are predominant throughout the site and should be controlled to allow the successful establishment of riparian margins.

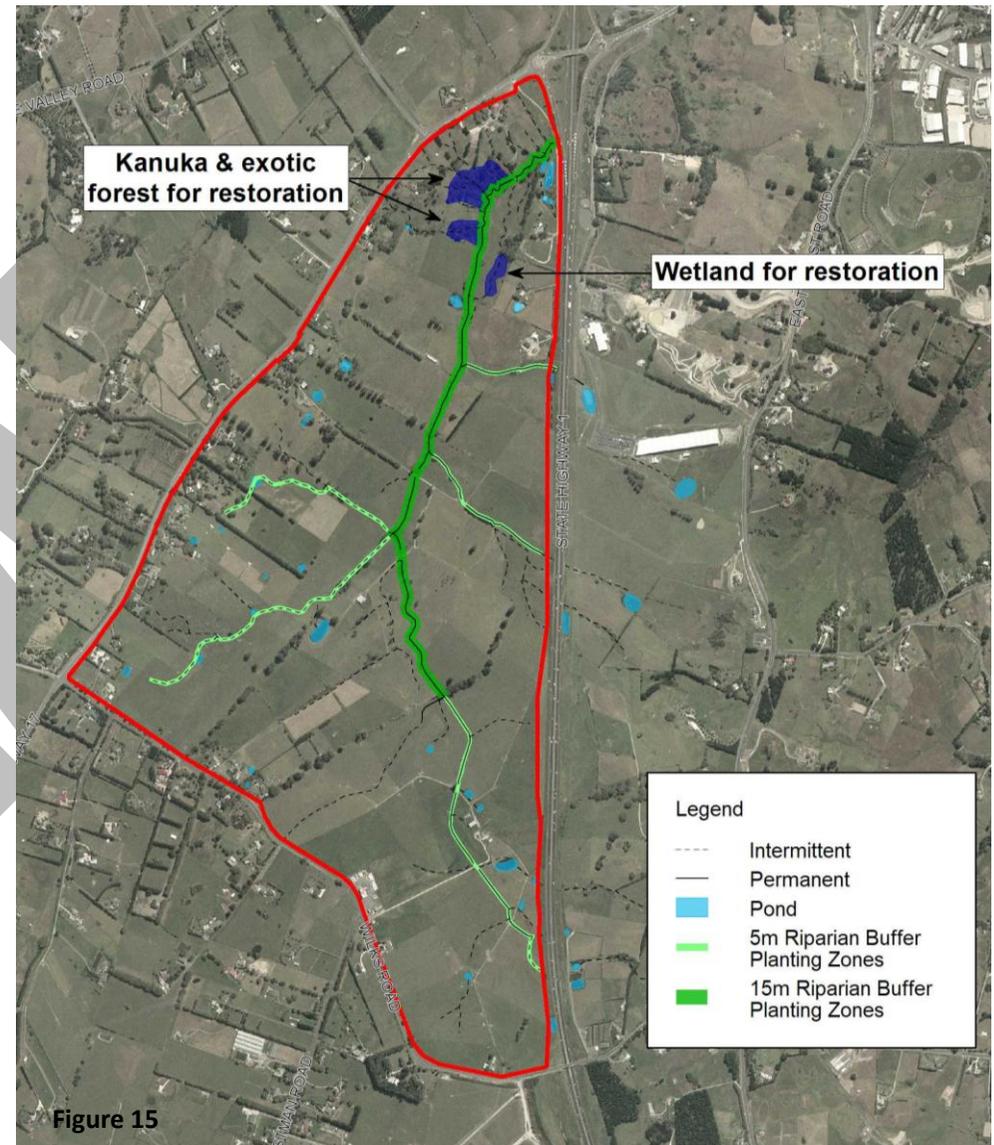
**B. Planting a riparian margin 15m either side of John's Creek**  
Golder Associates consider re establishment of riparian margins would significantly increase the quality of aquatic habitats, and restore stream banks. Riparian margins would also provide a link between the strands of kanuka forest, and would create a passage way for birds. A 15m wide riparian margin is required to provide protection to streams that is self sustaining.

**C. Planting a riparian margin at least 5m wide minimum either side of the tributaries of John's Creek**

A 5m riparian margin is recommended along the smaller tributaries of Johns Creek to improve habitat quality. Golder Associates consider that these western natural waterways have more value than the modified farm drains that flow into Johns Creek and with riparian planting may have the potential to take on permanent stream characteristics such as a more narrow and stable channel in future. These headwater streams also play a key role in entrainment and regulating the flow of water and sediment downstream.

**D. Concentration of any intensive development to the east of John's creek.**

As most opportunities to enhance the area lie to the west of Johns Creek, and most of the tributaries that feed John's creek are in this area, there is a preference for any more intensive development to focus on the eastern side of John's Creek. The extent of development on the eastern side of John's creek is limited by the need to plant a



buffer between potential development areas and the motorway, and constrained by settlement of soils.



**Photograph 7** Kanuka forest, northern fragment (left) and southern fragment (right) (photo Golder Associates)

**E. Replacement of a perched culvert to the north of the study area and replacement or removal of broken culverts throughout the study area**

There is a perched culvert to the north of the study area that is a barrier to fish passage, and is currently broken. This culvert should be replaced or removed if possible to restore fish passage through the area of native bush. It is not required to mitigate stormwater flows. If the culvert can not be removed, it should be replaced with rock protection at the outlet to help prevent erosion. Other culverts, especially those that are part of artificial farm drains should be removed once they are no longer required.

**F. Gradual removal of farm ponds**

If the ponds on the western side of John's Creek are removed, this is likely to result in improved water flow and improve the water quality of tributaries of John's Creek. Golder Associates consider that priority should be given to ponds closer to the headwaters of the tributaries. Ponds on the eastern side of John's Creek should be maintained and expanded where they are part of suggested stormwater mitigation.

**G. Protection of existing wetland**

Given the decreasing number of wetlands in the Auckland Region, the one natural wetland to the north of the study area (Figure 15) should be retained and enhanced.

**H. Maintenance of all planted areas including weed and pest control.**

Pest control will ensure that the quality of habitats is maintained.

**I. Protection of the two areas of Kanuka, and surrounding exotic vegetation that provides a buffer.**

The study area is within the Rodney Ecological Survey District. Currently only 11% of original native vegetation in the Rodney Ecological Survey District remains. The small amount of native vegetation in the wider area increases the significance of the two strands of Kanuka which also serve as passage ways to many endemic and introduced bird species, travelling between Albany and the east of Rodney District. The surrounding exotic species should be slowly removed over time and replaced with appropriate native species.

Concern has been raised about the timing of the ecological study, which was undertaken in September/October. It has been suggested that an additional stream survey be undertaken in the drier month of February to confirm or otherwise the ecological results.



Natural wetland area



Native wetland plantings on stormwater pond

**Photograph 8** Wetland and pond vegetation (Photo Golder Associates)

### 7.1.5 Landscape and Visual

The landscape of the western side of the motorway must appear 'rural' or have significant screening so that the 'green' gateway to the Hibiscus Coast is maintained. Maintaining the visual amenity of the entrance to Rodney District is important to provide a good impression to residents of the Hibiscus Coast, visitors and through traffic. It is also important in terms of strengthening the defensible boundary for the Industrial Business Park

Stephen Brown Environments have initially inputted into the development of the Structure Plan through the identification of existing viewshafts into the area and the consideration of existing topography and the vegetation on the site. They also provided two possible designs, the Forest Park Approach and the Higher Yield Option.

#### ○ Forest Park Approach

In order to maintain and enhance the Southern Gateway to the district, Council has investigated a landscape treatment "Korowai Kakariki" (the green cloak). Korowai Kakariki includes perpendicular plantings of poplar trees on either side of the Motorway. The poplar trees serve as a living sculpture and a focal point. Korowai Kakariki plantings would need to be provided for within the study area. Additionally, to maintain the visual character and rural outlook, Stephen Brown Environments have suggested that two view shafts be clear of development and that heavy buffer planting occur around the circumference of the developed area of the site and planting throughout the developed area as shown in Figure 16. This would create a forest park environment. To be effective, plants would need to be planted at least 10 years prior to development occurring, unless mature species are planted, which is a possibility.



Figure 16

The forest park approach to mitigate landscape and visual effects constrains the yield that is able to be achieved from the site. Based on site sizes that range from 3,000m<sup>2</sup> to 7,000m<sup>2</sup> (the average site sizes in similar group 1 industrial areas), approximately 40% of the site could be developed (excluding roads and areas of open space). Analysis undertaken thus far has determined that this option is not viable and that a yield of close to 70% is required. Furthermore, the lower the yield the greater the pressure to plan for the development of further Greenfield land.

#### ○ Higher Yield Option

The higher yield option (refer to Figure 17) results in between 55 and 70 percent of the site being developed (excluding roads and areas of open space). This option has a greater potential for visual effects to occur as less planting is proposed. However, through the use of careful screen planting on the 'edges' of the development and through utilising the topography of the site to mitigate effects where possible, the effects are able to be internalised to a large extent.

As with the previous option, it would be necessary to undertake extensive buffer planting prior to any development occurring in order to avoid and mitigate visual effects where possible. This planting would not include the retention of those views into the site identified by Stephen Brown Landscapes as there is a high potential for views into the area to include glimpses of built development and this also then creates a potential conflict between businesses seeking to increase their visual profile through these view shafts and the intent of keeping a rural 'swathe' of view through the development. Given the high risk of this approach resulting in adverse visual effects, it is considered more appropriate to screen the development. Although as discussed later in this Structure Plan, one view shaft may be retained.



Figure 17

Stephen Brown Environments Ltd have completed a Landscape and Visual Assessment for Silverdale West (refer to Section 11 Supporting Documents) to better understand the visual effects associated with the potential rezoning of the site for industrial purposes. The report clearly outlines the sites visual catchment and audiences as:

- Those travelling on SH1;
- Those working, travelling and visiting the recreational facilities on Small Road;
- Those working, travelling and living on Wilks Road;
- Those working, travelling and living on SH17 between Wilks Road and the Silverdale Interchange;
- Those working and travelling on East Coast Road between Wilks Road and the Hibiscus Coast Highway; and
  - Approximately 16 rural dwellings on the hillside between East Coast Road and SH1.



Of particular concern are the views from the 16 rural dwellings, East Coast Road and SH1 just passing under the Wilks Road overbridge.

The report recommends that "...The two main areas that have been identified as particularly critical area the proposal's interface with SH1 and the need to visually 'break up' the development when viewed from an elevated perspective." The report suggests that development controls and 'holistic planning' are required to address the site's strategic position, exposure, landscape setting and topography.

Internally, strong planting along the central core of the development i.e. along watercourses is required in conjunction with significant planting of tall trees along collector roads. These measures will start to build a framework that will work with on site visual mitigation measures such as roof colours and planting to reduce visual effects.

Externally, landscape screening is required on SH1 (with bunds), SH17 and Wilks Road along with building height restrictions to further define the boundary between 'rural' and 'urban' and to mitigate visual effects.

Stephen Brown Environments have also suggested that in order to retain some aspect of the Landscape there would be an opportunity to retain the most significant view shaft which provides glimpses to the hill range beyond. This view shaft is located in the south eastern corner of the site and is apparent when driving north under the Wilks Road overbridge as shown in Figure 19 below.

Once planted the State Highway 1 bund area could appear as follows, except that this does not take into account the potential view shaft and species have not been determined (mock up supplied by landowners):



Before and after views northward bound along the Motorway from the Wilks Road overpass, showing the variable texture of the proposed tree screen.



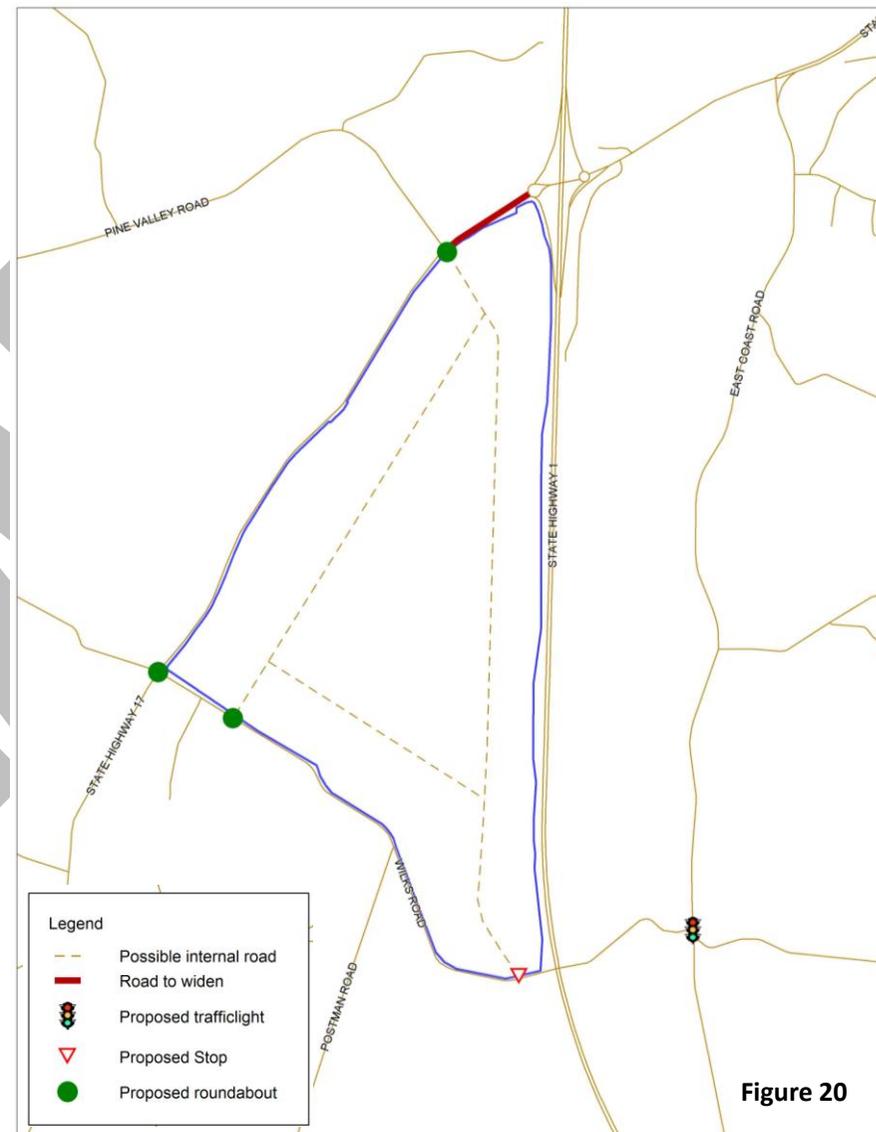
## 7.1.6 Traffic

An initial scope of the traffic constraints to development of this area for business purposes has been undertaken by Beca Infrastructure Limited. In particular, BECA has undertaken modelling of traffic generation and has assessed the impact that development of the study area will have on the road network (refer to Section 11 Supporting Documents, Traffic Constraints).

The road network in the Hibiscus Coast is at capacity, and without either an increase in the level of service offered by the motorway, or construction of PENLINK to reduce congestion, development of Silverdale West would have significant and unacceptable traffic effects. The main constraint to traffic is the need to avoid any development until the Peninsula Link Road (PENLINK) is operational. PENLINK provides a connection from Whangaparaoa Peninsula to the Northern Motorway. Currently traffic travelling to Whangaparaoa must exit at the State Highway 17 interchange. If development of the study area were to proceed before an alternative route is provided for this traffic, BECA considers there would be more than a minor effect on the function of the interchange and subsequent level of service offered by the Motorway. Areas of Silverdale North face a similar constraint, and there is no justification to advance development of the study area beyond residential development in Silverdale North. The time frame for the construction of PENLINK is currently unknown. Any plan change notified before this time, would require restrictions placed on development occurring before the construction of PENLINK (i.e. earthworks could begin but traffic generating activities could not operate until PENLINK is operational).

Consideration has been given to alternative traffic methods for servicing the area, including the construction of an off ramp from State Highway 1 directly to the site. However, BECAs consider that this entry-only arrangement would not resolve the peak congestion issue on Hibiscus Coast Highway prior to PENLINK.

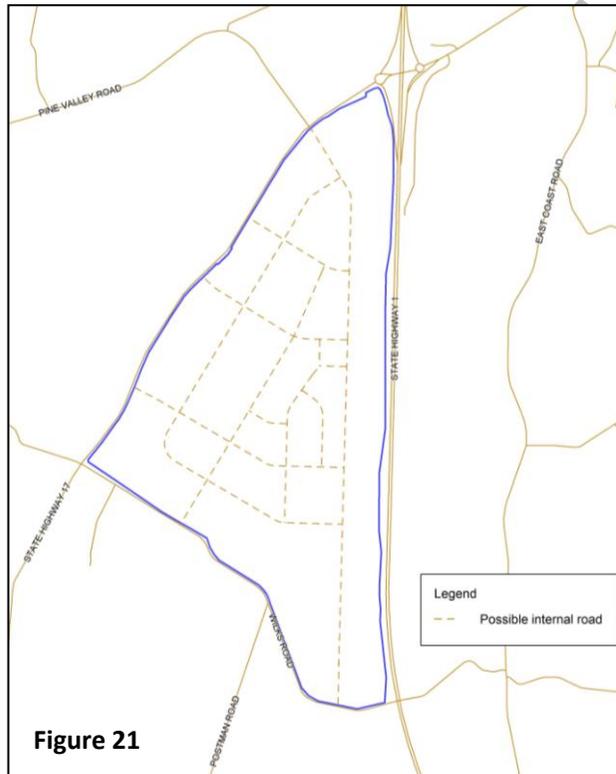
To allow the study area to function efficiently within acceptable levels of service BECAs have suggested, one entrance point from State Highway 17 and two from Wilks Road into the development are required. Two lane roundabouts will be required at each of the entrance points which are shown on Figure 20. These entrance points are a workable



suggestion only from a traffic point of view and an alternative arrangement has been suggested as outlined in Figure 21. This design takes into consideration the road layout internally adjacent to future riparian reserves and increases the number of access points on State Highway 1.

The exit to the site from the Motorway will be the State Highway 17 interchange. It is not possible to have a motorway exit directly into the study area as the spacing between any off ramp and the State Highway 17 interchange would be insufficient and could result in queues on to the motorway. The interchange will remain signalised to control queues that result from traffic travelling from Silverdale to State Highway 17 preventing traffic exiting the motorway turning right to Silverdale.

The south bound ramp allowing traffic to depart the study area to the south will be through the newly formed Penlink exit. Based on the modelling work undertaken this will necessitate signals at the intersection of East Coast Road and Wilks Road. Four laning of a short section of State Highway 17 will also be required. This approach minimises the amount of infrastructure required and the effects on the road network.



**Figure 21**

## 7.1.7 Infrastructure

To ensure that the area is able to function efficiently for business activities it must be able to be serviced efficiently and cost effectively with wastewater, water supply, telecommunications, gas and electricity infrastructure.

### Wastewater

Reticulated wastewater treatment will need to be supplied to the area to ensure that any future development can proceed with minimal effect. Wastewater from the development would be pumped to the Weiti pumping station and then treated before being discharged off the Coast of Army Bay. The Hibiscus Coast wastewater system, including the Weiti pumping station, will need to be upgraded to cater for projected population growth. Development of the Silverdale West area would contribute the need for a small portion of this upgrade. The extent and costs of the upgrade required, and that attributed to development of the study area, are currently unknown. As the area is currently not serviced by reticulated wastewater a significant amount of investment will be required for sewerage lines as well as upgrades to the treatment plant.

### Water supply

A new agreement would need to be reached with Watercare to supply water to the site. The costs of this provision have not yet been determined.

### Telecommunication

Initial investigations with service providers regarding whether the area could be serviced with broadband, cellphone and general telecommunication infrastructure have found that telecommunication infrastructure can be provided to the site. There is also an existing cellphone transmission tower on State Highway 17 which should be sufficient to provide coverage to the area. However, if cellphone use increases significantly new infrastructure will be required.

### Gas and Electricity

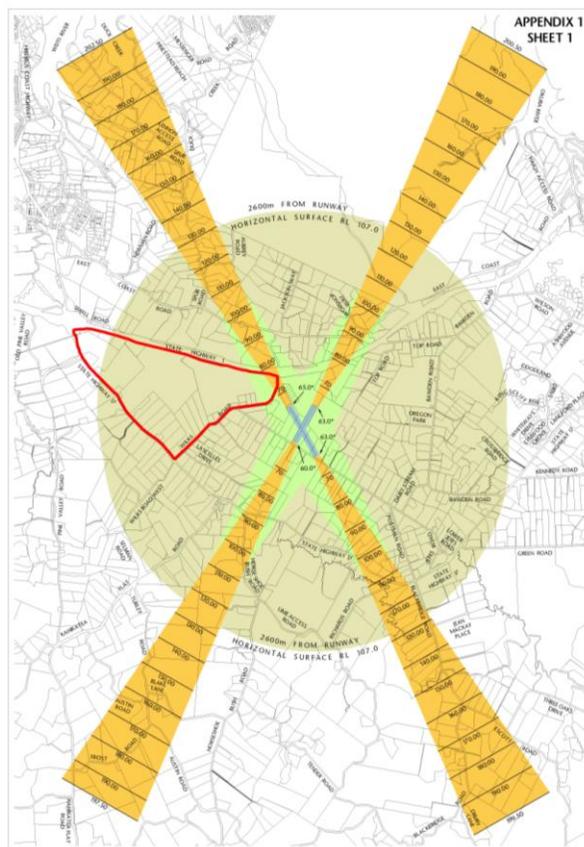
Service providers have advised that electricity and natural gas can be provided to the study area. Currently a gas pipeline runs along Wainui Road. Vector and consider that electricity and gas infrastructure can be provided to the study area.

### 7.1.8 North Shore Airfield

As mentioned in Section 4 of the Structure Plan, the runway for the North Shore Airfield runs parallel with the southern corner of the study area and a portion of the 'approach/take off fan extends over this southern corner. The North Shore Aeroclub have the responsibility of ensuring the protection of the obstacle limitation surfaces (OLS) rather than the Civil Aviation Authority.

The operator of the North Shore Airfield, the North Shore Aeroclub, consider that it would be prudent to keep an area slightly larger than the OLS in the district plan free of buildings or tall trees. The club consider that given the orientation of the run way, if an aircraft experienced engine failure, it could impact on this area. This area is shown in Figure 22. Bright lighting, including flood lights should also be avoided in this area as it would pose a hazard to night flying.

It is proposed that the existing rules of the District Plan regarding the airfield should continue to apply to the site if the zoning is



**Figure 22** North Shore Airfield Height Restrictions

altered. These restrictions include restrictions on household units and childcare centres as well as restrictions on the height of buildings and trees.

In addition to the existing rules it is recommended that the area of Silverdale West within the 'approach / take off path' (orange area) and surrounding higher contours within the 'runway / strip transition side surface' (green area) be identified as a no build area and landscape buffer area so that they remain free of structures. Any design for proposed landscaping in this area will need to meet the current District Plan rules with regard to height.

### 7.1.9 Development Intensity

As previously mentioned, two development concepts were initially prepared. One of the options nestles development into a heavily forested setting. This option is referred to as the "Forest Park" option. The other option is a more traditional form of business development, but still responds to the constraints of the study area. The economics of developing the land under each option was then considered.

The main conclusions of the studies undertaken, and the analysis of each option determine the primary issues to be considered. These conclusions are:

- To be viable to develop for business purposes approximately 70% of the total study area needs to be allowed to be developed (i.e. the higher yield option - an indicative concept of this is shown in Figure 17).
- To be attractive to business activities the area needs to have a point of difference from other business areas in Auckland.
- No development can occur until the Peninsula Link Road (PENLINK) is constructed.
- The character of the study area will change from rural to urban and the visual effects of this change need to be carefully managed.

- Ensuring that the process taken to further develop the structure plan is consistent with the Auckland Governance process.

Proposing a structure plan with a yield below 70% is an option, but for this option to be implemented it is likely that it would have to be highly subsidised by Council. Council would have to finance landscaping around the developed area of the site, and maintain it as a reserve.

With regard to viability a number of factors need to be considered when deciding if an area of land is suitable for business activities. One of these considerations is whether it is financially viable for developers to develop industrial activities. If the land is not feasible to develop, the issue of a shortage of industrial land will not be addressed.

To determine whether development of the site is financially viable, the following costs were estimated:

- Earthworks to engineer building platforms
- Costs of internal roads
- Costs of on site stormwater treatment
- Costs of stormwater retention
- Costs of roads and intersection upgrades
- Land holding costs and current land value
- Costs of on site wastewater reticulation
- Costs of extending wastewater network to the area
- Water supply costs
- Planning and compliance costs
- On site landscaping costs
- Costs of common landscaping for each option

Based on cost estimates for the above, and the average value paid for business land in the Auckland Region, Option 1 – the forest park option would not be viable to develop. The person developing the land would lose money (an approximate 28% loss). Based on initial cost estimates, Option 2 is viable. Based on the initial analysis, the point at which development becomes non viable is at a yield just below 70%.

## 8.0 COMPONENTS OF THE STRUCTURE PLAN

### 8.1 COMPONENTS OF THE PLAN

This Section of the Structure Plan outlines the key components of the plan as follows:

- 8.1 Land Allocations
- 8.2 Landuses
- 8.3 Mixed Use Centre
- 8.4 Landscaping.
- 8.5 View Shafts
- 8.6 Stream Enhancements and Areas for Protection
- 8.7 Stormwater Ponds
- 8.8 Internal Roding Layout
- 8.9 Wider Roding Connections and Gateways
- 8.10 Earthworks
- 8.11 Urban Design
- 8.12 Environmental/Sustainable principles

Structure plan is a balance between all of the constraints and opportunities of the site and that at this stage, subject to consultation processes occurring, it is considered that the potential effects of utilising the site for urban purposes, in particular, visual and landscape effects are able to mitigated to some extent and that the need for business land within the northwest sector of Auckland Region outweighs remaining extent of visual change that will come with the development of this area from rural to urban.

The Structure Plan Map itself is outlined on the following page and includes the central concepts for the development of the Industrial Business Park.

Other than the suggested location for large floor print industrial buildings, there is no further restriction on building size within the Structure Plan, except standard development controls e.g. site coverage. This is to enable flexibility for future businesses in the area.

### 8.1 Land Allocations

The Structure Plan can be broken down into a number of components as follows:

Land Uses	Land Use in Hectares	Percentage of Area
Group 1 uses: Very Large Footprint Buildings.	18.1 ha	8%
Group 1 uses: A Range of Building Footprints.	88.7 ha	39%
Group 1 uses: Above the 50m contour and subject to additional controls.	33.9 ha	15%
Mixed Use Centre.	3.5 ha	2%
Trade Retail.	9.4 ha	4%
Small Seated Reserve/Park.	0.1 ha	0%
No Build Area.	8.7 ha	4%
Stormwater Ponds and Flood Detention Areas.	11.7 ha	5%
Reserve and Ecological Areas.	17.6 ha	8%
Landscape Strips, SH1, SH17 and Wilks Road.	15.9 ha	7%
Proposed Roads.	19.1 ha	8%
<b>TOTAL:</b>	<b>226.8 hectares</b>	<b>100%</b>

# SILVERDALE WEST INDUSTRIAL BUSINESS PARK STRUCTURE PLAN MAP

## Legend

-  Available Development Land
-  Reserve
-  View Shaft
-  Widen SH17
-  No Build Area
-  Possible Pond
-  Mixed Use Centre
-  Trade Retail Area
-  Permanent Streams
-  Intermittent Streams
-  Small Seated Reserve
-  Possible Flood Detention
-  Kanuka and Exotic Forest
-  Possible Road 26 m Width
-  Possible Roads 21 m Width
-  Landscape Buffer 12 m Width
-  Landscape Buffer 40 m Width
-  Riparian Buffer Planting Zone
-  Very Large Footprint Buildings
-  Remnant Wetland for Restoration
-  Areas Subject to Additional Visual Controls
-  Gateway Entry/Exit Point

-  Landscaped Exit Point
-  Archeological Site
-  Roundabout
-  Stop Sign
-  Traffic Lights

Note: Roads not drafted to 21m and 26m (shown as 20m)



Figure 23

## 8.2 Land Uses

### **Industrial Activities**

The Industrial Business Park is primarily intended to cater for the current need for business land for Group 1 businesses. As shown in the above table the land available for Group 1 activities is 140.7 hectares or 62% of the total land area (plus mixed uses and trade retail areas. The following activities are considered Group 1 or Industrial activities (refer Section 11, Supporting Documents, Rodney Industrial Land Strategy):

- Manufacturing (e.g. boat building, cabinetry)
- Distribution (e.g. warehousing)
- Storage (e.g. storage sheds)
- Transport (e.g. truck depots)
- Construction (e.g. Timber yards, industries related to construction).
- Trade retail (e.g. Carters)

### **Trade Retail**

An area has been defined for trade retail activities, although further investigation should occur with regard to the size of this area, its location next to the mixed use centre is considered complementary. Activities establishing within the trade retail area should be predominantly trade based retail rather than non trade based retail, as it is not the intention that this area become a 'shopping precinct' attracting large numbers of customers. Large retail stores of any kind should not be located outside of the 'trade retail area', as this has the potential to diminish the land available for 'industrial' activities, however, the sale of goods manufactured on site as currently provided for in industrial areas of the Rodney District should be provided for.

### **Mixed Uses**

Other service activities required for the ongoing operation of the Industrial Business Park can be located within the mixed use area. This may include limited office space, cafés, lunch bars and other activities that are not strictly industrial, provided that they will not result in reverse sensitivity effects for Group 1 activities and will not reduce the viability of nearby retail town centres.

## 8.3 Mixed Use Centre

The Mixed Use centre has been identified at the fork in two streams, and directly to the south of a centrally located stormwater pond. This location was chosen due to the following:

- (a) the naturally enclosed shape resulting from watercourses and stormwater ponds;
- (b) the ability for development to be north facing and face the ponds;
- (c) the potential for an area of high amenity with a small reserve space next to the ponds; and
- (d) the potential for a road to front a reserve, although this would depend on the development proposed.

An alternative location further to north east is possible and potentially more practical and accessible; however, this would potentially not result in an area of high amenity and may take up valuable future flat land.

Development within the mixed use centre should create an attractive focal point, where employees of the business park may congregate during lunch breaks, providing informal interactions. To this end, the design of buildings should take care to be in line with simple urban design concepts to break up the bulk of buildings, provide pedestrian shelter if considered appropriate, and take advantage of the nearby reserve and pond areas.

## 8.4 Mitigation of Landscape and Visual Effects

The potential mitigation of visual and landscape effects Industrial Business Park could include the following:

### A. Internal Open Spaces and Planting Areas

These areas would include protection and enhancement of the following areas; 15m either side of Johns Creek, 5m either side of the identified tributaries, the existing wetland, and the remnant Kanuka and adjoining exotic trees. This planting will form the 'backbone' of the Industrial business park and should be densely planted in trees that will reach a height of over 10 metres. However, in some areas an open view of stormwater ponds will add to the amenity of the business area.

### B. State Highway 17 & Wilks Road Setback and Planting Areas

These areas would include a 12 metre setback and planting area on SH17 and Wilks Road. Additionally all built form should be either below the level of these roads or screened from the roads to internalise visual effects as far as possible, refer to Figure 23.

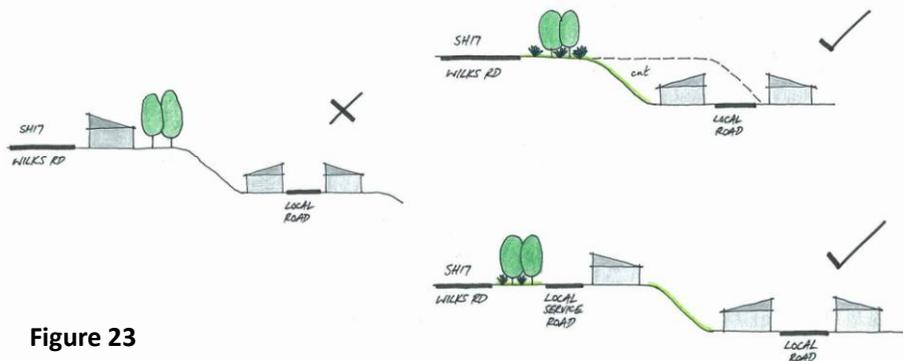


Figure 23

### C. State Highway 1 Screen Planting

A forty (40) metre strip buffer area for screen planting, on new and existing earth bunds, which is free of any buildings, signs, car parking areas or built form is proposed along the State Highway 1 boundary (refer to Figure 24). The intention is to establish an area that is densely planted with tall mature trees that will effectively screen the development from the

motorway (SH1). The exception is the retention of a singular view shaft from SH1 looking over Johns Creek and over the future development to the hills beyond.

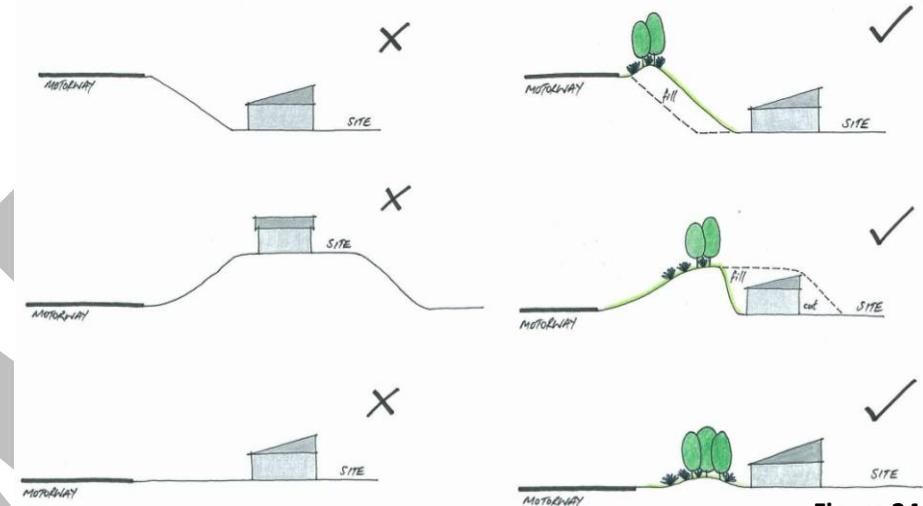


Figure 24

### D. General Building Restrictions

Due to the visual effects of building development when viewed from properties between State Highway 1 and East Coast Road, additional restrictions should be placed upon the colour of roofs and no signage should be permitted on roofs.

### E. Specific Building and Site Coverage Restrictions

In addition to the other mechanisms proposed it is recommended that those sites currently above the 50 metre contour (further detail required to confirm that this is the appropriate contour level), additional restrictions on site coverage should apply to enable greater areas of landscaping with tall evergreen trees to break up building mass, restrictions on the height of buildings in relation to external roads and restrictions on building bulk and scale to enable the visual effects of development to be addressed. This may result in consenting requirements for these areas through future plan changes.

### F. On Site Planting

Planting of a small number of tall trees in the front landscape strip of each site will collectively soften the visual impact of buildings.

### G. Planting Within Road Reserves

It is envisaged that planting on the two main thoroughfares, identified on Figure 23 as 26 metres wide, within the Industrial Business Park will form the key landscape elements alongside the planting around open spaces and stormwater ponds. It is envisaged that the planting on roads would include planting of tall mature trees capable of reaching a minimum height of 10 metres, planted at no greater than 15 metre intervals on both sides of the street. Planting on other roads would also be important, however, it would be significantly less intensive.

### H. Signage Restrictions

Signs should not be located on bund areas or designed and orientated to be viewed from outside of the Silverdale West area.

## 8.5 View Shafts

The view shaft in the south east corner of the Silverdale West area, should be narrowed and angled over the existing Johns Creek. This viewshaft should be protected through controls on building height and roadside vegetation at the south eastern corner of the Silverdale West area. In this location the topography falls away steeply from SH1, providing an opportunity to retain a view into and over the Industrial Business Park to the hill range beyond.

## 8.6 Stream Enhancements and Areas for Protection

As previously mentioned in Section 7.2.3, the key streams identified should be enhanced and riparian planting should occur over the 15 metre margins on the main watercourse and 5 metre margins on the two other smaller watercourses along with other measures outlined in Section 7.1.4 being undertaken.

The Kanuka and exotic forest along with the remnant wetland should be protected and enhanced in any development.

## 8.7 Stormwater Ponds

Stormwater Ponds and flood detention areas should be located in the approximate locations shown in the Structure Plan Map, Figure 23, subject to further modeling.

On-site treatment prior to discharge of stormwater into the ponds is also preferable.

Ponds should form areas of high amenity and where possible be fronted by roads.

## 8.8 Internal Rooding Layout

The internal rooding layout provides for a 'grid like' form. Two key roads, possibly collector roads are proposed. These roads should be 26 metres wide and include manoeuvring for large trucks and significant roadside landscaping by way of tall mature trees on both sides of the road. Other roads should be 21 metres wide and include tall mature trees, although at a lesser intensity than the two main roads.

Provision should be made for public transport along collector roads with a drop off point near the Mixed Use Centre. Pedestrian access should be provided for on all roads.

Depending on the feasibility and practicality, the use of swales on road verges is proposed.

## 8.9 Wider Rooding Connections and Gateways

There should be no direct access to SH17, SH1 or Wilks Road. All exit and entry should be via one of three Gateway Entry Points or the one Landscaped Exit Point.

Widening of a portion of SH17 from the Silverdale Interchange is required.

Traffic lights will also be essential at the intersection of Wilks Road and East Coast Road.

Gateway Entry Points are likely to be roundabouts and should result in an Industrial Business Park theme with coordinated signage and entry statements such as walls and name. Landscaping should also be themed to signal an upcoming entrance way, rather than uniform hedging. The remaining portions of adjoining external roads outside of the gateways, including SH1, SH17 and Wilks Road should be screened entirely with landscaping so that visual effects to neighbouring roads are avoided as much as possible.

A Landscaped Exit Point which is an entry/exist point is proposed on Wilks Road, however, this should not include hard landscaping or signage. This entrance is not seen as a main entrance point, but rather likely to be used as an exit point. It is envisaged that this will be landscaped with a mixture of tall mature trees and small species to screen development as much as possible from southern views

## 8.10 Earthworks

Given the geotechnical issues of the site, in particular the settlement constraint at the base of the catchment, and the proposed bunding adjacent to SH1, reasonably significant earthworks will be required. Subject to further investigations, it is anticipated that the streams to be protected would be able to be retained and enhanced without extensive modification.

The sloped nature of the topography will require retaining walls; controls should be placed on these walls with regard to height and planting and to ensure that where possible they are located to the rear of buildings.

## 8.11 Urban Design

The Industrial Business Park needs to be able to provide for the development of small to very large footprint buildings in order to cater for a wide variety of industries. However, it is considered that development should follow a number of basic key urban design principles

which should be inserted as rules rather than guidelines to enable buildings to be permitted activities. These principles could include matters such as:

- Clear entries and paths to offices.
- Active frontages when viewed from the road.
- Carpark locations clearly defined and punctuated with landscaping.
- Carpark areas for staff to the rear.
- Landscaping to soften buildings.
- Signage coordinated and not too large.
- Service areas screened from the road.

It is accepted that for very large industries the majority of sites will be fenced for security reasons, however, the above matters should be addressed where possible.

## 8.12 Environmental/Sustainable principles

A point of difference to the proposal could be the adherence to environmentally sustainable or 'Green Building' principles such as:

- energy efficient design i.e. use of natural light and ventilation;
- use of recycled materials;
- reduced light pollution;
- waste minimisation strategies;
- on site electricity generation with an aim for 5% of power on site;
- Reduced carparking to minimise impermeable areas and visual impacts (max. 20%); and
- Encourage sharing or parking spaces and circulation with nearby tenancies.

## 8.0 FUTURE ZONING CONCEPTS

The future zoning concepts should include the following, along with other concepts outlined in this Structure Plan:

- Consideration of staging.
- A limited and refined set of urban design rules or guidelines.
- Strict landscape controls.
- Road cross section examples.
- Roof colour of buildings.
- Mixed use area buildings to front reserve areas.
- Trade retail area.
- Limited set of activities within general industrial area to enable Group 1 activities to dominate.
- Resource consent required for buildings on upper contours and reduced site coverage entitlement.
- Gateway areas and road planting themes to be coordinated for the entire development.
- Stormwater ponds and roading network to be clearly defined in the District Plan.
- Objectives and policies to reflect the need to reinforce the defensible boundary through landscaping and to create a strong framework of internal planting to mitigate visual effects.
- Objectives and policies to reinforce the need to protect key ecological features of the area.
- Objectives, policies and rules to protect land for Group 1 activities.
- Future pedestrian/cycle linkages over SH1 to Silverdale.
- Methods for encouraging environmentally sustainable principles.

## 9.0 CONCLUSION

The Structure Plan has defined a vision for future development of the Silverdale West area over the next 10 – 15 years as an Industrial Business Park providing primarily for Group 1 Businesses.

The provision of this business land is clearly dependent from a traffic perspective, on the provision of the Peninsula Link from Whangaparaoa to East Coast Road.

The determined structure for the area is based on the protection and enhancement of key watercourses and other ecological areas and the need to mitigate the effects of visual development through the screening of external road boundaries and significant planting within the development area. This has been balanced with the need to ensure that the Industrial Business Park is viable and can realistically be developed within a short time frame to meet current demands for business land.

Even with mitigation the Industrial area will result in some visual and landscape effects on those properties accessed via East Coast Road as a transition is made from 'rural' to

'urban'. These effects need to be balanced with the need of the Region to address the significant lack of land for industrial purposes and the need for additional employment opportunities for residents of the Hibiscus Coast.

With regard to service provision, further investigation and confirmation is required, including the cost of this provision, however, there is currently no physical obstacle to the required upgrades and infrastructure being provided.

Although there are geotechnical issues within the area, it is considered that these can be overcome so that Silverdale West area will be able to cater for buildings with a range of foot print buildings sizes.

It is considered that this draft Structure Plan works with the constraints and opportunities of the area, resulting in a future industrial area that will provide employment opportunities, while maintaining environmental values and mitigating visual effects as far as practicable.



**Photograph 9** View looking north-east across the subject site from Wilks Road near the intersection with Postman Road (Photo Stephen Brown Environments)

## 10.0 NEXT STEPS

### **Process From Here**

Once it has been confirmed that the Peninsula Link Road will be provided and a timeframe around its provision has been set, it will then be appropriate to take this draft Structure Plan to Council for a determination to publicly notify it.

As a part of any notification and public feedback on this proposal all those stakeholders should be identified and directly consulted. As a starting point, the following parties should be contacted:

- Landowners.
- Neighbouring landowners.
- The Wider Community.
- Iwi.
- Rodney Economic Development Trust.
- Silverdale and Dairy Flat Business Associations.
- New Zealand Transport Agency.
- Auckland Regional Transport Authority.
- Auckland Regional Council (or its replacement body).
- Northern Sector Partners.
- Adjoining Local Bodies (or their replacement bodies).
- Ministry for the Environment.

Public meetings and/or open days as well as individual meetings on request should be held to discuss the Structure Plan with these parties.

Further background work will also be required to refine some of the concepts within the Structure Plan, and to confirm matters such as the cost of infrastructure provision.

Once public comment has been received, a hearing will be held to hear and consider the submissions prior to adoption, or otherwise, of the Structure Plan.

The Structure Plan will then be implemented primarily through Plan Changes to the District Plan and also through infrastructure and other works projects.

### **Future Business Land - Pine Valley Block**

In the future it is likely that an area of land to the north of the study area, bound by Old Pine Valley Road, and the Motorway (refer to Figure 13 Section 3) will be needed in addition to the Silverdale West area to meet long term business land demand. As the quarry situated within this area has a life of 25 years, it is logical for this area to be considered for business development after the study area. In addition, providing the Pine Valley block subsequent to development of the Silverdale West will reduce development pressure to the south of the study area between Silverdale and Albany and to the east of the study area towards Dairy Flat, containing growth. If the Pine Valley Block were to be developed first, followed by the study area, this may increase pressure to keep developing to the south which may result in sprawl of the Hibiscus Coast.

Detailed analysis and an individual structure plan would need to be prepared for the Pine Valley before any zone change could be considered. This would include consideration of feedback from landowners within the Pine Valley Block. Timing of preparation of a structure plan for the Pine Valley Block will depend on take up of land within the Silverdale West area (should development proceed) and the yield that can be achieved from the study area.

## 11.0 SUPPORTING DOCUMENTS

The following documents form the supporting documents for the structure plan:

- **Rodney District Council: GIS maps**
- *McDermott Consultants, **Silverdale Industrial Land Supply**, August 2008*
- *Riley Consultants: **Geotechnical constraints and opportunities** November 2008*
- *Clough and Associates: **Archaeological Assessment** November 2008*
- *Riley Consultants, **Silverdale West Structure Plan: Assessment of Stormwater Effects**, December 2008*
- *Stephen Brown Environments, **Landscape Constraints** January 2009*
- *BECA, **Traffic Constraints** January 2009*
- *Rodney District Council, **Silverdale West Structure Plan – Background Information and Constraints and Opportunities Assessment – Discussion Draft and Technical Appendices**, February 2009*
- ***Letters from infrastructure providers, Civil Aviation Authority and North Shore Airfield***
- *DHI Ltd: **Initial Wastewater Modelling Discussion***
- *Golder Associates, **Assessment of Ecological Constraints** December 2009*
- *McDermott Consultants; **North West Sector Group 1 Business Land Demand**, May 2010*
- *Stephen Brown Environments, **Silverdale West: Landscape and Visual Assessment** July 2010*
- *URS New Zealand Ltd, **Silverdale South Integrated Catchment Management Plan and Network Management**, August 2010*
- *Rodney District Council: **Industrial Land Strategy** Adopted September 2010*
- *Riley Consultants, **Memorandum – Stormwater Assessment** 15 October 2010*

**DRAFT**

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