Drury Structure Plan

Landscape and Visual Assessment Report
Background Investigation for Auckland Council

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Executive Summary

The Drury Structure Plan area **(refer to Map 1, Drury Structure Plan Area)** has been identified in the Auckland Unitary Plan Operative in Part as suitable for urbanisation over the next thirty years. This report has been prepared to identify and provide an evaluation of existing landscape attributes and the likely effects of urbanisation on landscape character and visual amenity within the study area. It also identifies ways in which the landscape can positively contribute to the area's future urbanisation.

The main purpose of this report is to recommend landscape areas and features to be protected, opportunities to enhance landscape character and visual amenity and opportunities for new landscape interventions to help shape a quality urban environment.

The key outcomes sought are to:

- Identify ways in which the future urban form might reflect the underlying land-shaping processes, particularly the volcanic features, which give the landscape its unique identity
- Strengthen the natural character of the landscape by retaining and enhancing patterns, processes and elements such as streams corridors and forest tracts as part of an open space network
- Contribute to a high level of amenity, beauty and a quality lifestyle for future communities

This work builds on that undertaken for the Rural Urban Boundary South Preliminary Landscape Investigation prepared by Environmental Planning & Design Ltd for Auckland Council[1].

The Drury structure plan area covers 1934 ha and is approximately 35 km south of Auckland's CBD. It is separated by State Highway 1 into east and west sub areas. This landscape assessment covers the entire Drury structure plan area and breaks it down into 11 discrete sub-areas (Landscape Character Areas) with broad values assigned to each contiguous landscape. **Refer supplementary attachments – Landscape Maps and Photo Essay – Map 5, and appendix B of this report.** Drury East is contained within three Landscape Character Areas while Drury West has been divided into eight Landscape Character Areas.

Overall findings and recommendations

The most important landscape elements to address at this point in the planning process are the underlying (abiotic) landforms – the natural patterns and processes that give distinctiveness to the landscape and will endure as land cover and land uses change. These include the ridges and gullies, the volcanic land forms and the vantage points.

Within this context three landscape elements are of major significance and set the landscape scene for this Landscape and Visual Assessment:

- Ngakoroa Stream, Drury Creek and Oira Creek provide important valley and harbour context to the Drury West area and have important amenity and ecological values

1 Rural/Urban Boundary (South) Options Area Landscape Evaluations, Environmental Planning and Design Ltd, July 2013

- Flooding has a significant impact in the Drury East area and to a lesser degree in the Drury West area. The ways in which flooding is managed and accommodated as part of urbanisation will significantly influence the new landscape that arises

- The Drury Fault at the eastern edge of Drury East creates a sharp juncture between the lowlands and the higher, steeper land associated with the fault. The hills will be a point of contrast and amenity to the future urban areas

The existing landscape character and visual amenity of the study area is strongly expressive of the underlying land-shaping patterns and processes. These include stream valleys, flood plains, hill slopes, bluffs and ridges. It is these underlying patterns and processes that remain constant, irrespective of human settlement patterns and land use activities which are relatively temporary in nature. As such, they represent the greatest opportunity to create a new urban landscape that is underpinned by enduring landscape qualities.

The main potential landscape character effects from urbanisation are:

Drury East

- Sensitivity of drainage patterns including the major low-lying flood plains and overland flow paths
- Change from rural patterns that distinguish the rural landscape and express the human processes associated with productive landscapes
- Sensitivity of the meagre remnant native bush patches that have ecological/biodiversity values. These are highly valuable due to their scarcity and highly vulnerable to edge effects and changes to the water table
- Severance of the natural patterns associated with the stream flow paths down from the Hunua Ranges
- Changes to the topography associated with the second order spurs extending into the area
- Change from the distinctive, intimate scale of settlement at the toe of the Hunua Ranges

Drury West

- Sensitivity of drainage patterns including the significant south to north draining Ngakaroa stream corridor and overland flow paths
- Change from rural patterns that distinguish the rural landscape and express the human processes associated with productive landscapes
- Degradation of natural landforms, especially the distinctive upper catchment hills and valleys, including high ridges, knolls and escarpments
- Coastal edge effects associated with the Drury Inlet, relating to landscape amenity, cultural and ecological values

The main potential effects on visibility and visual amenity from urbanisation are:

Drury East

- Change to visual cohesion associated with the strongly rural character
- Change to scenic amenity associated with views across the flood plains to the distinctive Hunua Ranges backdrop
- Change to views from the southern area to the Bombay Hills
- Change to long views to the Waitakere Ranges
- Potential for visual dominance and overlooking effect if the ridges of the side spurs are built on

- Potential loss of visual landmarks in relation to high topography, views to the Hunua Ranges and the remnant patches of kahikatea

Drury West

- Change to visual cohesion associated with the strongly rural character
- Change to cohesive landform and views down the Ngakoroa Valley
- Fewer expansive views to the Bombay Hills and Hunua Ranges due to local containment created by new urban form, and thus reduced scenic amenity associated with long views
- Potential for visual dominance and overlooking effect if the ridges of the side spurs are built on
- Potential loss of visual landmarks in relation to high topography, especially the south west corner of the FUZ
- Potential to manage visual effects through strengthening of existing natural landscape patterns with plantings
- Change to visual amenity for transient viewing audience along SH1
- Change to of views to the Coastal Marine Area and coherent existing character

The general opportunities across all Landscape Character Areas to protect and enhance natural landscape character and landscape amenity values are:

- Retain and reinforce the natural drainage patterns as the key organising element of the landscape framework
- Establish wide and contiguous esplanade plantings and a network of public open space reserves along stream corridors
- Protect public views to Hunua Ranges, Bombay Hills, and Waitakere Ranges. Careful block layout and road alignments are fundamental to protecting views and enhancing quality public realm and distinctive sense of place
- Adopt ‘roads as places’ approach to all new roads, to provide enhanced landscape amenity, public use and enjoyment and ecological corridors
- Potential to retain some shelterbelt planting, amenity tree stands and elements associated with rural landscape as an historic trace and memory of past settlement

1 Introduction

Opus International Consultants has been commissioned by Auckland Council to undertake a Landscape and Visual Assessment (LVA) as part of the background investigations for the Drury Structure Plan (hereafter referred to as 'the study area'). The study area comprises 1934 ha[2] and lies to the east and west of State Highway 1 (SH1) as outlined in **Map 01** on the following page of this report.

Drury East comprises 1086 ha and is bound by Papakura urban area to the north, Hunua foothills to the east, mixed use including large areas of land currently transitioning from rural to urban to the south and SH1 to the west. Drury West comprises 848ha and is bounded by the Karaka inlet of Manukau Harbour to the north, SH1 on the eastern boundary and rural land uses to the south and west towards Pareata- Pukekohe.

The assessment was undertaken by a team of registered and senior landscape architects with support from GIS and planning specialists. Auckland Council has provided inputs from topic specialists by way of workshops and supply of relevant background reports and other material.

1.1 Background to the Project

Auckland Council has prepared the Auckland Unitary Plan Operative in Part (AUPOP) alongside several non-statutory documents that set the strategic direction for Auckland's growth. The AUPOP established the Future Urban Zone (FUZ) and Rural Urban Boundary (RUB) to provide for 30 years' supply of land for urban growth.

The regional policy statement promotes the preparation of structure plans as precursor to plan changes and to support the rezoning of FUZ land for urbanisation. Structure plans guide future development and redevelopment.

The Future Urban Land Supply Strategy (FULSS) was adopted by Auckland Council on July 04 2017 and provides for the staged release of land within the entire Auckland-wide FUZ including the study area.

In preparation for the Drury structure planning, several preliminary technical investigations, including this LVA are being undertaken. A LVA has been prepared concurrently for the Paerata-Pukekohe area and together the two assessments cover the entire Southern FUZ as identified more or less in the AUPOP.

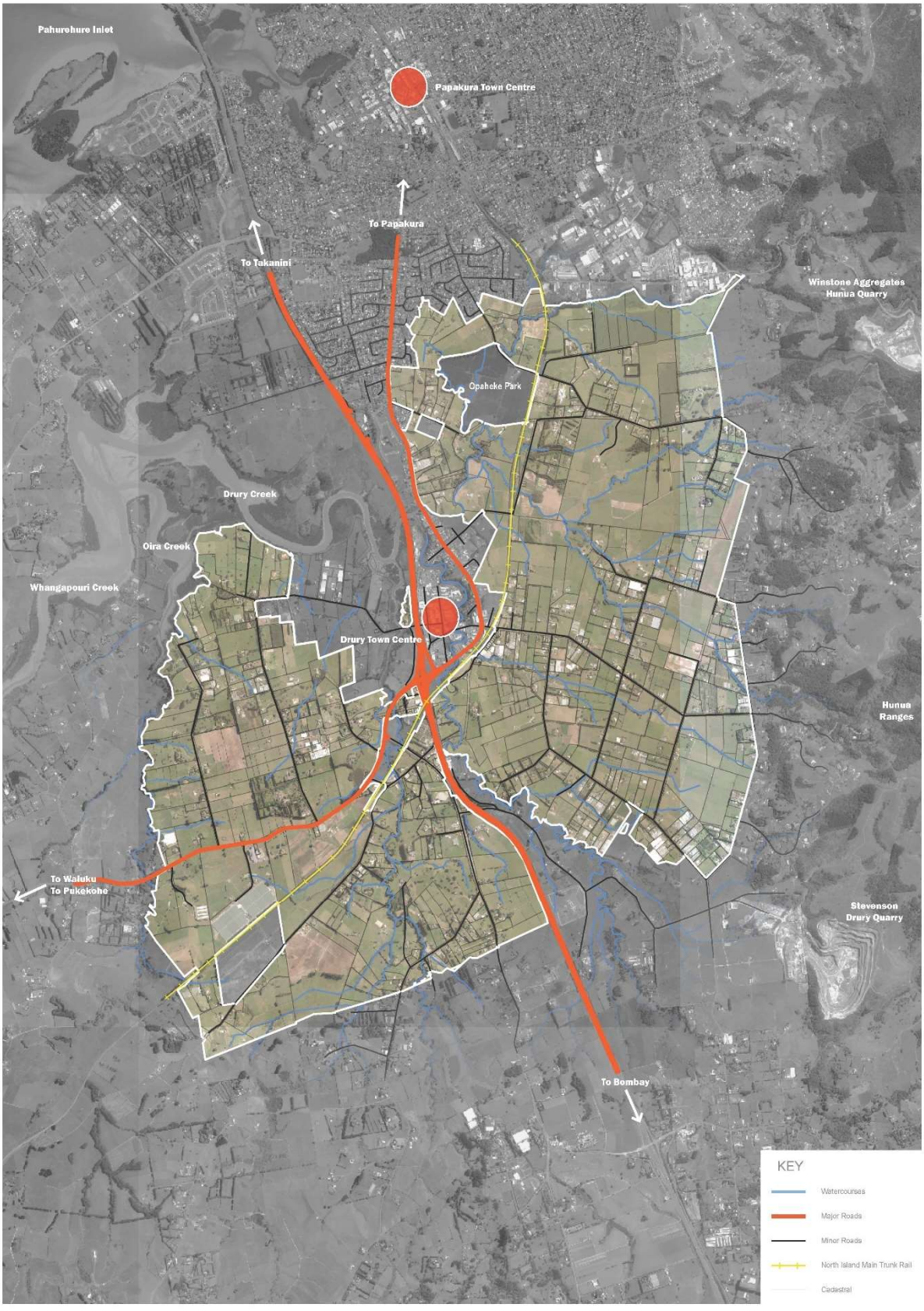
1.2 Limitations

All site assessments were undertaken from publicly owned property as access to privately owned sites was not available. Consequently, some conclusions have relied on desktop GIS mapping and aerial photograph information rather than site investigation.

This report does not address cultural heritage or Māori values as these are being addressed in other reports.

There are several crossovers with related specialities including archaeology, ecology, geology, cultural heritage and hydrology. The information provided by the relevant topic specialists is in some cases still being produced. This report references the latest data available at the time of issue.

[2] The New Zealand Land Cover Database (LCDB) https://lris.scinfo.org.nz/layer/423-lcdb-v41-land-cover-database-version-41-mainland-new-zealand/



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Drury Structure Plan Area – Map 1
Map source: The New Zealand Land Cover Database (LCDB)

2 Methodology

This assessment has been authored by a New Zealand Institute of Landscape Architects (NZILA) registered landscape architect in accordance with best practice[3]. In summary, the following steps were taken:

1. Review desktop information including GIS data and background reports to understand pertinent information
2. Undertake field work to:
    - Confirm the desktop analysis
    - Better understand the existing landscape character and visual amenity of the study area and its wider context
3. Assess the landscape against a set of criteria to establish discrete sub-areas, referred to as 'Landscape Character Areas (LCA's) that possess coherent qualities. Criteria are:
    - Biophysical attributes focused on natural features, including landform, hydrology, vegetation and modified (human) attributes
    - Sensory attributes focused on visual qualities of the landscape, including legibility, coherence, context and setting, scenic amenity and visibility
    - Associative (cultural) attributes were considered however these are limited to obvious landscape features. It is acknowledged that many landscape features of cultural significance are not visible or obvious and that these cannot be adequately assessed without a deeper understanding of memory and meaning. Cultural heritage assessment work is being undertaken concurrently with this assessment to help inform the structure planning. Mana Whenua values are identified as part of a separate process.
4. Evaluate the landscape quality of each LCA using a five-point rating score from very low to very high. This determined the overall sensitivity to change for each LCA.
5. Evaluate the existing Outstanding Natural Features (ONF) and Outstanding Natural Landscapes (ONL) outside but proximate to the study area to confirm their status. Consideration was given to whether other landscape attributes within the study area might also merit similar protection through other mechanisms.
6. This information enabled:
    - Assessment of landscape character and visual qualities of the existing landscape
    - Assessment of the landscape's ability to absorb change
    - Confirmation of the existing ONF's and ONL's and a decision that no new ONF's or ONL's should be established
    - Identification of landscapes that should be protected
    - Opportunities to enhance the landscape
    - Opportunities for new landscape interventions to help shape a quality urban environment

The report concludes with recommendations, appropriate to this stage of planning, for overarching development principles and suitable methods relating to protection and enhancement of landscape character and visual amenity.

[3] NZILA. 2010. Best Practice Note 10.1

3 Statutory and Non-Statutory Context

3.1 Statutory context

3.1.1 Resource Management Act 1991

Section 6 of the Resource Management Act 1991 (RMA) sets out matters of national importance which should be recognised and provided for. Section 6(a) requires the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development. Section 6(b) requires the protection of outstanding natural features and landscapes from inappropriate subdivision, use and development.

Section 6(a) of the RMA is relevant to the consideration of urban development within the study area. There are no Outstanding Natural Features (ONFs) nor Outstanding Natural Landscapes (ONLs) within the study area. However, there are ONF and ONL areas adjacent to or nearby the study area and effects on these are addressed in this assessment.

Section 7 of the RMA sets out matters decision makers should have particular regard to, including Section 7 (c) the maintenance and enhancement of amenity values and Section 7 (f) the maintenance and enhancement of the quality of the environment. Effects relevant to Sections 7 (c) and 7 (f) of the RMA are addressed in this assessment.

3.1.2 NZ Coastal Policy Statement

The New Zealand Coastal Policy Statement (NZCPS) relates to the land and water contained within the coastal environment.

The northern edge of the Drury West study area sits partly adjacent to the coastal environment and the NZCPS is therefore relevant to this area. The NZCPS provides policies for areas of outstanding natural character and 'other' areas. The Drury West study area has no areas of outstanding natural character and therefore falls into the 'other' category.

Policy 13 of the NZCPS addresses preservation of natural character and seeks to preserve the natural character of the coastal environment and to protect it from inappropriate subdivision, use, and development: avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on natural character in all other (non-outstanding) areas of the coastal environment.

Policy 14 of the NZCPS addresses restoration of natural character and seeks to promote restoration or rehabilitation of the natural character of the coastal environment.

Policy 15 of the NZCPS addresses natural features and natural landscapes and seeks to protect the natural features and natural landscapes (including seascapes) of the coastal environment from inappropriate subdivision, use, and development: avoid significant adverse effects and avoid, remedy, or mitigate other adverse effects of activities on other (non-outstanding) natural features and natural landscapes in the coastal environment.

3.1.3 Auckland Unitary Plan Operative in Part

The AUPOP anticipates urbanisation of the Drury study area and in this context, this planning area in the AUPOP can be taken as a holding zone. Consequently, the objectives and policies of the Future Urban Zone (FUZ) are not considered here.

The FUZ is applied to greenfield land that has been identified by Auckland Council as suitable for urbanisation. Structure planning is required to determine the most appropriate urban zones to be applied to land zoned Future Urban, such as the various urban, residential, business or public open space zones. Whilst the structure planning is yet to determine which zones will apply to the development of the study area, there are overlays and schedules in the AUPOP that can be expected to be retained in the process of re-zoning and these are responded to in this report.

It is noted, however, that there are several places close to the study area that are zoned Open Space Conservation. This zoning will not be affected by the structure planning for the study area.

Significant Ecological Areas overlay

Significant Ecological Areas (SEA) overlay (Chapter D9, AUPOP) is relevant to this report.

- The coastal edge of the Drury West study area abuts a SEA – Marine 2 (SEA-M2) overlay. SEA-M2 areas are of regional, national or international significance which do not warrant an SEA-M1 identification as they are generally more robust. SEA-M1 areas which, due to their physical form, scale or inherent values, are considered to be the most vulnerable to any adverse effects of inappropriate subdivision, use and development.
- There are a number of SEA – Terrestrial in Drury East and West. These are identified areas of significant indigenous vegetation or significant habitats of indigenous fauna located either on land or in freshwater environments. In order to maintain indigenous biodiversity these areas are protected from the adverse effects of subdivision, use and development.
- The Ngakoroa stream edge, south of Bremner Road bridge, is an SEA – Terrestrial and abuts the FUZ. This is an extension of the SEA – Marine that runs opposite to the Bremner Road Special Housing Area (SHA) development in Drury West study area
- A stand of native trees near 101 Ponga Road in Drury East study area is an SEA – Terrestrial
- A stand of native trees at the end of Gatland Road in Drury East study area is an SEA – Terrestrial

The objectives that apply to SEAs are:

- Areas of significant indigenous biodiversity value in terrestrial, freshwater, and coastal marine areas are protected from the adverse effects of subdivision, use and development
- Indigenous biodiversity values of significant ecological areas are enhanced
- The relationship of Mana Whenua and their customs and traditions with indigenous vegetation and fauna is recognised and provided for

These objectives are taken into account in the recommendations section of this report.

Notable Trees overlay

There is one group of notable trees at 205 Sutton Road in the Drury East study area and none in the Drury West study area. The Sutton Road trees comprise a group of kahikatea (AUPOP ID 2282).

The purpose of the Notable Trees Overlay is to protect notable trees and notable groups of trees from danger or destruction resulting from development. Individual trees and groups of trees that have been scheduled as notable trees are considered to be among the most significant trees in Auckland. These trees have been specifically identified to ensure that the benefits they provide are

retained for future generations. Diagrams showing the location of the notable trees are included in Schedule 10 of the AUPOP.

The objective that applies to this overlay is:

- Notable trees and notable groups of trees are retained and protected from inappropriate subdivision, use and development

Historic Heritage Extent of Place overlay

There is one Historic Heritage Extent of Place in the Drury West study area at 201 Jesmond Road, and none in the Drury East study area.

These provisions apply to scheduled historic heritage places on land and in the coastal marine area that are identified in Schedule 14.1 Schedule of Historic Heritage and shown on the AUPOP maps. Scheduled historic heritage places have been evaluated and meet the heritage significance criteria and thresholds set out in the Regional Policy Statement (Chapter B5.2). The site at 201 Jesmond Road is called Aroha Cottage (AUPOP ID 00704).

The objectives of the AUPOP for management of these sites are:

- The protection, maintenance, restoration and conservation of scheduled historic heritage places is supported and enabled
- Scheduled historic heritage places are protected from inappropriate subdivision, use and development, including inappropriate modification, relocation, demolition or destruction
- Appropriate subdivision, use and development, including adaptation of scheduled historic heritage places, is enabled

National Grid Corridor overlay

This corridor extends along the southern boundary of the Drury West study area and the southern end of the eastern side of the Drury West study area. It also runs through the western side of the Drury East study area.

The purpose of the National Grid Corridor Overlay is to manage sensitive activities and potentially incompatible development (including land disturbance) within close proximity to the National Grid in order to:

- prevent risks to people and property
- protect the National Grid
- preserve line access for inspection and maintenance
- preserve a corridor for the operation, maintenance, upgrade and development of National Grid infrastructure
- manage potential reverse sensitivity effects

The objective of this overlay is: The efficient development, operation, maintenance and upgrading of the National Grid is not compromised by subdivision, use and development.

3.2 Non-statutory context

3.2.1 Existing Landscape Assessments

The following reports have been taken account of in this report.

Papakura District: Rural Landscape Assessment (2007)

Papakura District Council commissioned this landscape assessment study for the Rural Papakura District Plan Review in 2007. The purpose of the study was to identify and assess landscapes within the rural parts of the District that were worthy of protection, maintenance, and enhancement, to identify key landscape issues, and provide suggestions on how those issues could be managed whilst retaining the key landscape characteristics of the District.

This report divides rural Papakura into a number of landscape zones, two of which cover the Drury study area:

- The Drury West study area is covered in the southern part of the Coastal Margins and Flats landscape area of the 2007 study
- The Drury East study area is covered in the southern part of the Southern Rural Plains landscape area of the 2007 study

The Coastal Margins and Flats

The coastal margins and flats are the flat plains areas associated with the edge of the Pahurehure Inlet to the west of the SH1 corridor, including Pararekau Island. The coastal margins are varied in their topography and landcover. The flats are generally less than 20 m asl, with flat to rolling topography. The land is subdivided into small rural allotments, and features strong lineal patterns of shelter belt plantings. The flat land forms, small land parcels, and patterns of shelter plantings break the coastal plains into a large number of smaller units, which are not generally visible from any close land-based location. Land between Pararekau Island and the SH1 corridor has recently been developed for subdivision to the edge of the inlet. Further pressure for residential subdivision is likely to be experienced within the flat areas close to the coastal edge and the motorway corridor.

The coastal edge itself exhibits a relatively high level of natural character, with areas of undisturbed indigenous vegetation and intact land/water interfaces in places.

The interface between the land and water is sensitive to change and should be protected from the effects of subdivision or development. Earthworks, subdivision, development, and vegetation clearance threaten the existing landscape values and natural character of the coastal edge.

The Southern Rural Plains

The southern rural plains are the flat areas bounded by Papakura and Drury to the north, the hills and lower hills landscape units to the east, and the motorway corridor to the west. The southern plains are subdivided into small rural lots, however retain a relatively open character, as the roadsides are not as heavily planted with shelter vegetation as other parts of the plains. The southern rural plains provide an important edge to the south and east boundaries of the Papakura urban area and the Southern Motorway. The open space character of the plains between the Papakura urban area and the base of the hills and lower hills landscape units is important to the containment of residential and commercial development.

The southern rural plains will experience pressure for residential subdivision and development on the edges of the Papakura urban area. Retention of open space and rural land use patterns should be ensured when assessing any land use change or threats to the landscape values of the southern rural plains.

Landscape Review of Outstanding Natural Landscapes (2008)

The Landscape Review of Outstanding Natural Landscapes (2008)[4] provided summary information of specific areas in the Auckland Region that were identified as outstanding by the earlier Auckland Regional Landscape Assessment update 2006. This was in turn essentially an update of the 1984 regional landscape assessment [5].

The 2008 report confirmed one Outstanding Natural Landscape (site 60) near to, but outside, the Drury study area. This site lies approximately 1 km east of Drury Hills Road (an eastern boundary road of the Drury FUZ), on Ponga Road and comprises hill country covered in an 'extensive sequence of mature and regenerating native forest'.

Natural Character Assessment Auckland Region (2009)

In order to give effect to the requirements of the RMA in relation to the protection of coastal character, a study [6] of the natural character values within the Auckland Region was undertaken to identify those parts of the region's Coastal Environment, together with wetland, river and lake margins, that display "high" levels of natural character.

None of the Drury study area was identified in this report as displaying high levels of natural character.

Drury South Business Project Assessment of Landscape and Visual Effects (2011)

Land to the south of the Drury East study area has been zoned for business uses. As the Drury East study area and the land further south develop they will alter the existing landscape and impact on each other.

The landscape and visual assessment report[7] for the business area south of the Drury East study area assessed the proposal to significantly change the landscape from rural uses to accommodate extensive business activities ranging from relatively high amenity and low site coverage 'campus' style industrial development through light to relatively heavy industry. The report acknowledged that: "*The established rural landscape character of the subject area will be substantially altered, with some short term dramatic changes in the landscape as a result of bulk earthworks*." The report also expressed the view that: "*The scale, layout of future roading and required tree planting will, however, replicate a pattern of land use that is not incongruous with the wider rural landscape. Future industrial development will be visually and physically well separated from neighbours and amenity enhancements are proposed and required such that, on balance, whilst different to the existing rural character and amenity, the future urban development can be visually absorbed and will fit appropriately within the landscape and visual context of the site and over time become well integrated into the landscape*." (p.40).

The Drury South Business Project is relevant in that it enables an urban change of a contiguous area that is currently predominantly rural.

Rural Urban Boundary (South) Option Areas Landscape Evaluations Internal Summary Report 2013

The Rural Urban Boundary (South) Option Areas Landscape Evaluations report[8] provides a landscape assessment covering most of the area subject to this report. It was undertaken in July

4 Auckland Regional Council, Landscape Review of Outstanding Natural Landscapes (2008)

5 An Assessment of the Auckland Region's Landscape, Planning Department, Auckland Regional Authority, 1984; Auckland Regional Landscape Assessment (2003-2004)

6 Auckland Region Natural Character Assessment Auckland, 2009 – 2010, Stephen Brown

7 Boffa Miskell Ltd. 2011. Drury South Business Project: Assessment of Landscape and Visual Effects

8 Rural/Urban Boundary (South) Options Area Landscape Evaluations, Environmental Planning and Design Ltd, July 2013

2013 as part of Auckland Council's RUB investigations. This study carried out a landscape evaluation of pre-determined Option Areas on a sub-regional basis.

The purpose of the evaluation was to:

- Assist with the evaluation of options in the investigation areas that are more or less suitable for residential and business related urban uses in view of landscape considerations
- Help Council in the configuration of an advantageous combination of potential urban development areas (options) in a way that responds to landscape considerations

The evaluation process provides a means of understanding:

- Underlying landscape character
- Likely landscape effects of potential land use change
- Potential landscape change boundaries

Important conclusions affecting the Drury FUZ area are:

- For Drury West (comprising the Core Karaka South area in the 2013 report):

- **Core: Karaka South**
  - Generally avoid urban development west of Oira Stream corridor to reinforce open pastoral landscape character of SH22 corridor between Pukekohe and Drury
  - Clearly define southern boundary – recommend steep scarp to the south of Burt Rd
  - Bycroft Road and Woodlyn Drive not generally suitable for urban development
  - Concentrate potential development to the north of Burt Rd and SH22 and to the east of Oira Road and Jesmond Road
  - Key consideration for this area (and for wider pattern of potential urban development in the south) is the management of patterns of urban development aligned with SH22 corridor (sprawl – inefficient urban structure) and the effects of such patterns on existing rural character

For Drury East (comprising the Core Hingaia / Opaheke / Drury A & B areas in the 2013 report):

- **Core: Hingaia-Opaheke-Drury (A)**
  - Option area includes a number of distinct areas
  - Walker Rd area demonstrates a number of attributes that suggest a higher capacity to accommodate a greater range of urban development
  - Integration of natural drainage patterns and land uses on or near floodplains a key consideration
  - Capacity for small areas of urban extension in the west
  - Patterns of development in the south to consider wider adjoining areas to the south and management / integrated use of floodplain as part of urban structure planning.
  - Suggest development of Ponga Rd South in conjunction with Hingaia – Opaheke (B) area and future structure planning of Papakura-Drury town centres and future transport planning (Rail Corridor and Mill Road Corridor)

- **Core: Hingaia-Opaheke-Drury (B)**

- Landscape capacity for urban development in the south with existing rural character influenced by built form (glasshouses and rural residential development) and a series of visually contained areas (results from varied terrain)
- Similar opportunity (less variation of terrain) in the north however need to address northern boundary and integration of natural drainage patterns and land uses on or near floodplains as a key consideration
- Opportunity to enhance / define and rationalize Drury 'town centre' and integrate with major transport infrastructure
- Lack of defined northern landscape boundary a potential issue – consider integration and management of northern floodplain areas and extend boundary to Ponga Rd in the north
- Suggest development of area in conjunction with Hingaia – Opaheke (A) with future structure planning of Papakura-Drury town centres and future transport planning (Rail Corridor and Mill Road Corridor)

Bremner Road SHA landscape assessment (2016)

Land in Bremner Road, adjacent to the Drury West study area has been zoned for urban development through the Special Housing Areas process. As this development is implemented it will alter the existing landscape and those effects are acknowledged in this report.

A landscape assessment[9] was provided and relevant conclusions are:

- *7.1 The proposed SHA urbanisation of the Bremner Road area will significantly change its current open rural landscape character. The development will however be consistent with the site being zoned Future Urban with urban expansion envisaged in the PAUP and the requirements of the Housing Accords and Special Housing Areas Legislation*
- *7.2 Although the subject site is largely in open pasture, its rural character is eroded to a degree by existing land uses, relatively degraded pasture, the proximity to the southern motorway, the Drury township and industrial area, and the high voltage pylons and overhead wires traversing the eastern part of the area. Although the subject site includes productive land, it is a modified degraded site with relatively low landscape values, away from the coastal edge. In light of these considerations the site is well suited to the type of urban development proposed*
- *7.5 The change from the existing rural character of this landscape to one dominated by the built form of a residential area will also introduce a range of beneficial effects, including:*

- *enhancement to the watercourses and stream corridors including physical and ecological connections to Drury Creek and Ngakoroa Stream*
- *extensive framework of planting including riparian and specimen trees in streets, open space areas and the esplanade reserve, which will improve the character and amenity as well as enhance habitat values, and break up the contiguous urban expanse increasingly with time and contribute to the wider surrounding area*
- *the establishment of an accessible coastal esplanade reserve further enhancing amenity and recreational opportunities for local residents*

The Bremner Road development is relevant in that it enables an urban change of a contiguous area that was predominantly rural.

9 Bremner Road Drury: Special Housing Area Landscape and Visual Effects Assessment, LA4 Landscape Architects, 2016

3.3 Other Relevant Technical Information

3.3.1 Geology and flooding

Hayward prepared a report[10] in 2014 regarding the geological heritage of the Pukekohe area, and his report touches on the Drury study area. The report shows the Drury fault line forms the toe of the Hunua Ranges, near the edge of the Drury East study area. This fault line is easily seen as the study area is relatively flat and the ranges rise sharply, and in contrast, to the east. There are no volcanic features in the study area that are visible.

The Drury East study area includes significant areas vulnerable to flooding, particularly in the Slippery Creek catchment. The Drury West study area is much less impacted by flooding.

3.3.2 Ecology

Papakura District Council commissioned an analysis of indigenous vegetation and habitats of indigenous fauna from Kessels Associates[11] for the Rural Papakura District Plan Review in 2007. The purpose of the study was to identify issues and threats.

The Drury study area is within the Manukau Ecological District. The summary of issues and threats in this area is:

Key Issues:

- So little left of any indigenous vegetation that any left is significant and urgently requires protection & management
- Management of coastal margins
- No ecological linkages between the coast/lowlands and the hill country natural areas
- Isolated patches of bush and wetlands; isolated trees and treelands
- Very few good examples of previously dominant vegetation types

Key Threats:

- Loss of habitat and habitat degradation – no monitoring to assess biodiversity loss
- Stock access (destroys undergrowth; allows weeds to establish; carries weed propagules; prevents regeneration
- Drainage conflicts – mainly with wetland & small kahikatea stands
- Weeds
- Animal pests – ship rats; possums; stoats; feral & domestic cats

This report is relevant in that it identifies issues and threats that can be addressed in the process of urbanisation.

3.3.3 Public Open Space

Open space analysis being undertaken by Auckland Council for this project is identifying passive and active open space needs and opportunities to be considered as part of the structure planning or the area.

10 Geological Heritage of the Pukekohe Area (unpublished), Hayward, B. W. 2014.

11 Papakura District Council Analysis of Indigenous Vegetation and Habitats of Indigenous Fauna Draft 4, 15 February 2007, Kessels & Associates Ltd.

3.3.4 Cultural

No input has yet been received from mana whenua but it is understood that engagement will be able to be commenced shortly.

Council is gathering heritage information relating to the period of post-European settlement.

4 Location and Setting

Drury is a rural lifestyle area on the southern edge of the Auckland metropolitan area. It is located between the upper, southern reaches of the Manukau Harbour to the north west, the Hunua foothill to the east, the Bombay Hills to the south and the Pukekohe urban settlement to the south west.

The wider landscape is strongly characterised and visually contained by geological features. To the east and south, the Bombay Hills create a distinctive backdrop and containment to the area. To the northeast, the Hunua ranges, which were created by seismic uplift, form a distinctive edge and backdrop to the Drury downlands. To the north west, distant views of the Awhitu Peninsula on the Manukau Harbour place the study area in its wider regional setting.

The Drury study area can be characterised as being heavily influenced by coastal lowlands rising to gently rolling pasture in the south and east.

Drury East is contained by the Papakura urban area to the north, the Hunua foothills to the east, the recently zoned and yet to be developed Business zone to the south, and to the west is SH1. The Drury East study area itself has a lot of flat land subject to flooding, but also has several low ridges with associated land that does not flood.

Drury West is contained by an upper, tidal arm of the Manukau Harbour to the north, SH1 to the east, a major Transpower transmission line to the south, and to the east the Oira Stream provides the boundary. Drury West is not as well contained as Drury East, and the western and southern boundaries are somewhat arbitrary from a landscape perspective in that the landscape beyond the study area is essentially the same as the landscape immediately within the study area. The Bremner Road SHA, on the north-east boundary of Drury West, is in the process of being developed, and thus this area is in the process of significant change.

The North Island Main Trunk Railway (NIMTR) runs through both the east and west study areas.

5 Landscape description

5.1 Landform

Drury East is strongly expressive of the underlying land-forming patterns and processes. The steeply rising Hunua Ranges, created by seismic lift, contain the eastern boundary of the FUZ and while they largely fall outside of the FUZ area, there are several secondary spurs that extend into the FUZ in an east west direction. Most distinctive of these is the spur located toward the southern boundary, which is eroded approximately at its mid-point to create a separate knoll landform at its northwest end.

Except for the landform associated with the Hunua Faultline and the low toe undulating landform, the area is largely comprised of flat floodplains underlain by fan deposits of undifferentiated colluvium and alluvium: formed predominantly by alluvial deposition processes of local streams.

Drury west is contained in low-lying flat plains adjoining the Drury Creek coastal margin to the north, rising to mid to steep hill and valley landforms to the south. The coastal edge itself extends along a relatively small stretch of the study area. It exhibits a relatively high level of natural character, being strongly influenced by the Drury inlet of the Manukau Harbour Marine SEA.

To the south of Karaka Road, the area is most strongly influenced by Ngakaroa Stream which extends from the upper reaches in the south to meet Drury Creek inlet to the west of Drury Town Centre and SH1. This major stream is characterised by a broad valley with gently rising sides in the lower catchment and steeper sides in the upper catchment. A distinctive landscape feature of this area is the western escarpment of the Ngakaroa Stream which features the highest point of the study area in the south west corner and a distinctive bluff to the north of Burtt Road.

5.2 Hydrology

The central and northern areas of the Drury East FUZ drain into the Slippery Creek catchment. There are a number of significant streams contributing to this catchment that have their origin in the Hunua foothills and run across the lowland, merging into Slippery Creek close to the Manukau Harbour. These contributing streams include Waihoihoi, Symonds and Hays streams. The southwest part of the Drury East FUZ runs into the Hingaia Stream catchment. All of the streams form strong corridor patterns in the landscape and discharge into the Manukau Harbour.

The western part of the Drury West FUZ drains into the Oira creek catchment and discharges into the Manukau Harbour. The majority of the Drury West FUZ (central to eastern parts) runs into the Ngakoroa Stream catchment and discharges into the Manukau Harbour.

5.3 Land Use

Land use in the study area has been undergoing change for over twenty years. Commercial dairy farms, crop land and sheep / beef farming have been giving way to more intensive uses. As well as established uses, the new uses include lifestyle blocks, glasshouse crop production and horticulture. There has also been nearby expansion of urban subdivisions.

Existing land cover is predominantly pasture and is made of the following types[12]:

Drury East

- High Producing Exotic Grassland 991 ha
- Built-up Area 25 ha

[12] ARC GIS Land Cover Data Base

- Indigenous Forest 5 ha
- Orchard and other perennial crops 11 ha
- Other Exotic Forest 5 ha
- Short-rotation Cropland 48 ha
- Vineyard 1 ha

Total area **1086 ha**

Drury West

- High Producing Exotic Grassland 762 ha
- Built-up Area 19 ha
- Indigenous Forest 0.3 ha
- Estuarine Open Water 0.2 ha
- Mangrove 0.5 ha
- Deciduous Hardwoods 1 ha
- Short-rotation Cropland 65 ha

Total area **848 ha**

5.4 Landcover

5.4.1 Indigenous vegetation

Drury East is largely devoid of primary forest with approximately 5ha remaining. This is contained in isolated patches of small kahikatea stands.

Drury West is also largely devoid of primary forest with approximately 0.3ha of forest patches remaining. There are also small coastal salt marsh patches and adjoining mangroves along the northern coastal edges.

From a landscape character perspective, the remaining indigenous vegetation is significant because there is so little of it and it represents the last references to an earlier landscape character. Isolated patches of vegetation are vulnerable to edge effects, grazing and changes to water table levels. The areas of remnant indigenous vegetation require urgent protection and management to ensure their future and protect against inadvertent damage in the process of urbanisation. One course of action for longer term protection is to prepare comprehensive revegetation strategies.

5.4.2 Exotic vegetation

The study area was heavily wooded in pre-Maori settlement times. Remnants of the original vegetation remained on the flats and were recorded during the earliest European habitation of the Papakura area. Forest types comprised kauri and broadleaf forest in the upper forests, and primary kahikatea in the lowlands.

Successive land uses have resulted in less than 1% of the original vegetation remaining. Vegetation is now comprised predominantly of pasture land with short rotation and perennial crops, and some exotic forests.

Hedgerows and shelter belts comprised of exotic species cross the landscape. There is a distinctive eucalyptus row to the north of Sutton Road, but otherwise these hedgerows are reasonably undistinguished.

Small pockets of remnant kahikatea are found through the study area and these are both vulnerable to edge effects and changes in hydrology and especially valuable due to their scarcity.

In Drury West, the landscape is likewise dominated by pasture land associated with agriculture, horticulture and lifestyle land use. There are no native vegetation stands of note, although there is a significant stand to the southwest of Burtt Road which adds to the amenity of the area.

Exotic feature trees are scattered throughout the area, with a particularly prominent grouping on the high ground associated with the ridge between Oria Road and Jesmond Road.

6 Existing Landscape Character

Landscape character is a distinctive combination of landscape attributes that give an area its identity. It defines the complete and composite parts of a landscape that come together in a way that can be distinguished from other landscapes.

Attributes that typically shape the character of New Zealand Landscapes and give it its distinctive character include: geological origin and geomorphology; natural ecosystems; vegetation cover and land use history; spiritual and cultural associations; and patterns and intensity of current development.

Landscape characterisation is a process of interpreting the composite and cumulative character of a landscape; international best practice in characterisation has two dimensions of classification: the identification of distinctive types of landscape based on their distinctive patterns of natural and cultural features, processes and influences; and their geographical delineation. There is typically also a spatial ordering or hierarchy of landscape types and areas, classified at different scales. Characterisation does not rank or rate landscapes against each other - all landscapes have character.[13]

6.1 Overall Landscape Character

The study area exhibits a wide diversity of the landscape character, from the broad floodplains that rise to the Hunua foothills in the east, to the plains falling to the coastal edge in the north, to the steeper hill and valley landforms in the upper southern catchment. Overall the landscape is characterised by rural land uses and interactions with increasingly urban areas – especially to the north and south of Drury East.

In Drury East, the landscape character is strongly influenced by the Hunua Ranges which rise up on the eastern side and create both containment to the flood plains and a strong landmark reference for the study area. In places the plains and the toe of the foothills abut each other creating more complex landforms and localised containment along this edge. The study area also tends to be dominated by smaller scale lifestyle blocks compared to the wide-open areas to the west and as such possesses a more intimate landscape character.

The lower slopes of the Hunua Ranges create an immediate buffer of intermediate land cover between the sparsely developed hills and the plains which are becoming more intensely developed.

The rural land uses and dominant pasture cover in the south and central parts of Drury East creates a strongly rural landscape character. Towards the northern and western edges, this

[13] NZILA. 2010. Best Practice Note 10.1

character gives way to the influences of residential settlement patterns to become more urban in nature.

In Drury West, between the Drury Creek and Burtt Road, the landscape is flat to gently undulating. It is expressive of the underlying land-shaping processes associated with the lower stream and gully catchments. Dominant pasture cover, associated agricultural and horticultural patterns and disbursed rural buildings and ancillary structures give this area a strongly rural character.

Along the northern and eastern coastal edges the coastal margins with their associated mangroves and salt marshes give this area a distinctly coastal character. Islands within the inlet possess outstanding ecological values and contribute to a high amenity landscape setting along the margins of the FUZ. However, the landscape character is highly compromised towards the east near the motorway onramp as it is dominated by roading and transmission infrastructure.

The southern part of Drury West rises to higher hill and gully landforms with associated ridges, spurs and valley floors. The broad, flat valley of the Ngakoroa Stream and its second order streams in the headwaters strongly define the landscape character of the area. Two major ridgelines encircle the area. The south west end of one of these rises to the highest point within Drury West and features a visually prominent knoll. The dominant pastureland cover in this area expresses a strongly rural character.

6.2 Landscape Character Areas

11 Landscape Character Areas (LCA's), each with distinctive broad landscape values assigned to each contiguous landscape were identified. These LCA's are described fully in **Appendix B** and **Section 9** of this report and opportunities for landscape protection and enhancement in the new urban structure plan are identified.

7 Existing Visual Landscape

The visual catchment is the extent to which an area can be seen, both from within the study area looking outward, and internally. The visual catchment can be contained due to local landform and features such as hedgerows, resulting in restricted views. In other instances, views may be afforded to distant features such as faraway ridgelines or ocean horizons. The visual catchment relates to the viewer who may be looking from a fixed viewing point or may be travelling and therefore afforded transient views.

In order to help define the visual catchment, a zone of theoretical visibility was first established using GIS modelling. This helped to pinpoint the likely viewing catchment and key viewing points based on topography overlain with public roads and spaces. A site visit was then undertaken of the whole area and photographs were taken to identify the extent of visibility and key views from representative viewpoints. All photographs were taken from publicly owned land only. A viewpoint map was created and representative photographs relating to each of the LCA's is provided in the supplementary document – **Attachments: Landscape Maps and Photo Essay**.

The photographs were referred to in the preparation of this assessment to confirm key findings from the field assessment. It is important to note that it is not possible to capture all views and that every attempt has been made to select the best representative photos to inform the future structure plan.

Details of the visual catchment, visibility and visual quality are provided in the data sheets contained in **Appendix B** of this report. In broad terms, the Drury East visual catchment is contained by the steeply rising Hunua Ranges to the east, distant ridgelines of the Bombay Hills to

the south and Waitakere Ranges to the west. The easternmost part of the area has more locally contained due to the varied landform whereas the floodplains afford broad open views.

The northern part of Drury West affords distant views to the Hunua Ranges as the most noticeable external landmark. The coastal edge is generally not visible from large parts of the lowland plains, however highly scenic views are afforded from the coastal edge to the harbour.

Drury south is a vivid landscape distinguished by long view to the Bombay Hills and Hunua Ranges and highly scenic views along the Ngakaroa Stream with its broad valley and strong escarpment and bluff features.

8 Landscape and Visual Assessment

As this is a background investigation, the focus of the study is on defining existing landscape character and visual amenity and identifying opportunities to enhance the future urban landscape rather than evaluating landscape effects relating to any specific proposals. Further assessment will be required as the structure planning progresses.

Landscape and visual effects in relation to the study area consider the potential effects on the existing landscape character and amenity from the urbanisation. Landscape effects result from natural or induced change in the character or quality of the existing landscape. Where the landscape is assessed as possessing high existing landscape quality, the sensitivity to change is greater. Conversely, where the landscape quality is assessed as being low, the ability of the landscape to absorb change is greater.

Potential effects considered in this assessment relate to the following landscape attributes. These are detailed in **Appendix B** in relation to each of the 11 distinct LCA's.

Biophysical-Abiotic:

- Geophysical processes (Landform)
- Drainage patterns and processes.

Biophysical – Biotic:

- Vegetation type (native / endemic and exotic vegetation).
- Vegetation cover and patterns (quality of vegetation and evident relationship to landform, climate, mature historic land use and ecological factors).

Human attributes:

- Land uses / activities: buildings and structures (their presence / absence)

Visual amenity and visibility:

- Visual quality (legibility, coherence, setting, scenic quality)
- Visibility (Key views and audience to the LCA)
- Views (views afforded from the LCA)

8.1 Potential Landscape Character Effects from Urbanisation

8.1.1 Drury East

- Sensitivity of drainage patterns including the major low-lying flood plains and overland flow paths
- Change from rural patterns that distinguish the rural landscape and express the human processes associated with productive landscapes

- Sensitivity of the meagre remnant native bush patches that have ecological/biodiversity values. These are highly valuable due to their scarcity and highly vulnerable to edge effects and changes to the water table
- Severance of the natural patterns associated with the stream flow paths down from the Hunua Ranges
- Changes to the topography associated with the second order spurs extending into the area
- Change from the distinctive, intimate scale of settlement at the toe of the Hunua Ranges

8.1.2 Drury West

- Sensitivity of drainage patterns including the significant south to north draining stream corridors and overland flow paths
- Change from rural patterns that distinguish the rural landscape and express the human processes associated with productive landscapes
- Degradation of natural landforms, especially the distinctive upper catchment hills and valleys, including high ridges, knolls and escarpments
- Coastal edge effects associated with the Drury Inlet, relating to landscape amenity, cultural and ecological values

8.2 Potential Effects on Visibility and Visual Amenity from Urbanisation

8.2.1 Drury East

- Change to visual cohesion associated with the strongly rural character
- Change to scenic amenity associated with views across the flood plains to the distinctive Hunua Ranges backdrop
- Change to views from the southern area to the Bombay Hills
- Change to long views to the Waitakere Ranges
- Potential for visual dominance and overlooking effect if the ridges of the side spurs are built on
- Potential loss of visual landmarks in relation to high topography, views to the Hunua Ranges and the remnant patches of kahikatea

8.2.2 Drury West

- Change to visual cohesion associated with the strongly rural character
- Change to cohesive landform and views down the Ngakoroa Valley
- Fewer expansive views to the Bombay Hills and Hunua Ranges due to local containment created by new urban form, and thus reduced scenic amenity associated with long views
- Potential for visual dominance and overlooking effect if the ridges of the side spurs are built on
- Potential loss of visual landmarks in relation to high topography, especially the south west corner of the FUZ
- Potential to manage visual effects through strengthening of existing natural landscape patterns with plantings
- Change to visual amenity for transient viewing audience along SH1
- Change to of views to the Coastal Marine Area and coherent existing character

9 Landscape Opportunities and Constraints

The following landscape opportunities have been identified. Refer **Map 5 of the supplementary document: Attachments, Landscape Maps and Photo Essay and Appendix B of this report.**

9.1 General opportunities across all Landscape Character Areas

- Retain and reinforce the natural drainage patterns as the key organising element of the landscape framework
- Establish wide and contiguous esplanade plantings and a network of public open space reserves along stream corridors
- Protect public views to Hunua Ranges, Bombay Hills, and Waitakere Ranges. Careful block layout and road alignments are fundamental to protecting views and enhancing quality public realm and distinctive sense of place
- Adopt 'roads as places' approach to all new roads, to provide enhanced landscape amenity, public use and enjoyment and ecological corridors
- Potential to retain some shelterbelt planting, amenity tree stands and elements associated with rural landscape as an historic trace and memory of past settlement

9.2 Opportunities relating to individual Landscape Character Areas

Landscape Character Area 1: Drury East

- Create ecological linkages between the hill country natural areas and coast/lowlands using the natural drainage patterns
- Create an open space network along streams including connecting Opaheke Park to the hill country
- Create contiguous tracts of vegetation to connect mature native bush patches, enhancing scenic and ecological values, reducing edge effects and reinforcing natural landscape patterns
- Higher capacity for intensive urban development adjoining the Papakura urban edge to the north
- Manage the transition at the interface between the flood plains and the foothills to harness the natural character and amenity values of the foothills backdrop

Landscape Character Area 2: Drury East

- Create ecological linkages between the hill country natural areas and coast/lowlands using the natural drainage patterns
- Concentrate built form on higher elevation and avoid the floodplains
- Create contiguous tracts of vegetation to connect with mature native bush patches, enhancing scenic and ecological values, reducing edge effects and reinforcing natural landscape patterns
- Manage the transition at the interface between the flood plains and the foothills to harness the natural character and amenity values of the foothills backdrop

Landscape Character Area 3: Drury East

- Landscape capacity for urban development to integrate with the Drury South Business Project on the southern boundary. Opportunity to manage the interface though transition of scale, coordinated layout and integrated landscape framework
- Greater capacity for urban development as less impacted by major floodplains
- Harness amenity values relating to varied terrain and more intimate landscape scale at the transition between the flatlands and the foothills
- Provide open space link along distinctive knoll and side spur, connecting hills to Drury Centre
- Create ecological wild links between the hill country natural areas and coast/lowlands using the natural drainage patterns
- Create connected network of parks and public open space between the hill country natural area, coast/lowlands and Drury Urban centre and major transport network

Landscape Character Area 4: Drury West

- Establish an integrated landscape framework using the drainage patterns of the Oira and Ngakaroa streams and connections to the coastal edge
- Integrate the landscape framework with that of the adjoining Bremner Block
- Manage pattern of urban development along SH22 boundary to create green buffer and transition to the rural landscape further west
- Opportunity to create an integrated network of public open space along the high ridge between Jesmond and Oira Roads, integrating community facilities and minor commercial activities into a community hub
- Protect and enhance connections to SEA associated with the Drury and Oira Creek coastal areas
- Opportunity to integrate heritage cottage and established trees on ridge into public open space

Landscape Character Area 5: Drury West

- Strong influence of motorway and powerlines - diminished landscape amenity values
- Most strongly suited to green space associated with marine SEA, with primary terrestrial ecology function

Landscape Character Area 6: Drury West

- Low landscape character and amenity values together with proximity to SH1 suggest the future of this area is most suited to light industrial
- Potential for Ngakaroa Stream drainage in this area to adopt a constructed approach rather than a natural form

Landscape Character Area 7: Drury West

- Create visual buffer and noise mitigation along SH1
- Protect views to Hunua Ranges, including from southwest corner high point.
- Integrate new urban form with transmission line corridor
- Create connected network of parks and public open space including on high knoll

Landscape Character Area 8: Drury West

- Protect selected views to Hunua Ranges and wider views from high point at south west end of area

- Potential to connect the Ngakaroa Stream ridge with the future transport centre in a 'hub and spokes' pattern of streets, linear reserves and nodes

Landscape Character Area 9: Drury West

- Landscape framework using the major valley floor of the Ngakaroa Stream as the key organising element. Reinforce natural drainage patterns through contiguous wide esplanade plantings and public open space linear reserves
- Protect high ridgeline and bluff from development
- Potential for major open space linkages and ecological corridors along the northern ridge of the Ngakaroa Stream Valley, connecting distinctive high points and bluff along the way
- Protect selected views to Hunua Ranges and wider views from high point at south west end of area
- Potential for major park on high point at south west end of area and walkway along ridgeline dropping into LCA 8 river valley

Landscape Character Area 10: Drury West

- Harness views to Hunua Ranges by managing vegetation and new road locations, including at high point in south
- Protect views into valley to west and across to Waitakere Ranges
- Link to potential walkway in LCA 9

Landscape Character Area 11: Drury West

- Establish a wide esplanade reserve along the Oira and Drury Creek coastal edges, sufficient to protect the inherent landscape character and visual amenity values, public access and important ecological values of the marine SEA. It is considered that the 20m standard width is too narrow
- Potential to protect significant views along creek
- Potential to link to Bremner Road SHA coastal walkway

10 Overarching Development Principles and Methods

1. Establish an integrated landscape framework based on the natural landform and drainage patterns and processes that have shaped the existing landscape and give it its unique identity, by;
    - Developing a comprehensive landscape plan as part of the future structure planning
    - Establishing development in a way that minimises earthworks and visible cut and fill
    - Protection of interface between the lowlands and Hunua foothills
    - Promoting hubs of activity based around cultural and natural attractions
    - protection and promotion of high value landscapes, open spaces and heritage sites to enhance sense of place and distinctiveness
    - Establish a landscape transition between urban and rural in the area of the boundary

2. Maintain and enhance the integrity of the drainage patterns connecting the eastern foothills of the Hunua Ranges to the Manukau Harbour, by;
    - Identifying where development should be avoided in relation to the drainage patterns and establishing a public open space network in these areas
    - Creating block layouts and road alignments in relation to natural landscape patterns
    - Re-establishing ecological corridors along the natural drainage patterns featuring broad streams, wetlands and riparian planting
3. Maintain and enhance high visual amenity, by;
    - Strengthening the visual amenity of the waterway patterns by establishing contiguous swathes of riparian planting
    - Protection of scenic amenity especially in relation to the Hunua foothills backdrop
    - Connecting patches of significant ecological areas into an integrated urban forest
    - Developing a constructed nature typology for centres and neighbourhoods
    - Protecting views to distant landmarks including ridgelings
    - Establishing a transitional zone at the interface of the floodplains and the Hunua foothills that features a hill country natural character backdrop to the plains
    - Layout – alignments of roading network to afford important views
    - Identifying, protecting and/or enhancing the important physical landscape patterns and processes that have shaped the existing landscape and give it its unique identity
    - Identifying physical and visual connections that place the landscape in its wider context beyond the study area
4. Establish an integrated network of public open space to provide high amenity for the local community and enhanced natural and biodiversity values, by:
    - Connecting open spaces along natural features including gullies and ridges
    - Utilising streets as places as well as movement corridors
5. Maintain and enhance sustainability and liveability within the new urban environment, by;
    - Establishing an urban forest green network throughout the entire structure plan area and connecting to the wider landscape to support broad sustainability objectives including wild links, community and individual wellbeing, and global sustainability
    - Integrating sustainability principles throughout all landscape infrastructure

- Connection of patches of indigenous vegetation to create contiguous tracts

6. Establish a landscape transition between urban and rural areas to create a distinct edge and avoid the appearance of sprawl, by;

    - Establishing a legible and connected public open space network where possible at the edges of the new urban areas

    - Establishing a planting programme featuring signature tree species to delineate and integrate the different land uses

7. Promote high amenity open space hubs centred around cultural and natural attractions, by;

    - protection and promotion of high value landscapes, open spaces and heritage sites to enhance sense of place and distinctiveness

11 Conclusions

This assessment of the Drury structure plan area concludes that the landscape and visual effects of urbanisation will predominantly be low to medium, with the exception of the coastal edge and Ngakaroa Valley which are assessed as high. It is concluded that all areas can accommodate urban development with the appropriate mechanisms to mitigate adverse effects on the landscape.

Furthermore, there is an opportunity to significantly improve the natural landscape character from the current quality derived from agriculture, lifestyle and intensive cropping activities. This can be achieved by establishing an urban forest and open space network that will result in ecological and landscape amenity benefits through public use and enjoyment of an integrated open space network.

In summary, the following key landscape opportunities are identified:

- Retain and reinforce the natural drainage patterns as the key organising element of the landscape framework
- Establish wide and contiguous esplanade plantings and a network of public open space reserves along stream corridors
- Protect public views to Hunua Ranges, Bombay Hills, and Waitakere Ranges. Careful block layout and road alignments are fundamental to protecting views and enhancing quality public realm and distinctive sense of place
- Adopt ‘roads as places’ approach to all new roads, to provide enhanced landscape amenity, public use and enjoyment and ecological corridors
- Potential to retain some shelterbelt planting, amenity tree stands and elements associated with rural landscape as an historic trace and memory of past settlement
- Establishing an urban forest green network throughout the entire structure plan area and connecting to the wider landscape to support broad sustainability objectives including wild links, community and individual wellbeing, and global sustainability

Appendix A: Glossary

The following explains the technical terms used in landscape assessment. [14]

Landscape is the cumulative expression of natural and cultural features, patterns and processes in a geographical area, including human perceptions and associations.

Landscape attributes comprise biophysical features, patterns and processes; sensory qualities; and spiritual, cultural, and social associations, including both activities and meanings.

Landscape character is a distinctive combination of landscape attributes that give an area its identity.

Landscape classification is the placing of landscapes into different categories based on their character or type.

Landscape amenity is the natural and physical quality and character of an area (landscape) that contributes to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes (RMA 1991).

Landscape value derives from the importance that people and communities, including tangata whenua, attach to particular landscapes and landscape attributes.

Landscape evaluation is the process of identifying and/or comparing landscape values.

Landscape resilience is the ability of a landscape to adapt to change whilst retaining its particular character and values.

Landscape capacity is the amount of change that a landscape can accommodate without substantially altering or compromising its existing character or values.

Landscape sensitivity is the degree to which the character and values of a particular landscape are susceptible to the scale of external change.

Landscape vulnerability is the extent to which landscape character and values are at risk from a particular type of change.

Sustainable landscape management recognises and protects the distinctive, representative or typical attributes that define landscape character and values, through a process of integrated assessment, planning and design to meet the needs of both present and future generations.

Natural Character is the expression of natural elements, patterns and processes in a landscape.

Outstanding Natural Landscape is a natural landscape that is particularly notable at a local, district, regional or national scale.

[14] NZILA Best Practice Note 10.1, Landscape Assessment and Sustainable Management, New Zealand Institute of Landscape Architects (2010)

Appendix B: Landscape Character Area Tables

Landscape Character Area 1: Drury East: flat – low undulating rural lifestyle	
Area description	• To the north and west the area is defined by the existing urban development extent. • The east is defined by the toe of the Hunua Ranges foothills. • The south is generally defined by a ridge landform and skirts around the newly established Opaheke Sports Park.
Existing landscape character	
Biophysical-Abiotic: Geophysical processes (Landform) Drainage patterns and processes.	• Flat to low undulating rural lifestyle land. • Low lying, relatively flat drainage catchment with two conspicuous first and second order stream corridors central within site flowing south west to Slippery Creek. Stream corridors are generally grazed to edge with minimal ecological habitat visible.
Biophysical – Biotic: Vegetation type (native / endemic and exotic vegetation). Vegetation cover and patterns (quality of vegetation and evident relationship to landform, climate, mature historic land use and ecological factors).	• Pastural grass is the predominant land cover. • Scattered amenity tree plantings and unmaintained mature shelterbelts are the dominant vegetation cover. • Row plantings and a singular grove of mature English Oak trees to the south east adjacent Ponga Road are distinctive. • A conspicuous mature stand of native bush is located to the south east on the northern side of Ponga Road. There is also a small stand of mature kahikatea designated significant ecological located to the south west • Other than a few localised scattered trees there are no other distinctive areas of native vegetation within this area.
Human attributes: Land uses / activities: buildings and structures (their presence / absence).	• Mixed landuse but predominantly rural lifestyle. Production horticulture, (Black Bridge Nurseries to the north west and rotational cropping to the termination of Walker Road). • Perennial streams are grazed to edge and recessive. A grid field, driveway and farm race system are the more clearly expressed features. • Clustered housing adjacent Opaheke, Ponga and Walker Roads provide the dominant built form featuring single level dwellings and a scattered assortment of sheds. • A fragmented network of esplanade reserves, Hayes Creek Esplanade Reserve and Slippery Creek Esplanade Reserve, that run in parallel with Slippery Creek external to the northern boundary are interrupted when entering this area. • A newly established sports park, Opakehe Park, is bounded north, east and west by this area. • The North Island Main Trunk Rail corridor dissects north to south through this area.
Potential effect on landscape character from urbanisation	• Change to rural lifestyle pattern • Sensitivity of drainage patterns including overland flow paths • Sensitivity of existing stands of native bush and – ecological/biodiversity values
Existing visual landscape	
Visual quality (legibility, coherence, setting, scenic quality) Visibility (Key views and audience to the LCA) Views (views afforded from the LCA)	• The foothills of the Hunua Ranges, located to the east, are the most distinctive external landmark. The existing edge of urban development to the north is also conspicuous due to the intensity and bulk of built form and contrast with rural edge. • Low level of coherence as a rural lifestyle or rural agricultural landscape due to sense of encroaching urban edge, mixed scale of pasture, mixed levels of pasture management, lack of coherent vegetation patterns, mixed scale, intensities and levels of maintenance of built form. • Low levels of both indigenous and perceived natural character. • Occasional glimpses are afforded to the Bombay Hills and Pukekohe Hill in the south and the Waitakere Ranges to the north west but these are

	distant, infrequent and dependant on topography and vegetation allowing. • The area is highly visible from Opaheke Road, and the western portion of Ponga Road. • There is likely be significant overview from private rural residential development to the foothills of the Hunua Ranges.
Potential effect on visual values from urbanisation	• Potential loss of existing glimpsed views to Bombay Hills and Pukekohe Hill in the south and the Waitakere Ranges which provides context for landscape setting • Potential loss of visual connection to Hunua Ranges • Change in visual amenity values associated with the mature stand of kahikatea and other native bush
Sensitivity to change rating	Low
Opportunities for landscape protection, enhancement and new interventions	• Create contiguous tract of vegetation along streams to connect with mature native bush patches, reducing edge effects and reinforcing natural landscape pattern • Create connected network of parks and public open space • Enhance riparian edges and recreation opportunities along streams • Protect views to Hunua Ranges, Bombay Hills, and Waitakere Ranges • Protect and enhance patches of mature native vegetation for scenic and ecological values • Road alignments to harness scenic views of hills beyond – scenic amenity, distinctive sense of place, quality public realm • Views to the Hunua Ranges have been identified as important. The foreground to this landform is important as a result. There is opportunity for amenity enhancement at the edge transition to the foothills.

Landscape Character Area 2: Drury East: lowland flood plains – gently rolling rural lifestyle	
Area description	The north is defined by a ridge landform loosely reinforced by Ponga Road. The east is defined by the toe of the Hunua Ranges foothills. The south is defined by Waihoehoe Road which follows a low spur. The west is defined by the existing urban development extent.
Existing landscape character	
Biophysical-Abiotic: Geophysical processes (Landform) Drainage patterns and processes.	• Lowland flood plains to gently rolling rural lifestyle land. • Low spurs to the north and south and the foothills of the Hunua Ranges to the east encircle the area forming an enclosed drainage catchment landform. • The alignment of the main stream corridors appear meandering and generally unmodified. • Lowland floodplains with numerous higher order, (third, fourth, and fifth), stream corridors flow west from the foothills of the Hunua Ranges, converging with Slippery Creek around Opaheke Park. Much of this area is likely inundated during a 1 in 100-year storm event.
Biophysical – Biotic: Vegetation type (native / endemic and exotic vegetation). Vegetation cover and patterns (quality of vegetation and evident relationship to landform, climate, mature historic land use and ecological factors).	• Pastural grass is the predominant land cover. • Separate small stands of mature kahikatea are within an SEA. Stream corridors are generally fenced, narrowly, and feature a mix of deciduous exotic trees and distinctive but singular mature native species, dominated by kahikatea. • Scattered amenity plantings and shelterbelts are associated with the more rural lifestyle landuse. A large mature stand of eucalyptus to the north east of Sutton Road is conspicuous due to its vertical dominance.
Human attributes: Land uses / activities: buildings and structures (their presence / absence).	• A gridded field and road arrangement incorporates modified drainage channels feeding into natural stream corridors. • Landuse is predominantly rural lifestyle with larger sized field arrangements to the lower lying, wetter, central area Smaller field

	arrangements and clustered single level dwellings and farm sheds are located to the more elevated peripheries proximate to the surrounding roads. • The Drury Aerodrome is located central to the eastern boundary. • The North Island Main Trunk Rail corridor dissects north to south through this area.
Potential effect on landscape character from urbanisation	• Change to existing rural lifestyle character. • Change to existing rural lifestyle pattern. • Sensitivity of major drainage floodplain and overland flow paths. • Sensitivity of existing mature native bush patches and – ecological/biodiversity values.
Existing visual landscape	
Visual quality (legibility, coherence, setting, scenic quality) Visibility (Key views and audience to the LCA) Views (views afforded from the LCA)	• The foothills of the Hunua Ranges, located to the east, are the most distinctive external landmark. • There are localised views of the Waitakere Ranges to the north west but these are distant, infrequent and dependant on topography and vegetation allowing. • Highly visible from all immediate local roads including Ponga Road, Sutton Road, Waihoehoe Road and Appleby Road. Due to the flat topography, views from these roads are highly restricted by vegetation and built structures. • There would likely be significant overview from private rural residential development to the foothills of the Hunua Ranges. • There is a moderate level of coherence as a rural lifestyle or rural agricultural landscape due to the mixed scale of pasture, mixed levels of pasture management, lack of coherent vegetation patterns, mixed scale, intensities and levels of maintenance of built form and flat topography restricting internal viewing. • Stream corridors are clearly legible being reinforced by contiguous areas of vegetation and mature tree species.
Potential effect on visual values from urbanisation	• Change to visual amenity associated with rural landscape, especially in views from the adjacent Hunua Ranges. • Potential loss of strong visual connection to Hunua Foothills and distant views of Waitakere Ranges which provides context for landscape setting. • Change to visual amenity values associated with the mature native bush.
Sensitivity to change rating	**Medium**
Opportunities for landscape protection, enhancement and new interventions	• Retain and reinforce major natural drainage patterns through wide and contiguous esplanade plantings and public open space linear reserves. • Create connected network of parks and public open space. • Concentrate built form on higher elevation. • Protect views to Hunua Ranges and Waitakere Ranges. • Protect and enhance mature native vegetation, enhance streams. • Flood management as landscape opportunities. • Road alignments to harness views of Hunua Ranges and Waitakere Ranges– scenic amenity, distinctive sense of place, quality public realm. • Views to the Hunua Ranges have been identified as important. The foreground to this landform is important as a result. There is opportunity for amenity enhancement at the edge transition to the foothills.

Landscape Character Area 3 Drury East: flat – gently undulating rural lifestyle

Area description	Defined to the north by Waihoehoe Road which follows a low spur, eroded to form a separated knoll. Defined by the toe of the Hunua Ranges foothills. Defined to the south by Hingaia Stream. The west is defined by State Highway 1 and the North Island Main Trunk Rail corridor.
Existing landscape character	
Biophysical-Abiotic: Geophysical processes (Landform) Drainage patterns and processes.	• Landform is characterised by a low spur extending from the foothills of the Hunua Ranges separating two westerly flowing perennial stream corridors to the north and south • Two perennial stream corridors flow through the area to the west to Hingaia Stream. These are generally grazed to edge with localised exotic deciduous species dotted along the corridors. Sections of these corridors have been modified for pastural drainage purposes. A section of upper Drury Creek, located to the east, flows north through the area.
Biophysical – Biotic: Vegetation type (native / endemic and exotic vegetation). Vegetation cover and patterns (quality of vegetation and evident relationship to landform, climate, mature historic land use and ecological factors).	• Pastural grass is the predominant land cover. • The main vegetation type in the area consists of taller, well maintained shelterbelt plantings, characteristic of the rural lifestyle landuse in Drury. Plantings of exotic amenity species are clustered in conjunction and proximate to the single level dwellings associated with rural lifestyle landuse. • No stands of significant mature native vegetation or areas of contiguous native vegetation.
Human attributes: Land uses / activities: buildings and structures (their presence / absence).	• Rural lifestyle forms the predominant landuse with localised clusters of low intensity glasshouse horticulture production scattered throughout. • A rectilinear grid road and field arrangement are the dominant feature. This is reinforced by vegetation patterns aligning to fence lines, in particular, taller shelterbelt plantings. • Disbursed historic homesteads recall historic settlement.
Potential effect on landscape character from urbanisation	• Sensitivity of drainage patterns including overland flow paths. • Degradation of landform, especially secondary ridge and knoll.
Existing visual landscape	
Visual quality (legibility, coherence, setting, scenic quality) Visibility (Key views and audience to the LCA) Views (views afforded from the LCA)	• The foothills of the Hunua Ranges, located to the east, are the most distinctive external landmark. • There are localised views of the Waitakere Ranges to the north west but these are distant, infrequent and dependant on topography and vegetation allowing. • Views from the northern area are locally contained due to ridgelines of side spurs. • Southerly views to the Bombay Hills and Pukekohe Hill are afforded from the southern face of the spur landform. • The higher elevated spur land form, most notably the ridgeline and southern face are prominent from the surrounding rural agricultural greenfields to the south. The area has overview from State Highway 1 and Quarry Road. Publicly accessible local roads climbing the Hunua Ranges foothills, chiefly Macwhinney Drive also provide clear overview. • Internal local roads have restricted views due to the flat topography. • There would likely be significant overview from private rural residential development to the foothills of the Hunua Ranges. • There is a moderate to strong level of coherence as a rural lifestyle or rural agricultural landscape due to the mixed scale of pasture, mixed levels of pasture management and mixed scale and intensities of built form. • Low levels of both indigenous and perceived natural character.
Potential effect on visual values from urbanisation	• Change to coherence of rural landscape character. • Potential loss of strong visual connection to Huna Foothills and distant views of Waitakere Ranges which provides context for landscape setting. • Change to visual amenity values associated with localised landform.

Sensitivity to change rating	Medium
Opportunities for landscape protection, enhancement and new interventions	• Protect views to Hunua Ranges and Waitakere Ranges, Bombay Hills and Pukekohe Hill. • Keep built form off top of knoll and side spur. • Create contiguous tract of vegetation along streams, reinforcing natural landscape pattern. • Enhance riparian edges and recreation opportunities along streams. • Create connected network of parks and public open space. • Road alignments to harness scenic views of hills beyond – scenic amenity, distinctive sense of place, quality public realm. • Integration of landscape and public open space with Stevenson's future urban development to the south. • Views to the Hunua Ranges have been identified as important. The foreground to this landform is important as a result. There is opportunity for amenity enhancement at the edge transition to the foothills.

Landscape Character Area 4: Drury West: flat – gently rolling rural lifestyle	
Area description	Drury Creek forms the northern boundary. Bremner residential area - currently under development - forms the eastern boundary. Karaka Road forms the southern boundary. Oira Creek forms the western boundary.
Existing landscape character	
Biophysical-Abiotic: Geophysical processes (Landform) Drainage patterns and processes.	• Flat to low rolling rural lifestyle, lowland coastal flats with pasture grass as the dominant land cover. • High ridge with knolls, defining north east and southwest sub areas • The landform slopes away north, east and west, from a ridge which runs in a northeast direction between Oira Rd and Jesmond Rd, towards three surrounding waterbodies - Oira Creek, Drury Creek and Ngakoroa Stream. • Numerous first order perennial stream corridors flowing to both Drury Creek and Oira Creek, likely brackish in areas. Modified in areas with numerous dams and ponds and dissected by roads, driveways and other infrastructure.
Biophysical – Biotic: Vegetation type (native / endemic and exotic vegetation). Vegetation cover and patterns (quality of vegetation and evident relationship to landform, climate, mature historic land use and ecological factors).	• No Significant Ecological Areas or distinctive native vegetation within the area. • Drury Creek to the north and Oira Creek to the west are classified Marine 2 Significant Ecological Areas. In addition to these, Ngakoroa Stream adjacent to the east includes areas of both Terrestrial and Marine 1 Significant Ecological Area classification. • Plantings of exotic amenity species are clustered in conjunction and proximate to the housing associated with rural lifestyle landuse.
Human attributes: Land uses / activities: buildings and structures (their presence / absence).	• Landuse is predominantly lifestyle and agriculture. • A gridded road and field arrangement are the most dominant features, reinforced by fence lines and taller, well maintained shelterbelt plantings. • Built form is generally larger multi-level dwellings. Localised clusters of low intensity glasshouse horticulture production scattered throughout are also distinctive.
Potential effect on landscape character from urbanisation	• Change in lifestyle dominated land use and open, rural character. • Degradation of the coastal edge landscape values
Existing visual landscape	
Visual quality (legibility, coherence, setting, scenic quality) Visibility (Key views and audience to the LCA) Views (views afforded from the LCA)	• Karaka Road motorway demarcates the boundary between existing rural and urban landscapes and has a gateway effect. • Distant views east to the Hunua Ranges foothills are the only noticeable external landmark from current publicly accessible areas, (local roads). • Probable expansive views from the high ridge and knolls

	• The flat landform and enclosure created by shelterbelt plantings only affords intimate more immediate views. • A lack of public access and viewing points restricts any sense of the adjacent coastal edge. • Clearly coherent as a rural lifestyle landscape. • Low levels of perceived natural character and indigenous natural character.
Potential effect on visual values from urbanisation	• Change to rural gateway at Karaka Road. • Change to distinctive ridge and knoll landform. • Potential loss of visual connections to the Hunua Ranges, and expansive views from the high ridge and knolls. • Change in visual amenity associated with the rural landscape. • Potential loss of views to the inlet. • Visual dominance of the built form from Whangapouri Ridge Road to the west.
Sensitivity to change rating	Low
Opportunities for landscape protection, enhancement and new interventions	• Create green belt buffer along Karaka Road. • Create connected network of parks and public open space. • Public access and great park on higher ridge associated with potential future minor centre. Sensitivity of high ground in a generally low lying landscape, due to height and central location. Sensitive design of future minor centre required. • Protect and enhance SEA. • Retain some shelterbelt planting – reference to heritage. • Integrate heritage cottage and established trees into public open space. • Road alignments to harness scenic views of hills beyond – scenic amenity, distinctive sense of place, quality public realm.

Landscape Character Area 5: Drury West: flat coastal residential	
Area description	Ngakoroa Stream forms the northern and western boundaries. State Highway 1 forms the eastern boundary. Bremner Road forms the southern boundary.
Existing landscape character	
Biophysical-Abiotic: Geophysical processes (Landform) Drainage patterns and processes.	• Ngakoroa Stream to the west includes areas of both Terrestrial and Marine 1 Significant Ecological Area classification which include distinctive salt marsh flats.
Biophysical – Biotic: Vegetation type (native / endemic and exotic vegetation). Vegetation cover and patterns (quality of vegetation and evident relationship to landform, climate, mature historic land use and ecological factors).	• No distinctive native or exotic vegetation.
Human attributes: Land uses / activities: buildings and structures (their presence / absence).	• Very small area marooned between Ngakoroa Stream and SH1 with minor road frontage and access along Bremner Road. • Noise from SH1 dominates. • Low detached housing with close board timber fencing and associated amenity planting are the dominant feature. • Drury Sports Complex adjacent to the to the south across Bremner Road.

Potential effect on landscape character from urbanisation	• Degradation of the surrounding coastal salt marsh flats and associated ecological values. • Sensitivity of drainage patterns including overland flow paths.
Existing visual landscape	
Visual quality (legibility, coherence, setting, scenic quality) Visibility (Key views and audience to the LCA) Views (views afforded from the LCA)	• Visual quality low due to visual and acoustic effects of motorway and transmission pylons passing through the area. • Open views up Ngakoroa Stream corridor and its associated landform/vegetation aids in creating a coherent feeling of an upper coastal catchment landscape, however works have already begun on the Bremner Road urban development to the west which will negatively impact on views. • Moderate levels of indigenous natural character resulting from views across and up Ngakoroa Stream and associated salt marsh habitat.
Potential effect on visual values from urbanisation	• Little change from existing.
Sensitivity to change rating	**Very Low**
Opportunities for landscape protection, enhancement and new interventions	• High value SEA – Marine on boundary should receive significant protection. • Return full area to green space and water catchment area, with primary ecological function.

Landscape Character Area 6: Drury West: flat - gently sloping light industrial	
Area description	Generally, the north and western boundary is formed by Great South Road. The eastern boundary is defined by State Highway 1 and the southern boundary delineated by Quarry Road.
Existing landscape character	
Biophysical-Abiotic: Geophysical processes (Landform) Drainage patterns and processes.	• Flat to gently sloping light industrial land. • A small segment of Ngakoroa Stream cuts through the north-western edge of this area flowing from adjacent Ngakoroa Reserve, zoned Open Space Conservation under the Auckland Unitary Plan.
Biophysical – Biotic: Vegetation type (native / endemic and exotic vegetation). Vegetation cover and patterns (quality of vegetation and evident relationship to landform, climate, mature historic land use and ecological factors).	• No notable native vegetation. • Few tall stands of unmaintained pine shelterbelts and areas of exotic amenity planting.
Human attributes: Land uses / activities: buildings and structures (their presence / absence).	• Highly modified landform divided and segregated by the converging State Highway 1, Gt Sth Road, North Island Main Trunk Rail corridor, Quarry Road and Pitt Road. • Large footprint, double storey industrial sheds, large expanse gravel/asphalt hardstands and ancillary smaller sheds and shipping containers dominate.
Potential effect on landscape character from urbanisation	• Likely change from existing light industrial to residential, no significant effect.
Existing visual landscape	
Visual quality (legibility, coherence, setting, scenic quality) Visibility (Key views and audience to the LCA) Views (views afforded from the LCA)	• The foothills of the Hunua Ranges to the east are the most distinctive external landmark. • Very low lying land restricts any views to other distinctive distant landmarks. Generally open boundary to SH1 allows clear overview of this infrastructure and highway noise is conspicuous. • Area has clear overview from surrounding Great South Road, State Highway 1, and Quarry Road.

	• The area is coherent as light industrial land. • Negligible perceived and indigenous natural character.
Potential effect on visual values from urbanisation	• Potential change from existing light industrial to largely residential could result in reduced visual coherence.
Sensitivity to change rating	**Very Low**
Opportunities for landscape protection, enhancement and new interventions	• Consider possibility that some light industrial buildings remain and potential to use landscape enhancements to buffer new residential.

Landscape Character Area 7: Drury West: flat – gently rolling pastural	
Area description	Defined to the north by Quarry Road. Defined to the east by State Highway 1. Defined to the south by transmission corridor. Defined to the west by Great South Road.
Existing landscape character	
Biophysical-Abiotic: Geophysical processes (Landform) Drainage patterns and processes.	• Flat to gently rolling pastural land, east facing, sloping down from the highpoint of Great South Road towards State Highway 1. • Ridgeline with knoll at south west boundary • Two first order perennial stream corridors, generally grazed to edge. Highly modified with farm ponds and dams and alignments adjusted for field drainage and road improvements.
Biophysical – Biotic: Vegetation type (native / endemic and exotic vegetation). Vegetation cover and patterns (quality of vegetation and evident relationship to landform, climate, mature historic land use and ecological factors).	• No distinctive native vegetation. • Minimal distinctive exotic vegetation. Isolated amenity plantings adjacent dwellings.
Human attributes: Land uses / activities: buildings and structures (their presence / absence).	• Landuse is predominantly rural agriculture with rectilinear grid field arrangement reinforced by low hawthorne hedgerows and farm access tracks. • Few single level dwellings and farm sheds adjacent Great South Road. Isolated collection of industrial sheds to the north.
Potential effect on landscape character from urbanisation	• Change in rural character.
Existing visual landscape	
Visual quality (legibility, coherence, setting, scenic quality) Visibility (Key views and audience to the LCA) Views (views afforded from the LCA)	• The foothills of the Hunua Ranges to the east are the most distinctive external landmark. • A generally open boundary to State Highway 1, coupled with the easterly land orientation, allows clear overview to and from the corridor. Road noise associated with the highway is conspicuous. • Unobstructed overview from the surrounding local roads, Great South Road and Quarry Road. • The transmission corridor forming the southern boundary is distinctive. An additional transmission corridor, which cuts into and out of area, runs parallel with SH 1.

Potential effect on visual values from urbanisation	• Potential loss or reduction of views to Hunua Ranges. • Change to the visual amenity for transient viewing audience along SH1.
Sensitivity to change rating	**Very Low**
Opportunities for landscape protection, enhancement and new interventions	• Create visual buffer and noise mitigation along SH1. • Protect views to Hunua Ranges, including from southwest corner high point. • Enhance streams. • Integrate new urban with transmission line corridor. • Create connected network of parks and public open space including on high knoll. • Road alignments to harness scenic views of hills beyond -scenic amenity, distinctive sense of place, quality public realm.

Landscape Character Area 8: Drury West: flat - low rolling cropping and pastural	
Area description	Defined to the north by a low-lying ridge emphasised by Karaka Road. Defined to the east and south by a low-lying ridge extending adjacent Burtt Road. Defined to the west by a further low-lying ridge.
Existing landscape character	
Biophysical-Abiotic: Geophysical processes (Landform) Drainage patterns and processes.	• Flat to low rolling cropping and pastural land. • Low lying ridges encircle and define the boundaries of this area, loosely forming an enclosed river valley corridor. • Flat valley basin with perennial stream draining northeast to Ngakoroa Stream.
Biophysical – Biotic: Vegetation type (native / endemic and exotic vegetation). Vegetation cover and patterns (quality of vegetation and evident relationship to landform, climate, mature historic land use and ecological factors).	• Characterised by minimal vegetation cover. There are a few localised fragments of exotic shelterbelts and sporadic exotic amenity specimen trees. • No distinctive native vegetation apparent.
Human attributes: Land uses / activities: buildings and structures (their presence / absence).	• Karaka Road to the northern edge demarcates the boundary between existing rural and urban landscape and has a gateway effect. • Rectilinear land management patterns emphasized by highly modified drainage patterns, fencing arrangements and farm tracks. • Field scale is generally larger than others within the Drury area. • A centrally located very large glasshouse is dominant from Burtt Road, and together with localised, sparse clusters of low intensity glasshouses, reinforce the land use. • The North Island Main Trunk Rail corridor bisects northeast to southwest, generally following the low point through the area.
Potential effect on landscape character from urbanisation	• Change in the existing horticultural, cropping and pastural land character.
Existing visual landscape	
Visual quality (legibility, coherence, setting, scenic quality) Visibility (Key views and audience to the LCA) Views (views afforded from the LCA)	• The foothills of the Hunua Ranges to the east are the most distinctive external landmark. • Encircling ridges contain internally focused views. • Broad views to the north from Burtt Road. • Clearly coherent as a rural landscape. • Low levels of perceived natural character and indigenous character.

Potential effect on visual values from urbanisation	• Change in existing horticultural, cropping and pastural visual values. • Possible retention of large glasshouses. • Potential loss of views to the Hunua Ranges.
Sensitivity to change rating	**Medium**
Opportunities for landscape protection, enhancement and new interventions	• Protect selected views to Hunua Ranges and wider views from high point at south west end of area. • Potential for major park on high point at south west end of area and walkway along ridgeline dropping into LCA 9 river valley. • Retain and reinforce natural drainage patterns through contiguous esplanade plantings and public open space linear reserves. • Create connected network of parks and public open space. • Road alignments to harness views of Hunua Ranges–scenic amenity, distinctive sense of place, quality public realm.

Landscape Character Area 9: Drury West: Flat - steeply undulating pastural	
Area description	Defined to the north and west by a high, steeply formed ridge with distinctive bluff, loosely aligned in places with Burtt Road. Defined to the south east by a similarly formed ridge, falling north to the lowlands. Defined to the south by a Transmission Corridor demarcating the extent of the Future Urban Zone.
Existing landscape character	
Biophysical-Abiotic: Geophysical processes (Landform) Drainage patterns and processes.	• Flat to steeply undulating pastural land. • Upper catchment valley with two main higher order perennial stream corridors converging and flowing north to Ngakoroa Stream. • Valley landform is flanked by side slopes rising steeply up to prominent ridges to the northeast and southwest boundaries. These ridges encircle and define the boundaries of the landscape, reinforcing the enclosed river valley character. • The northwest ridge features a distinctive bluff, and a prominent high point in the south west corner at the interface with LCA 08. • The valley floor central to the area is flood prone. Much of this area is likely inundated during a 1 in 100-year storm event. • Stream corridors have localised modifications including numerous ponds and dams. These are generally clustered around the converging point of the two upper catchment streams.
Biophysical – Biotic: Vegetation type (native / endemic and exotic vegetation). Vegetation cover and patterns (quality of vegetation and evident relationship to landform, climate, mature historic land use and ecological factors).	• Pastural grass is the predominant land cover. • Contiguous exotic plantings generally line corridors, comprising willows and poplars. • Deciduous exotic amenity plantings are the predominant vegetation type with localised shelter belt plantings of pine. There is no native vegetation of note.
Human attributes: Land uses / activities: buildings and structures (their presence / absence).	• Largely in rural agricultural land with clustered lifestyle allotments associated with the higher ground proximate to Runciman Road and adjacent Burtt Road. • Field scale generally larger than other areas with open boundaries and generally oriented more sympathetically with landform and stream alignment.
Potential effect on landscape character from urbanisation	• Change to the existing rural character, although flooding might limit urbanisation in valley. • Sensitivity of major drainage valley and overland flow paths. • Limitations to development between the bluff and flood plain.
Existing visual landscape	
Visual quality (legibility, coherence, setting, scenic quality)	• The foothills of the Hunua Ranges to the east are the most distinctive external landmark.

Visibility (Key views and audience to the LCA) Views (views afforded from the LCA)	• Flanking ridges restrict external views reinforcing a more immediate internal overview of stream corridor valley. • Transmission corridor conspicuous forming a backdrop to the valley landform. • Localised overview is provided where Burtt Road aligns with the major ridge. Runciman Road running centrally through the area allows unimpeded overview at multiple locations. • Landform is reinforced by existing landuse and vegetation patterns creating a coherent pastural river valley character. • Stream corridors generally lined with contiguous exotic deciduous plantings which aid in expressing the alignment. • High perceived natural character but low indigenous natural character.
Potential effect on visual values from urbanisation	• Potential loss of long views to Hunua Ranges and reduced views along valley.
Sensitivity to change rating	**High**
Opportunities for landscape protection, enhancement and new interventions	• Retain and reinforce natural drainage patterns of the major valley floor and its tributaries, through contiguous wide esplanade plantings and public open space linear reserves. • Protect selected views to Hunua Ranges and wider views from high point at south west end of area. • Potential for major park on high point at south west end of area and walkway along ridgeline dropping into LCA 8 river valley. • Protect high ridgelines and bluff from development. • Create connected network of parks and public open space. • Road alignments to harness views of Hunua Ranges–scenic amenity, distinctive sense of place, quality public realm.

Landscape Character Area 10: Drury West: Flat – gently rolling rural lifestyle	
Area description	Defined to the north by the intersection of Pitt Road and Great South Road. Defined to the east by Great South Road. Defined to the west by a ridge defining the bounds of Landscape Character Area 09.
Existing landscape character	
Biophysical-Abiotic: Geophysical processes (Landform) Drainage patterns and processes.	• Flat to gently rolling rural lifestyle land. • Rising to an elevated ridge at the southern end. Several upper first order perennial stream corridors originate within the area before flowing west. These are modified to form amenity ponds and dams associated with the rural lifestyle.
Biophysical – Biotic: Vegetation type (native / endemic and exotic vegetation). Vegetation cover and patterns (quality of vegetation and evident relationship to landform, climate, mature historic land use and ecological factors).	• Pastural grass is the predominant land cover. • No native vegetation of note is apparent. • Field scale is generally smaller and enclosed by hedgerows, taller shelterbelt plantings or rows of amenity tree plantings, characteristic of rural lifestyle allotments in the Drury Area.
Human attributes: Land uses / activities: buildings and structures (their presence / absence).	• Rectilinear land management patterns emphasised through amenity and shelter belt plantings. • Built form is characterised by single story dwellings, set back from Gt Sth Road frontage, in clustered arrangements with multiple workshop, farm sheds and other ancillary structures.
Potential effect on landscape character from urbanisation	• Change in the existing rural lifestyle landscape character.
Existing visual landscape	

Visual quality (legibility, coherence, setting, scenic quality) Visibility (Key views and audience to the LCA) Views (views afforded from the LCA)	• There are views of the Waitakere Ranges to the northeast but these are distant, infrequent and dependant on topography and vegetation allowing. • Ridge forming the area provides clear overview to Landscape Character Area 09. • Clear views attained to this area from Great South Road. • Clearly coherent as a rural lifestyle landscape. • Low levels of perceived natural character and indigenous natural character.
Potential effect on visual values from urbanisation	• Potential loss of views. • Change to the lifestyle rural environment.
Sensitivity to change rating	Low
Opportunities for landscape protection, enhancement and new interventions	• Obtain views to Hunua Ranges by managing vegetation and new road locations, including at high point in south of LCA. • Protect views into valley to west and across to Waitakere Ranges. • Link to potential walkway in LCA 9. • Retain and reinforce natural drainage patterns through contiguous esplanade plantings and public open space linear reserves. • Create connected network of parks and public open space. • Road alignments to harness views of Hunua Ranges–scenic amenity, distinctive sense of place, quality public realm.

Landscape Character Area 11: Drury West: Coastal margin	
Area description	Margin along coastal area adjacent to LCA 4.
Existing landscape character	
Biophysical-Abiotic: Geophysical processes (Landform) Drainage patterns and processes.	• Flat to gently rolling coastal land. • Generally gently rolling rural lifestyle land falling to steeper coastal edge that drops away, external to the Future Urban Zone, to upper harbour mud flats and tributaries.
Biophysical – Biotic: Vegetation type (native / endemic and exotic vegetation). Vegetation cover and patterns (quality of vegetation and evident relationship to landform, climate, mature historic land use and ecological factors).	• Generally mature exotic tree species, predominantly deciduous amenity plantings or pine shelterbelts. • No notable mature native vegetation visible from publicly accessible locations. • Coastal margins falling within Future Urban Zone generally scrub dominated by weed species, (Pampas and Gorse), with native species regenerating amongst.
Human attributes: Land uses / activities: buildings and structures (their presence / absence).	• Coastal margin has existing buffer fencing and planting in most places. • LCA shown as 100m wide for discussion, intent to buffer SEA-Marine and provide walk / cycle / revegetation. • In pasture predominantly.
Potential effect on landscape character from urbanisation	• Coastal margin planting and fencing might be altered. • Pastural context will be lost.
Existing visual landscape	
Visual quality (legibility, coherence, setting, scenic quality) Visibility (Key views and audience to the LCA) Views (views afforded from the LCA)	• Many good views along Oira Creek and across to rural land on other side of creek. This is currently restricted however due to existing exotic vegetation and lack of publicly accessible locations. • Coherent pattern of lifestyle blocks, pasture and coastal edge.

Potential effect on visual values from urbanisation	• Potential loss of views to the CMA and coherent existing character.
Sensitivity to change rating	High
Opportunities for landscape protection, enhancement and new interventions	• Potential to form significant walk / cycle / ecological landscape. The width of the esplanade reserve should be sufficient to protect the inherent landscape character values. It is considered that the 20m standard width is too narrow. • Potential to protect significant views along creek. • Potential to link to Bremner Road SHA coastal walkway.


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