

# Addendum

Project:	<b>Stage 2 P2B</b>	Reference No.	<b>506207-0590-FRM-NN-0004</b>	Revision	<b>A</b>
To:	<b>NZ Transport Agency Waka Kotahi</b>	From	<b>Natarsha Lamb-Egar</b>		
Date	<b>21/05/2024</b>	Pages	<b>9</b>		
Subject	<b>Landscape and Natural Character Assessment</b>				

## Glossary of Abbreviations

Abbreviation	Term
GSR	Great South Road
LCT	Landscape Character Type
LVA	Landscape and Visual Assessment
NoR	Notice of Requirement
NoR 1	Alteration to the SH1 Designation 6706
NoR 2	Alteration to the SH1 Designation 6700
NoR 3	Alteration to the SH1 Designation 6701
NoR 4	Shared User Path between Quarry Road and Bombay Interchange
NoR 5	Drury South Interchange Connections
P2B Project	Papakura to Bombay Project
(the) Project	Stage 2 of the P2B
SEA-T	Significant Ecological Area – Terrestrial
P2B	SH1 Upgrades Project between Papakura to Bombay
SH1	State Highway 1, the southern motorway
SUP	Shared Use Path
ULDF	Urban and Landscape Design Framework

## Addendum

This addendum is undertaken in response to a section 92 request from Auckland Council, to provide a broader description of the Landscape Character Types present at, and subsequent assessment for, Stage 2 Papakura to Bombay. This Landscape Character assessment (LCA) is an addendum to the Landscape and Visual Assessment (LVA), replacing the previous identification and assessment of landscape and natural character (LVA section 4.2). The previous identification of character zones was taken from *Stage 1B2 Papakura to Drury South SH1 - Urban and Landscape Design Framework* (the *ULDF*), to provide consistency with endorsed reports. However, further detail was requested by NZTA in line with typical identification of landscape character as described in this addendum.



# 1 Identification of Landscape and Natural Character

## 1.1 Landscape Character Types

Landscape Character Types (LCT) help to identify unifying aspects of the landscape and distinguish how one landscape is visually distinct from another. The LCTs have been determined through a desktop assessment and confirmed through a site visit by the landscape team. As guided by New Zealand Landscape Assessment Guidelines (Te Tangi a te Manu, 2022), each LCT identified is based on the consideration of the following attributes:

- Landscape value, e.g. landscapes identified for their scenic or landscape importance or valued recreational function;
- Landscape elements that contribute to defining character, e.g. residential, commercial and landform;
- Landscape character attributes, e.g. scale, grain, perceptual characteristics such as connection to natural landscape, industrial nature of the area;
- Observed land uses and current and future land use zones outlined in strategic planning documents and Local Environmental Plans; and
- Topography and vegetation.

The LCTs identified within the Study Area (one kilometre buffer from corridor – refer LVA report), as shown in Figure 1-1 and include the following, as described below.

- LCT 1: Town centres
- LCT 2: Suburban residential
- LCT 3: Rural productive blocks
- LCT 4: Light industry
- LCT 5: Waterway reserves
- LCT 6: Education (private)

Some of these landscape character types occur in different locations along the route rather than being contiguous.

Roads are assumed to take on the character of adjacent LCTs.

### 1.1.1 LCT 1: Town centres

The Study Area includes both existing and proposed developments. They typically include (or are proposed to include) mid-storey commercial buildings and public urban spaces, serving as community hubs.

- Drury Centre Development (enabled by Plan Change 48) is an urban development in design phase, proposed to have a commercial town centre and residential housing. This will be connected to the new Drury Railway Station along Flanagan Road / Great South Road (SH22). The land is zoned Business – metropolitan centre. Building heights are permitted up to 72m.
- Drury West/Auranga town centre (enabled by Plan Change 51), is another urban development in design phase, adjacent to a potential high-density residential development. A range of uses are proposed surrounding a town square, including retail, commercial, leisure, cultural, community and civic activities. The land is zoned Business - town centre. Building heights are permitted up to 27m.



- Mill Road roadside service centre comprising motorway service stations, eateries, car parking and public toilets. It marks the top of the Bombay Hill, gateway to between Auckland and the Waikato, and the interchange for Pukekohe. Fast food cafes are located to the southwest and southeast of the interchange. The land is zoned Business – neighbourhood centre.

### **1.1.2 LCT 2: Suburban residential**

The suburban residential character within the Study Area comprises existing and new developments associated with the following residential land zones:

- Terrace Housing and Apartment Buildings;
- Mixed Housing suburban;
- Mixed Housing urban; and
- Rural and coastal settlement (Bombay township).

Within these residential suburbs of Drury (east of SH1), Ngākōroa (west of Drury/SH1), Hunua Views/Ramarama and Bombay there are occasional local neighbourhood parks which consist of larger trees, grassed areas and playgrounds. Dwellings are typically one to two stories in height and setback from the road, with low fencing to the fronts and high fencing to the sides and back. The streetscapes are complemented with grassed nature strips and occasional trees. The presence of built form (houses and roads) is more noticeable than natural features.

### **1.1.3 LCT 3: Rural productive blocks**

South of Drury, the landscape is of a more rural character with the following land zones:

- Mixed rural (west of SH1);
- Rural production (east of SH1); and
- Countryside living (west of Great South Road).

Much of the Study Area is outside of the Rural Urban Boundary; and comprises large paddocks used for growing crops, although there are many lifestyle blocks within the LCT.

The rural blocks are divided by fencing, wind rows of native and non-native vegetation; and often comprise farm sheds and a residential dwelling. The land used for a variety of productive uses including grazing (sheep, cattle and goats), vegetable crops and fruit trees. Land is gently undulating, with hills to the south around the Bombay Hills being a key feature. The area comprises hill country with a patchwork of planted vegetation and remnant native vegetation, contrasting with surrounding pasture and market gardens, which reinforce the rolling to incised nature of the local rural landscape.

There are some areas of remnant native vegetation noted as Significant Ecological Areas – Terrestrial (SEA-T) and an area of Outstanding Natural Feature (ONF) – (the Ingram Road III tuff ring), of geological significance. These contribute to the natural and geological characters of the area, though it is noted the Project avoid physical impacts to these.

### **1.1.4 LCT 4: Light industry**

Light industry character areas comprise those areas to the north of the Study Area through Drury, Drury West and Drury South, zoned as business mixed-use, light industry and future urban zones.

Typical features of these areas comprise building depots and large storage yards with sheds up to two storeys in height. These are highly modified landscapes with little to no natural characteristics.

Buildings are typically of little aesthetic value, including large sheds and factories made from building materials ranging from corrugated steel, timber, brick, and concrete.



Medium industrial activity includes depots for distributors, automotive and mechanical works; within large storage yards with sheds up to four storeys in height. These areas are frequented within standard working hours, by workers or visitors seeking goods or services.

The large transmission towers traversing parallel to SH1, contribute to the industrial character due their scale and clearance of trees and structures around them.

Though zoned 'Future Urban', the area to the west of Drury is likely to transition to light industry with consent for this land use approved to the south of this area.

#### **1.1.5 LCT 5: Waterway reserves**

The Study Area features several important waterways, including the Hingaia, Maketu (east of SH1), and Ngākōroa (west of SH1) Streams. These streams are characterised by their narrow and winding nature, with banks that are either grassed or have a mix of shrubs and trees. Currently, the ecological quality of these waterways is degraded due to factors such as stock access, the presence of non-native and weed species, and limited native riparian vegetation. However, future development plans include efforts to revegetate these streams, which would result in improved riparian corridors.

The Ngākōroa Stream, located to the west of the Drury Sports Complex and SH1, is an estuarine stream within the Study Area. It benefits from abundant riparian vegetation, and there are several low-lying wetland areas, especially towards the north, closer to the Pahurehure Inlet. The waterway floodplains in this area are home to both passive and active recreational reserves, such as the Drury Sport Complex. This complex features sports fields, courts, a clubhouse, and car parking. It is commonly utilized by sports clubs and groups on weekends and in the evenings.

The waterways and adjacent waterway reserves in the Study Area hold significant aesthetic value and offer opportunities for recreation and the observation of flora and fauna. As part of the Drury Centre Development, the Hingaia Stream open space corridor will be enhanced, providing recreational paths and public open space.

There are some areas of remnant native vegetation noted as Significant Ecological Areas – Terrestrial (SEA-T) within the south of the LCT. Though native vegetation is considered to contribute to the natural characteristics of an area, it is noted that the Project avoids any physical impacts to these.

#### **1.1.6 LCT 6: Education (private)**

St Stephens School/Tipene is a former boarding school established in 1844 (opening in 1849) as a Māori boys' school and boarding house. It was closed in 2000, however has enrolments open for 2025. The school is situated in extensive grounds in a rural setting, comprising notable trees (London Planes) within the driveway at Great South Road, formal main school buildings built in the 1920s and accommodation/staff and working buildings and sheds. The Bishop Selwyn Memorial is located within a reserve adjacent the school, on the east side of SH1, comprising trees (Puriri and Norfolk Island Palms). The school and boarding house, and memorial cairn are of regional heritage value. The avenue of London Plane trees framing the school driveway are of high landscape and amenity value.

## **1.2 Natural character**

The Hingaia and Maketu Streams catchment is an important element within the landscape and a noticeable natural attribute for Drury South. It is considered a taonga (treasure) by Mana Whenua. The health of the waterway is directly affected by the health of the tributaries spread from Drury Hills to the east. As such, it is expected that future urban development will be sensitive to the existing hydrological system and follow water sensitive urban design principles.



The existing stream environments are of moderate to low ecological value due to modification by human activity, animal grazing and presence of exotic and pest plant species. There remain some areas of planted native species such as mānuka, kānuka, and cabbage trees. Restoration planting along the waterways has been undertaken in some waterway sections and continued restoration is the objective of surrounding urban developments. The future environment of the Hingaia Stream floodplain near Quarry Road at Drury South Crossing, is for a public open space which comprises '*riparian enhancement designed to achieve ecological, recreational and cultural benefits, and to reflect traditional pathways through the basin.*' (<https://www.drurysouthcrossing.co.nz/masterplan-1>, November 2023).

# Addendum

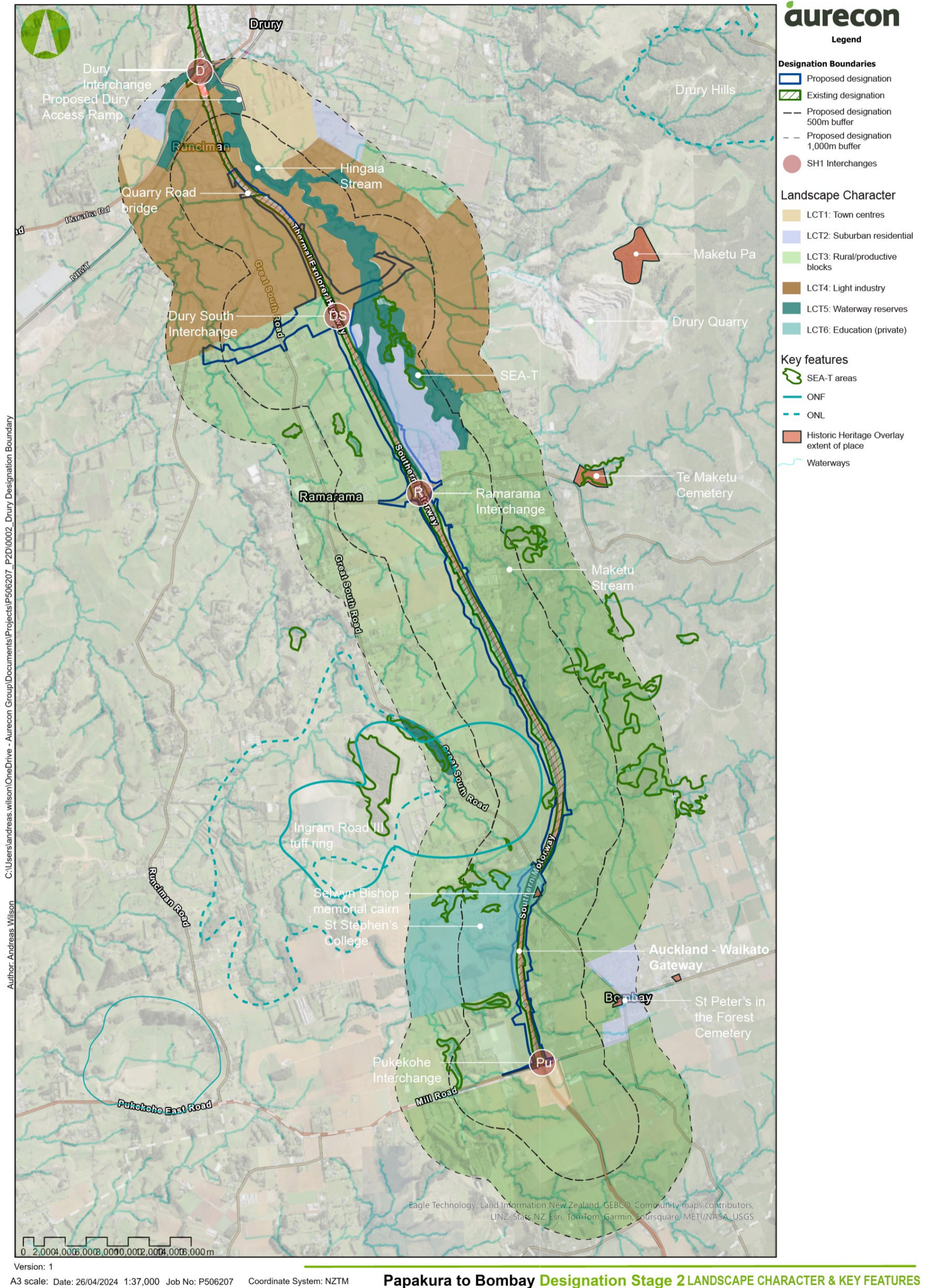


Figure 1-1: Landscape Character Types and key features within P2B Study Area

# Addendum

## 2 Assessment of Landscape and Natural Character

### 2.1 Landscape Character Effects

The level of modification to the existing landscape character has been assessed based on the broad effects of the Project as outlined below in Table 2-1. Refer to Section 3 of the LVA for the assessment methodology.

Table 2-1: Assessment of LCT effects

Landscape Type	Construction effects	Operational effects (at year 1)	Rationale
<b>LCT 1: Town centres</b>	No effect	No effect	The Project modification to the Mill Road/Pukekohe Interchange will comprise widening of the road and pedestrian paths for provision of the SUP (NoR 3 & 4). This will have no effect on the landscape character of the roadside service stop, which presence is dependent on motorists and the interchange. There is no physical effect to Town centres at Ngākōroa or Drury (NoR 1).
<b>LCT 2: Suburban residential</b>	No effect	No effect	The Project only has potential to effect LCT 2 at Hunua Views (NoR 2), due to corridor widening and earthworks to embankments which near to existing houses. The proposed changes will have a negligible magnitude of change to the character, commensurate with the existing motorway and influence it has on the residential area.
<b>LCT 3: Rural productive blocks</b>	Low adverse (NoR 2 & 5)  No effect (NoR 3)  Low adverse (NoR 4)	Low adverse (NoR 2 & 5)  No effect (NoR 3)  Low adverse (NoR 4)	<p>NoR 2 - the Project cuts through LCT 3 with the introduction of Drury South Interchange, through to Great South Road. This is a small portion of the LCT, near to LCT 4 Light Industry (FUZ) and already influenced by road infrastructure adjacent SH1 and GSR. The upgrades to Ramarama Interchange will encroach into LCT 3 to the northwest of the interchange, already highly influenced by motorway infrastructure.</p> <p>LCT 3 is already influenced by motorway infrastructure which is commensurate with NoR 3 upgrades including additional road lanes and earthworks to embankments.</p> <p>NoR 4 SUP will encroach into LCT 3 to the west side of SH1. This takes the edge of some land used for grazing and production, however, is already influenced by motorway infrastructure. The magnitude of change is considered low. The introduction of stormwater swales and landscape vegetation to embankment, is likely to enhanced natural characteristic experienced across the wider LCT.</p> <p>Construction will present a temporary change to the baseline condition that is a very low contrast.</p>



<b>LCT 4: Light industry</b>	No effect (NoR 1,2 & 4)	Low positive (NoR 1,2 & 4)	NoR 1,2 & 4 – the SUP, stormwater and landscape works will be partially in land zoned FUZ / light industry. LCT 4 is able to absorb the changes, given it's a highly modified environment. The landscape planting a SUP is likely to enhance the buffer between the motorway and adjacent LCT.
<b>LCT 5: Waterway reserves</b>	Moderate adverse (NoR 5)	Low adverse (NoR 5)	<p>The construction of the Drury South Link Road comprises extensive earthworks in a floodplain and sensitive waterways. The formation of embankments to the road and introduction of bridge piers in a flood plain, present a clear change to the riparian character, though these works are limited to a small area within a broad character zone.</p> <p>Within NoR 5, there is a low level of modification to a small area of Hingaia Stream and open space area, with an increased amount of infrastructure with the introduction of the Drury South Link Road and bridge. Bridge piers will be located within the floodplain and not within the stream banks. Recreational trails will traverse beneath the bridge, not interrupting open space use.</p>
<b>LCT 6: Education (private)</b>	Low-moderate adverse (NoR 4)	Low adverse (NoR 4)	<p>Construction of SUP bridge overpasses and road underpasses are noticeable works in the existing transport corridors, providing a barely noticeable change to the landscape character. The removal of trees at St Stephens School will have a temporary effect to the landscape amenity of the driveway.</p> <p>Mitigation comprising replanting of driveway trees (species to be confirmed and decided through consultation with the school and Manu Whenua), will reinstate the landscape amenity. The elevated SUP is an introduced built element which will be noticed.</p>

## 2.2 Natural Character Effects

The level of modification to the existing natural character has been assessed based on the broad effects of the Project as outlined below in Table 2-1.

Table 2-2: Assessment of Natural Character effects

NoR	Construction effects	Operational effects	Rationale
<b>NoR 1-3</b>	Low adverse	Low adverse	There is limited change to waterways within the Study Area, with native planting proposed in new wetlands/ stormwater treatment swales, beneficial for the health of waterways and localised works to existing culverts. The Project has a low magnitude of change to the natural character.
<b>NoR 4</b>	No effect	No effect	There is no modification to the ONF or disturbance to areas of SEA-T.





<b>NoR 5</b>	Low adverse	Low adverse	<p>The construction of the bridge will have temporary low effects to a localised area of the Hingaia Stream floodplain, with the presence of construction vehicles and installation of bridge and bridge piers.</p> <p>The bridge traverses over the Hingaia Stream and surrounding floodplain, with earthworks to form embankments to the road where it connects at the interchange and Quarry Road. The alignment option avoids multiple stream crossings (refer Assessment of Alternatives report), mitigating direct impacts to the waterway. The bridge over and embankments presents a low magnitude of change for the natural character of the waterway.</p>
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## 2.3 Recommendations

Refer to Section 10 of the LVA for recommendations to limit landscape and natural character effects.

The landscape and natural character effects can typically be managed by these recommendations, with design refinements undertaken in the detailed design phase and replacement tree planting planned at an early stage to provide screening and reinstate landscape amenity.

## 3 Summary

Effects to the landscape and natural character have been assessed at the construction and operational phases, against the baseline conditions. The residual effects have also been provided in Table 3-1.

Table 3-1: Summary of Landscape Character Effects

	Construction Effects	Operational Effects	Residual Effects
<b>LCT 1: Town centres</b>	No Effects	No Effects	No Effects
<b>LCT 2: Suburban residential</b>	No Effects	No Effects	No Effects
<b>LCT 3: Rural productive blocks</b>	Less than minor adverse (NoR 2 & 5)	Less than minor adverse (NoR 2 & 5)	Less than minor adverse (NoR 2 & 5)
	No effect (NoR 3)	No effect (NoR 3)	No Effects
	Less than minor adverse (NoR 4)	Less than minor adverse (NoR 4)	Less than minor adverse (NoR 4)
<b>LCT 4: Light industry</b>	No Effects (NoR 4)	Less than minor positive (NoR 4)	Less than minor positive (NoR 4)
<b>LCT 5: Waterway reserves</b>	More than minor adverse (NoR 5)	Less than minor adverse (NoR 5)	Less than minor adverse (NoR 5)
<b>LCT 6: Education (private)</b>	Minor adverse (NoR 4)	Less than minor adverse (NoR 4)	Less than minor adverse (NoR 4)

There are local effects for Rural productive blocks (LCT 3), Waterway Reserves (LCT 5) and Education (LCT 6); due to introduction of the SUP (NoR 4), stormwater swales with vegetation (NoR



2&3) and introduction of a bridge over a waterway; that partially encroach into adjacent land and increase the presence of built infrastructure. The effects during construction have a higher modification due to tree removal and extent of construction areas.

The adverse effects are sufficiently mitigated through landscape buffers surrounding the SUP and motorway upgrades. These landscape buffers are likely to have a positive effect to adjacent Light Industry (LCT 4) areas.

The proposed modifications to the Mill Road/Pukekohe Interchange will have minimal effect on the landscape character of the roadside service stop.

Once operational, the introduction of the Drury South Interchange and upgrades to the Ramarama Interchange will also have limited effects on LCT 3, which is already influenced by existing road infrastructure. There will be Less than Minor changes to a small area of the Hingaia Stream and open space in NoR 5 due to the Drury South Link Road and bridge, but this will not significantly disrupt open space use. The Project will not affect waterway reserves to the north of the Study Area, and while the removal of trees at St Stephens School will temporarily impact the landscape, mitigation measures will be taken to restore the amenity.

Overall, there will be less than Minor effects to the Natural Character within the Study Area, with native planting proposed for new wetlands and stormwater treatment swales. The Project's magnitude of change to the natural character is considered low. The bridge over the Hingaia Stream and the associated embankments present a minimal magnitude of change to the natural character of the waterway, as it avoids multiple stream crossings and mitigates direct impacts on the waterway.

There will be no modification or disturbance to areas of outstanding natural features (ONF) or areas of significant ecological (SEA-T) or archaeological value.