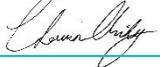


Warkworth Package Landscape and Natural Character and Visual Assessment

May 2023

Version 1.0

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Appendix A: Graphic Attachments

Appendix B: NPS:UD, MDRS, PC78 and Warkworth Structure Plan

Appendix C: Effects ratings and RMA Terminology

Glossary of Defined Terms and Acronyms

Acronym/Term	Description
AEE	Assessment of Effects on the Environment report
AT	Auckland Transport
AUP:OP	Auckland Unitary Plan: Operative in Part
CEMP	Construction Environmental Management Plan
CPTED	Crime Prevention through Environmental Design
FULSS	Future Urban Land Supply Strategy
FUZ	Future Urban Zone
ha	Hectares
HNC	High Natural Character
km	Kilometres
LNCVA	Landscape and Natural Character and Visual Assessment
MDRS	Medium Density Residential Standards
NPS	National Policy Statement
NPS:FM	National Policy Statement on Freshwater Management
NPS:UD	National Policy Statement on Urban Development
NOR	Notice of Requirement
NOR 1	Northern Public Transport Hub and Western Link - North
NOR 2	Woodcocks Road – West Upgrade
NOR 3	State Highway 1 – South Upgrade
NOR 4	Matakana Road Upgrade
NOR 5	Sandspit Road Upgrade
NOR 6	Western Link - South
NOR 7	Sandspit Link
NOR 8	Wider Western Link - North
NZ	New Zealand
ONC	Outstanding Natural Character
ONF	Outstanding Natural Features
ONFL	Outstanding Natural Features and Landscapes

Acronym/Term	Description
ONL	Outstanding Natural Landscapes
PC78	Plan Change 78
QEII	QEII National Trust Covenant
RUB	Rural Urban Boundary
RMA	Resource Management Act 1991
SEA	Significant Ecological Area
SH1	State Highway 1
Te Honohono ki Tai	Matakana Link Road
Te Tangi a te Manu	Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines
Te Tupu Ngātahi	Te Tupu Ngātahi Supporting Growth Alliance
ULDMP	Urban Landscape and Design Management Plan
Waka Kotahi	Waka Kotahi New Zealand Transport Agency
Warkworth Package	The combined term for all eight NORs covered in this assessment

1 Executive Summary

Overview

The Warkworth Assessment Package is a network of planned transport infrastructure with the purpose of responding to planned future growth in the Warkworth growth areas. The transport network is made of eight NORs including new corridors, existing road upgrades, and a public transport interchange with park and ride.

Table 1. Warkworth Assessment Package – NOR and Project Overview

Notice	Project
NOR 1	Northern Public Transport Hub and Western Link - North
NOR 2	Woodcocks Road – West Upgrade
NOR 3	State Highway 1 – South Upgrade
NOR 4	Matakana Road Upgrade
NOR 5	Sandspit Road Upgrade
NOR 6	Western Link - South
NOR 7	Sandspit Link
NOR 8	Wider Western Link - North

Methodology

This Landscape and Natural Character and Visual Assessment (LNCVA) has been undertaken using best practice guidance for landscape assessment as provided by 'Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines', Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022 (Te Tangi a te Manu). The New Zealand Institute of Landscape Architects seven-point scale of effects has been used in this report when assessing the potential landscape effects arising from the Warkworth Package. The effects scale ranges between "Very Low' to 'Low' to 'Low-Moderate' to 'Moderate' to 'Moderate-High' to 'High' to 'Very High' (Table 2).¹

Table 2 Effects rating table

Very Low	Low	Low-Moderate	Moderate	Moderate-High	High	Very High
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Existing and likely receiving environment

The proposed designations are located within and around the town of Warkworth. Warkworth is currently a Satellite Town of Auckland and acts as a rural node. The urban hub is located around the

¹ Rating of effects in relation to Resource Management Act terminology is provided in Appendix C.

town centre and Mahurangi River, however, future planning will enable significant business and urban growth in the area. Future zoning will see this urban character expand into the surrounds of the existing town centre.. As such, those areas of the Warkworth Package which are currently greenfield sites will likely have transformed to an urban environment approximately the same time that the proposed transport corridors are implemented. If urbanisation has not occurred, the roading corridors will not need to be built.

Within this LNCVA it was assumed that this future likely environment was undertaken in accordance with the National Policy Statement Urban Development (NPS:UD) and the Auckland Council Proposed Plan Change 78 – Intensification (PC78), which would be informed by the Warkworth Structure Plan. It is this expected environment which formed the basis for effects to be assessed against. Within this LNCVA, assumptions have been made on the expected likely future environment, these are based on the current National Policy Statements encouraging greater density, the AUP:OP with its existing zoning and FUZ, the Warkworth Structure Plan, and Auckland Council documents on subdivision. The overarching policy direction comes from the National Policy Statements, such as the NPS:UD and the accompanying Medium Density Residential Standard (MDRS).

1.1 Assessment of effects

1.1.1 Overall Warkworth Network

The Warkworth Package will introduce an extensive transport network into Warkworth, which is anticipated to result in modifications to existing residential, rural and light industrial areas, earthworks, vegetation removal, waterbody modification and potential modification to heritage and cultural sites. However, the proposed designations will also provide the opportunity to improve connectivity between existing roads, improve road user safety, enhance active and public transport modes, better connect people and fauna with existing bush and riparian margins, increase the extent and quality of indigenous vegetation, and highlight heritage and cultural narratives in the landscape.

With the implementation and establishment of recommended measures, construction and operational effects are anticipated to be 'Low-Moderate' at most. A summary of effects is provided in Table 3. Proposed conditions at the future regional consent stage will provide specific mitigation for future transport projects within each designation.

1.1.2 Effects for Northern, Southern and Individual NORs

Effects on the northern Project Area (NOR 1, NOR 4, NOR 5 and NOR 7), Southern Project Area (NOR2, NOR 3, NOR 6, and NOR 8), and individual NORs have been assessed throughout this report. With the implementation and establishment of recommended measures, construction and operational it is anticipated that effects will vary between 'Low' and 'Moderate-High'.

1.1.3 Summary of Effects and Recommendations

Table 3. Summary of assessment of effects of recommendations – Warkworth Package overall network

Residual effect after recommendations	Assessment	Recommendation
Effects during construction		
Landscape Character: 'Very Low' Natural Character: 'Very Low'	Larger construction area, than operational footprint. This may result in some additional vegetation removal.	Appropriately integrate Project with existing landscape features (including natural wetlands) and the wider natural landscape. Consider opportunities for suitable felled tree species for re-use as landscape features.
	Work to be undertaken in or near waterbodies.	Minimise sedimentation of waterbodies using appropriate erosion controls, by limiting the extent of exposed earthworks at any one time and revegetate earthworks, as appropriate. Consider opportunities for topsoil stripping and stockpiling for re-use, ensuring that topsoil is suitable for landscape purposes. Where practicable, undertake bridge construction from dry land, avoid piers in the beds of waterways and wetlands, minimise piers on riverbanks, and minimise fill over waterbodies.
Landscape Character (cont'): 'Very Low'	Visual effects from the clutter of materials, machinery, and construction yards.	Where appropriate, select visually discrete locations for the placement of construction yards and material storage. Consider screening of construction yards as mitigation for temporary visual effects. Ensure the reinstatement of construction yards is undertaken in a manner appropriate for the anticipated future use of the land. Take into account the potential visual impacts of structures and look to adopt appropriate architectural and landscape

Residual effect after recommendations	Assessment	Recommendation
<p>Natural Character (cont'):</p> <p>'Very Low'</p>	<p>Effects on existing residential areas.</p>	<p>treatment to manage these effects.</p> <p>Identify opportunities for the survey, collection, and propagation of heritage amenity plants in private gardens that will be demolished to enable construction to occur (subject to the agreement with the landowner), so that as appropriate these may be re-established as part of the planting programme during finishing works.</p>
<p>Operational effects</p>		
<p>Landscape Character:</p> <p>'Low-Moderate'</p> <p>Natural Character:</p> <p>'Low-Moderate'</p>	<p>Opportunity to integrate the Warkworth Package with the wider landscape.</p>	<p>Consider how the Project (including roadside elements such as lighting, signage and the landscape treatment of structures) can:</p> <ul style="list-style-type: none"> • Enable integration of the Project's permanent works into the surrounding landscape and urban context; and • Ensure that the Project manages potential adverse landscape and visual effects and contributes to a quality urban environment. <p>Take into account the potential visual impacts of structures and look to adopt appropriate architectural and landscape treatment to manage these effects.</p> <p>How the Project can enable integration of street trees into the transport corridor design.</p>

Residual effect after recommendations	Assessment	Recommendation
<p>Landscape Character (cont'): 'Low-Moderate'</p> <p>Natural Character (cont'): 'Low-Moderate'</p>	<p>Potential for effects on landscape features, including indigenous vegetation and waterbodies.</p>	<p>Integrate the Project with existing landscape features (including natural wetlands) and the wider natural landscape.</p>
	<p>Opportunity to integrate stormwater management.</p>	<p>Consider further refinement of stormwater treatment wetland design to appear 'natural' with a variety of habitats, e.g. irregular shape with curved boundaries, varying depths and islands.</p> <p>Consider water sensitive urban design principles. Recommendation to prioritise the use of soft engineering strategies for stormwater management.</p> <p>It is noted that detailed responses to waterway and natural wetland treatment will be detailed in the future regional resource consenting stages of the Warkworth Package.</p>
	<p>Anticipated likely future environment based on assumptions.</p>	<p>Re-validate the landscape and natural character values identified in the LNCVA prior to the commencement of conceptual design.</p>

1.1.4 Conclusion

Several key issues were raised throughout the LNCVA, including potential effects on, or opportunities regarding:

- Amenity
- Landform
- Vegetation
- Waterbodies (waterways and natural wetlands)
- Rural landscape characteristics
- Heritage values
- Cultural values

Recommendations were made throughout the LNCVA to address potential effects by directing outcomes to be achieved and recognising opportunities. The recommendations made throughout the LNCVA are also reflected in the 'urban design outcomes and opportunities' figures within the Volume 4: Urban Design Evaluation. **Error! Reference source not found.**

2 Introduction

This LNCVA has been prepared for the Te Tupu Ngātahi Supporting Growth Alliance (Te Tupu Ngātahi), for Auckland Transport (AT) and Waka Kotahi NZ Transport Agency (WK) as requiring authorities under the Resource Management Act 1991 (RMA). It relates to eight Notices of Requirement (NoRs) around the Warkworth area that are packaged together in one assessment (the "Warkworth Package"). The notices are to designate land for future strategic transport corridors as part of Te Tupu Ngātahi Supporting Growth Alliance to enable the future construction, operation and maintenance of transport infrastructure in the Warkworth area of Auckland.

2.1 Warkworth Growth Area

Warkworth is located at the northernmost extent of the Auckland Region, approximately 60km from the Auckland city centre, and 30km north of Orewa. It is identified as a Satellite Town in the Auckland Unitary Plan: Operative in Part (AUP:OP). At present and in the future the town acts or will act as a rural node that serves both the surrounding rural communities as well as connecting to urban Auckland.

The Warkworth growth area will be less than 5km north-south and east-west and will make a significant contribution to the future growth of Auckland's population. Around 1000ha of currently rural land is zoned as Future Urban Zone (FUZ) to support significant business (including industrial) and residential growth. At full development capacity based on the Future Land Supply Strategy (FULSS) it is anticipated to provide for approximately 8,200 new dwellings and employment activities that will contribute to 4,600 new jobs across Warkworth. This growth area will be development ready in the stages outlined below:

- **Stage 1** Warkworth North – Business zoned land is already operative and the remainder to be 'development ready' by 2022.
- **Stage 2** Warkworth South – To be development ready between 2028 – 2032.
- **Stage 3** Warkworth Northeast – To be development ready between 2033 – 2037.

Furthermore, the Warkworth Structure Plan was adopted by the Council in 2019 and sets out the framework for transforming Warkworth from a rural environment to an urbanised community over the next 15 - 20 years.

It is noted that parts of these areas are experiencing earlier than anticipated growth pressure, with parts of Warkworth South subject to a lodged Private Plan Change, as well as sections of Warkworth Northeast.²

The Warkworth Assessment Package will provide route protection for the local arterials, which include walking, cycling and public transport linkages needed to support the expected growth in Warkworth. The Warkworth Package of projects is summarised in Section 2.

This report addresses the landscape and natural character effects of the Warkworth Package (NOR 1 - NOR 8) identified in Table 4 in Section 2.

Refer to the Assessment of Effects on the Environment (AEE) for a more detailed project description.

2.2 Purpose and scope of this Report

This LNCVA forms part of the suite of technical reports prepared to support the assessment of effects (AEE) for the Warkworth Package. Its purpose is to inform the AEE that accompanies the eight Warkworth Network NORs sought by AT and WK.

This report considers the actual and potential effects associated with the construction, operation and maintenance of the Warkworth Package on the existing and likely future environment as it relates to landscape and natural character and visual effects and recommends measures that may be implemented to avoid, remedy and/or mitigate these effects.

The key matters addressed in this report are as follows:

- a) Identify and describe the landscape context of the Warkworth Assessment Package area;
- b) Identify and describe the actual and potential landscape effects of each Project corridor within the Warkworth Assessment Package;
- c) Recommend measures as appropriate to avoid, remedy or mitigate actual and potential landscape effects (including any conditions/management plan required) for each Project corridor within the Warkworth Assessment Package; and
- d) Present an overall conclusion of the level of actual and potential effects for each Project corridor within the Warkworth Assessment Package after recommended measures are implemented.

This report should be read alongside the AEE, which contains further details on the history and context of the Warkworth Package. The AEE also contains a detailed description of works to be authorised within each NOR, and the typical construction methodologies that will be used to implement this work. These have been reviewed by the author of this report and have been considered as part of this assessment of landscape and natural character effects. As such, they are not repeated here. Where a description of an activity is necessary to understand the potential effects, it has been included in this report for clarity.

A relevant factor in the assessment has been acknowledgement that the environment which will exist at the time of construction is anticipated to be different to the current environment that we see today.

² <https://www.aucklandcouncil.govt.nz/have-your-say/have-your-say-notified-resource-consent/Pages/resource-consent-public-notice.aspx?itemId=194&src=Search>

Change is provided for in a range of statutory and non-statutory documents, which have been considered in assessing effects, with intensification and further urban/commercial development anticipated. It is against this future 'base environment' and against the current Project drawings supplied by Te Tupu Ngātahi that all effect and recommendations are assessed and made.

2.3 Report Structure

In order to provide a clear assessment of each NOR this report follows, as appropriate, the structure set out in the AEE. That is, the whole network as well as the individual corridors and facilities have their own section, and each section contains an assessment of the actual and potential effects. Where appropriate, measures to avoid, remedy or mitigate effects are recommended.

The sections are arranged starting from the overall network, then by project starting from Public Transport Hubs, then existing road upgrades, and finally new corridors. Table 5 below describes the extent of each corridor, and where the description of effects can be found in this report.

Table 4. Report Structure

Sections	Section number
Description of the Project	3
Statutory and non-statutory documents relevant to landscape and natural character and visual matters for the Warkworth Package	4
Overview of the methodology used to undertake the assessment and identification of the assessment criteria and any relevant standards or guidelines	5
Identification and description of the existing and likely receiving landscape environment	6
Assessment of general landscape and natural character and visual matters for all Warkworth NORs	7
Assessment of specific landscape and natural character and visual matters for Northern Warkworth NORs	8
Assessment of specific landscape and natural character and visual matters for Southern Warkworth NORs	9
Assessment of specific landscape and natural character and visual matters for Warkworth NOR 1	10
Assessment of specific landscape and natural character and visual matters for Warkworth NOR 2	11
Assessment of specific landscape and natural character and visual matters for Warkworth NOR 3	12
Assessment of specific landscape and natural character and visual matters for Warkworth NOR 4	13
Assessment of specific landscape and natural character and visual matters for Warkworth NOR 5	14

Sections	Section number
Assessment of specific landscape and natural character and visual matters for Warkworth NOR 6	15
Assessment of specific landscape and natural character and visual matters for Warkworth NOR 7	16
Assessment of specific landscape and natural character and visual matters for Warkworth NOR 8	17
Statutory considerations specific to landscape and natural character and visual matters for the overall Warkworth Package	18
Overall conclusion of the landscape and natural character and visual effects of the Warkworth Project	19

3 Warkworth Package Overview

The Warkworth Package is a network of planned transport infrastructure with the purpose of responding to planned future growth in the Warkworth growth areas. The transport network is made of eight NORs including public transport interchanges, existing road upgrades, and new corridors.

An overview of the NORs in the Warkworth Package is set out in Table 5 and shown in Figure .

Table 5. Warkworth NOR Package

Corridor	NOR	Description	Requiring Authority
Northern Public Transport Hub and Western Link – North	1	New northern public transport hub and associated facilities including a park and ride at the corner of State Highway 1 (SH1) and the new Western Link – North. New urban arterial cross-section with active mode facilities between the intersection of SH1 and Te Honohono ki Tai (Matakana Link Road) to the proposed bridge crossing, enabling a connection for development in the Warkworth Northern Precinct as provided for in the Warkworth North Precinct.	Auckland Transport
Woodcocks Road - West	2	Upgrade of the existing Woodcocks Road corridor between Mansel Drive and Ara Tūhono (Puhoi to Warkworth) to an urban arterial cross-section with active mode facilities.	Auckland Transport
State Highway 1 – South Upgrade	3	Upgrade of the existing SH1 corridor between Fairwater Road and the southern Rural Urban Boundary to an urban arterial cross-section with active mode facilities.	Auckland Transport

Corridor	NOR	Description	Requiring Authority
Matakana Road Upgrade	4	Upgrade of the existing Matakana Road corridor between the Hill Street intersection and the northern Rural Urban Boundary to an urban arterial cross-section with active mode facilities.	Auckland Transport
Sandspit Road Upgrade	5	Upgrade of the existing Sandspit Road corridor between the Hill Street intersection and the eastern Rural Urban Boundary to an urban arterial cross-section with active mode facilities.	Auckland Transport
Western Link – South	6	New urban arterial cross-section with active mode facilities between the intersection of SH1 and McKinney Road and Evelyn Street.	Auckland Transport
Sandspit Link	7	New urban arterial cross-section with active mode facilities between the intersection of Matakana Road and Te Honohono ki Tai (Matakana Link Road) and Sandspit Road.	Auckland Transport
Wider Western Link – North	8	New urban arterial cross-section with active mode facilities between Woodcocks Road and the Mahurangi River.	Auckland Transport

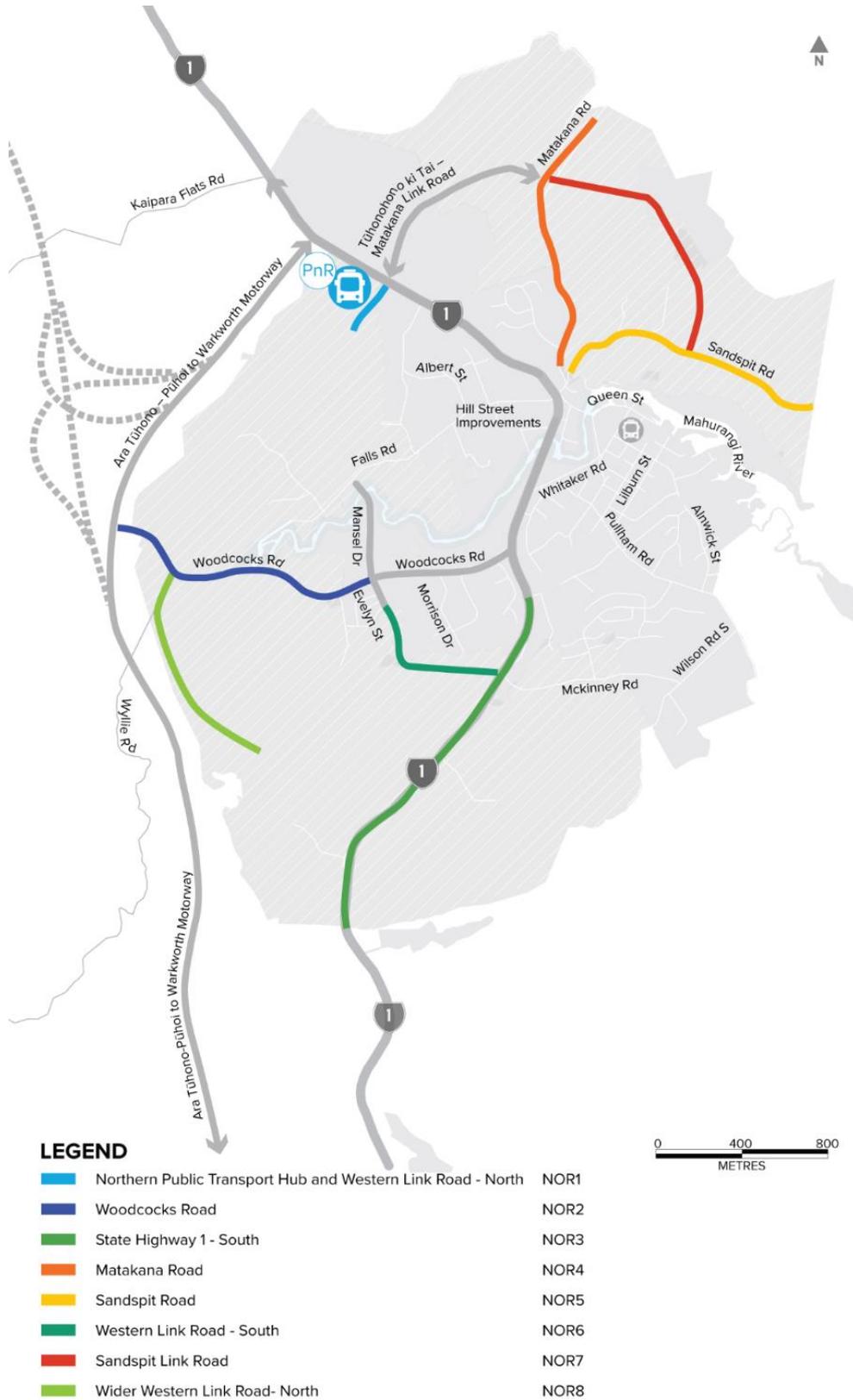


Figure 3-1. Warkworth NOR Package overview

4 Statutory and Non-Statutory Documents

Planning framework

Several documents were considered as part of the LNCVA. These included:

- Statutory documents:
 - RMA
 - NPS:UD
 - MDRS
 - AUP:OP

- Non-statutory documents:
 - Warkworth Structure Plan
 - Auckland Code of Practice for Land Development and Subdivision
 - Auckland Transport Code of Practice
 - Urban Street and Road Design Guide

These documents are discussed further in the 'Assessment Methodology' Section 5.1.5. The consistency of the Warkworth Package with direction provided by the RMA, AUP:OP, and Warkworth Structure Plan on landscape and natural character matters is considered in Section 18 'Statutory Considerations'. Appendix B also highlights key aspects of the NPS:UD, MDRS, PC78 and Warkworth Structure Plan which are relevant to establishing the likely future environment for the Warkworth Package.

5 Assessment Methodology

Preparation for this Report

In preparation for this report, a site visit was undertaken by landscape architects Chantal Whitby, John Hudson, Heather Wilkins and Abby Liang, which occurred on 14th November 2022. A second site visit was undertaken by John Hudson on 21st February 2023, along with members of the Te Tupu Ngātahi and Auckland Council officers.

During the first site visit the extent of the proposed designations was discussed and recorded in field data sheets. The landscape character of the site and its surrounds, along with the visual catchment, were also assessed in relation to the proposed designations.

Private property access was not visited during the site visit as those areas of private property relevant to the LNCVA were not available. As such, ground-truthing the existing character of the designations in these locations was restricted. This limitation applied particularly to NOR 7 and NOR 8, with the visibility of these designations being largely restricted from surrounding, public areas. As a result, some assumptions on the existing landscape character have been informed by desktop research, including analysis through Google Earth.

5.1 Methodology

5.1.1 Best practice guidance

This LNCVA has been undertaken using best practice guidance for landscape assessment as provided by 'Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines', Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022 (Te Tangi a te Manu).

The Te Tangi a te Manu seven-point scale of effects has been used in this report when assessing the potential landscape effects arising from the Warkworth Package. The effects scale ranges between "Very Low" to 'Low' to 'Low-Moderate' to 'Moderate' to 'Moderate-High' to 'High' to 'Very High' (Table 6).³

Table 6 Effects rating table

Very Low (V-L)	Low (L)	Low-Moderate (L-M)	Moderate (M)	Moderate-High (M-H)	High (H)	Very High (V-H)
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As defined by Te Tangi a te Manu, landscape character is each landscape's distinctive combination of physical attributes (e.g. landform and ecological aspects), associative attributes (e.g. heritage and cultural values) and perceptual attributes (e.g. legibility of landcover patterns and aesthetic qualities).

For clarity, visual effects are included in this assessment as a subset of landscape effects.⁴ Due to the uncertain nature of the likely future environment (including potential topography changes and the layout of future urban structures) an accurate Zone of Theoretical Visibility cannot be established. The visual effects of the Project from areas where it is highly probable that the proposed transport corridors will be seen are discussed as applicable for individual NORs.

Natural character, as defined by Te Tangi a te Manu, is the distinct combination of an area's natural characteristics and qualities, including degree of naturalness. Natural character is the outcome of physical environment and perception. Within the RMA (Section 6(a)) natural character only relates to the coastal environment and to waterbodies and their margins, rather than the landscape in its entirety.

Te Tangi a te Manu goes further to promote integration of Te Ao Māori – our unique indigenous worldview, as a keystone of Aotearoa landscape assessment practice. It is not, however, the role of the Landscape Architect to determine these values on behalf of mana whenua unless designated to do so. Accordingly, this LNCVA does not specifically address mana whenua values which are being considered through a separate, parallel process. Refer to the AEE for details.

The methodology used is best aligned with an area-based landscape assessment, which is typically a policy-driven assessment as opposed to a proposal-driven assessment. Area-based assessments are typically carried out at a district or regional scale for a variety of resource management policy purposes. They are higher level assessments which assess the potential effects of generic activities, where specific project details are absent. In contrast, a proposal-driven assessment approach applies

³ Rating of effects in relation to Resource Management Act terminology is provided in Appendix C.

⁴ Te Tangi a te Manu: Aotearoa New Zealand Landscape Architects Guidelines refer to visual effects as a subset of landscape effects (page 135). As such, visual values and effects have been considered as part of landscape character.

in a 'design – build' situation where the implementation of the 'project' is more imminent than what is planned in the case of this NOR process. The more detailed assessment will be undertaken later at a future consenting, implementation, or designation alteration stage as and when required.

According to Te Tangi a te Manu, an area-based landscape assessment would typically:

- Identify (describe) the landscape resource of an area (its character and values), including any Outstanding Natural Features and Landscapes (ONFLs) and other significant landscapes.
- Assess landscape character and values.
- Anticipate potential future effects on landscape values (for this report this includes assessing the current and likely future environment for the 'project').
- Recommend policy measures to manage landscape values.
- Make specific assessments of ONFLs.⁵

5.1.2 Information sources

The LNCVA utilises information obtained from a desktop study and site assessment. The details of the site assessment have been outlined in Section 3.1 'Preparation for this Report'.

The desktop study information has been utilised to help describe the proposed designations, as well as the site and contextual landscape, and to evaluate the key issues and potential landscape effects of the Warkworth Package, including positive and negative effects.

During the site visit, a number of representative viewpoints were identified from publicly accessible locations. Photographs were taken to establish the existing landscape context and the likely visual effect of the Warkworth Package on the landscape in relation to the transitory and fixed viewing audiences. These photographs have been included in this report in the form of a photo essay (Appendix A).

5.1.3 Assessing effects

The LNCVA was undertaken early in the design process. This allows for potential adverse effects to be identified early on and provides the opportunity for recommendations to be incorporated into the design in the future at the regional consenting stages of the Warkworth Package and the proposed outline plan process (Condition 1).

Analysis of the existing landscape and the change that will likely result from the Warkworth Package has been assessed based on information as discussed in Section 3.1 'Preparation for this Report'. An expert opinion has been formed in relation to the ability of the existing and likely future landscape to absorb changes likely to arise from the proposed designations. Noting that while information on the proposed location of the designations is available, the design details of the designations are limited at this stage. Recommended measures to avoid, remedy and mitigate adverse effects have been discussed throughout the report.

While comments around waterways and wetlands have been provided throughout the assessment, as appropriate, it is acknowledged that effects on waterbodies are largely a regional consenting matter and will be addressed in further detail in the future during the regional consenting stages of the Warkworth Package and the proposed outline plan process (Condition 1).

⁵ Te Tangi a te Manu: Aotearoa New Zealand Landscape Architects Guidelines, Tuia Ora Pito New Zealand Institute of Landscape Architects, July 2022 (page 251).

5.1.4 Effects with and without recommendations

Within the LNCVA effects are assessed with and without recommendations to demonstrate the effectiveness of the proposed recommended measures in lessening potential effects. These effects are separated into construction and operational effects. Construction effects include temporary effects of the project solely related to the construction of the proposed transport corridors, such as additional works outside of the operational footprint, construction machinery, stockpiling of materials (including soil), and raw earthworks. Operational effects are ongoing effects which are associated with the ongoing presence of the proposed transport corridors within the permanent designation boundary. For example, this may be areas of cut and fill, visual dominance of structures, and proximity of transport related structures to landscape features and housing.

For the purposes of route protection, earthworks shown in the proposed Project drawings are based on the current existing environment. The actual construction effects and extent of earthworks required will be subject to the outcomes of the future detailed design process, which will reflect any modifications to topography which occur as part of future development.

Generally, it is expected that construction effects will be greater than operational effects, with effects for both situations being greater without recommended measures. Typically, effects will be greatest for construction without recommended measures, followed by construction with recommended measures, then operational without recommended measures. Operational with recommended measures is expected to have the lowest level of effect of the four situations.

5.1.5 Establishing likely future environment

While PC78 is not yet resolved, it is assumed that this plan change (along with future plan changes associated with the FUZ) will apply the principles of the NPS:UD, MDRS, AUP:OP, and Warkworth Structure Plan (Appendix B), as well as be informed by the Auckland Code of Practice for Land Development and Subdivision, Auckland Transport Code of Practice, and Urban Street and Road Design Guide. This is the basis against which I have assessed effects.

It is expected that PC 78 will be implemented, or be in the processing of being implemented, at the time of construction of the proposed transport corridors. As such, PC78 forms the basis for the expected likely future environment for the Warkworth Package, as does the AUP:OP FUZ, which will be actioned by future plan changes.

PC78 will enable intensification of existing urban environments and future urban development, the Warkworth Structure Plan provides direction on how this intensification is undertaken. PC78 has been informed by the Warkworth Structure Plan, which gives considerable recognition of Warkworth's existing natural patterns, processes and elements, and the retainment of these landscape features to ensure Warkworth maintains its unique identity throughout the urbanisation process.

It is this anticipated future environment outlined in the Warkworth Structure Plan and reflected in PC78 that has informed effects assessed in the LNCVA. The purpose of the recommended measures in the LNCVA is to ensure the proposed transport corridors will integrate with the likely future environment enabled by PC78.

6 Existing and likely receiving landscape environment

The projects within each NOR comprising the Warkworth Package will be constructed 10-25 years from now. The implementation timeframe for each project will vary and correspond with future land release within the area. Assessing the effects on the environment solely as it exists today (i.e. at the time of assessment) will not provide an accurate reflection of the environment in which some of the effects will be experienced. Accordingly, the assessment of effects considers both the existing environment, and the likely receiving environment in which the effects will likely occur.

The Warkworth Package will be constructed and will operate alongside existing urban environments or planned future environments (i.e. what can be built under the existing Auckland Unitary Plan: Operative in Part (AUP:OP) and what is identified in the Warkworth Structure Plan):

- **Existing environment:** A number of NOR corridors comprising the Warkworth Package are partially located within/alongside existing urban areas.
 - NOR 2 Woodcocks Road – the eastern extent of the corridor has existing residential land uses to the north and south.
 - NOR 3 State Highway 1 (Southern Section) – residential land uses are adjacent to the northwest and southeast of the northern extent of the corridor, additionally there are established business land uses to the northeast of the northern extent of the corridor.
 - NOR 4 Matakana Road Upgrade – residential land uses (single house zone, mixed housing suburban zone, mixed housing urban zone) comprise the western and north-western extents of the corridor.
 - NOR 6 Western Link South – residential land uses are situated to the north and northwest of the corridor and existing industrial land use on the eastern extent of the corridor.
- **Future environment:** All the NOR corridors in the Warkworth Package will be partially or wholly constructed and implemented on land identified for future growth (Future Urban Zone) and, as a result, are anticipated to change to urban or business / industrial land uses.

The likelihood and magnitude of land use change regarding the land use planning context has been identified in Table 7 below, provided by Te Tupu Ngātahi. This has been used to inform the assumptions made on the likely future environment.

Table 7. Likelihood and magnitude of land use change

Existing environment	Current AUP:OP Zoning	Likelihood of Change for the environment ⁶	Magnitude of potential change	Likely Receiving Environment ⁷
Residential ⁸	Residential (Mixed Housing Suburban)	Low	Low	Residential

⁶ Based on AUP:OP zoning/policy direction

⁷ Based on Warkworth Structure Plan and AUP:OP zoning/policy direction

Existing environment	Current AUP:OP Zoning	Likelihood of Change for the environment ⁶	Magnitude of potential change	Likely Receiving Environment ⁷
	Residential (Mixed Housing Urban)	Low	Low	Residential
	Residential (Single House)	Low	Low	Residential
Business	Business (Mixed Use)	Low	Low	Business (Industrial)
	Business (General Business)			Business (General Business)
	Business (Light Industry)	Low	Low	Business (Industrial)
	Business (Local Centre Zone)	Low	Low	Business (Neighbourhood Centre)
Open Space	Open Space – Conservation Zone	Low	Low	Informal Recreation
Greenfield areas	Future Urban Zone	High	High	Urban
Other	Special Purpose – Quarry Zone	Low	Med	Quarry

Refer to the AEE in Volume 2 for a detailed description of the existing and likely receiving environment for the Warkworth NOR package.

6.1 Landscape context

The proposed designations are located within and around the town of Warkworth. The central area of the town has an urban character. Outside of this urban area is rural-use land, which is largely at the north-east and south-west extents of the town. Currently State Highway 1 (SH1) runs through Warkworth, although once the Ara Tūhono expressway (located to the west of Warkworth) is completed this will become the new SH1.

- Warkworth is currently a Satellite Town of Auckland and acts as a rural node. The urban hub is located around the town centre and Mahurangi River, however, future planning will enable significant business growth in the area (including the expansion of retail, commercial and industrial enterprises). This development will result in a series of small local centres, although the existing town centre will remain the focal point of Warkworth. Land development is already occurring within Warkworth, for instance the residential development to the north of Te Honohono ki Tai (Matakana Link Road) and within the vicinity of Evelyn Street, as well as industrial development along Morrison Drive. Future zoning will see this urban character expand into the surrounds of the existing town centre, which currently include a mix of mostly lifestyle blocks and larger blocks for rural production activities. As such, those areas of the Warkworth Package which are currently greenfield sites will likely have transformed to an urban environment approximately the same time

that the proposed transport corridor is implemented. Within this LNCVA it was assumed that this future likely environment was undertaken in accordance with the Warkworth Structure Plan, with this expected environment forming the basis for effects to be assessed against.

6.2 Landform

The Warkworth Package is located within a large basin landform. To the north and south this is contained by hill country. At the outer edges of the basin are the Dome, Conical Peak and Mt Tamahunga to the north, with Moirs Hill being the main hill feature to the south. Inland from Warkworth is the Kaipara Flats, which is a channelised valley.⁹

At a broad scale this basin formation provides the perception of Warkworth being a contained town enveloped by higher landforms, with a human scale. This experience is replicated at a smaller scale within Warkworth where its moderately rolling hill country is interspersed with areas of flat, creating pockets of distinctive spaces, which are physically and visually separated from other areas within the town.

Specific landforms within Warkworth that contribute to the area's character include the hills above the Te Honohono ki Tai (Matakana Link Road) and quarry (within the vicinity of NOR 4 Project and NOR 7 Project), the ridgeline which extends towards Clayden Road, sections of the Mahurangi River escarpment (adjacent to NOR 5 Project), the ridgeline followed by Wilson Road and Thompson Road, the knoll which runs roughly parallel with Woodcocks Road to the south (the location of NOR 6 Project), the elevated landform at Viv Davie Martin Drive (above NOR 2 Project), and the hill between Hudson Road and Falls Road (above NOR 1 Project). These elevated areas provide views outwards and provide focal points for lower lying areas of the town.

6.3 Vegetation

The Warkworth Package area and surrounding landscape have highly modified landcover as a result of urban and agricultural development, with the FUZ currently characterised by farming and rural lifestyle activities, which centres around the urban town centre. Pasture is a dominant landcover in the area, which in places is scattered with mainly exotic trees typical of farmland species, such as eucalyptus, poplars and willows, which are often planted in shelterbelts, providing a linear landscape pattern (such as along the southern half of NOR 3 Project). A significant portion of this rural landscape will likely become urbanised at approximately the same time as the proposed designations are implemented.

Small patches of native vegetation remain within the area and include freshwater habitats of moderate condition.¹⁰ While some of this riparian vegetation is remnant bush, revegetation planting has also occurred, including along a section of the Mahurangi River (right branch) near Valerie Close. In accordance with the Warkworth Structure Plan, the future environment will likely provide a continuous green corridor across Warkworth by connecting currently fragmented terrestrial and freshwater habitats with the Mahurangi River and Mahurangi Harbour, as well as other areas in the immediate surrounds of Warkworth.¹¹

⁹ Warkworth Structure Plan June 2019

¹⁰ Warkworth Structure Plan June 2019

¹¹ Ibid

Fragments of remnant bush are scattered across the upland areas around Warkworth. These remnants are typically dominated by tōtara and kahikatea, as well as kauri in some places. A sequence of mature tōtara and kahikatea is present in the basin near the Warkworth Showgrounds, extending northwards below Matakana Road, some of which is protected by a QEII covenant (adjacent to NOR 4 Project). There is also a tōtara dominated forest following the stream corridors immediately east of Matakana Road, with a section of its southern extent vested with QEII (below NOR 7 Project). Either side of the southern extent of Falls Road (north of Woodcocks Road and to the west of the existing town centre) there is a complex mixture of kahikatea, kauri and tōtara. A corridor of tōtara and kahikatea is located along the right branch of the Mahurangi River, from Woodcocks Road towards Perry Road and SH1 to the south (in the vicinity of NOR 2 Project and NOR 8 Project). Substantial native riparian vegetation is also present along the left branch of the Mahurangi River, north of Woodcocks Road (near NOR 2 Project). Coastal bush is present along the main escarpment of the Mahurangi River facing the current town centre, which includes a QEII area (below NOR 5 Project).¹² These interconnected green and blue corridors form a key underlying pattern of the town's existing landscape character and are likely to continue contributing to Warkworth's character in the future.

The AUP:OP contains overlays which are relevant to the Warkworth Package, including Significant Ecological Areas – Terrestrial Overlay (SEA). A significant proportion of the SEA is located along the northern escarpment of the Mahurangi River (below NOR 5 Project), with this area extending westwards between Sandspit Road and Matakana Road (near NOR 4 Project), as well as between Matakana Road and SH1. The SEA extends further to the west out towards Goatley Road, following the waterways it arches in a horseshoe shape south-west, before arching back to the east (parallel in places with NOR 2 Project). In addition, an area of SEA is identified to the south, on the north-east side of the new the Ara Tūhono expressway (to the south of NOR 8 Project). The AUP:OP also identifies Notable Trees within Warkworth (Schedule 10), including two trees on the western side of the southern extent of Matakana Road (adjacent to NOR 4 Project). It is expected that these areas of vegetation will be largely unaffected by the future urbanisation of Warkworth. Vegetation and ecological values are described further in the 'Assessment of Ecological Effects'.

The existing combination of pasture and rural planting in Warkworth, along with remnant native bush creates an attractive setting with distinctive amenity value. This is particularly apparent in the town centre, which is backdropped by the bush-clad escarpment on the north side of the Mahurangi River. While it is expected that the Warkworth Package area will become urbanised and the rural amenity values of the town will significantly change, the Warkworth Structure Plan directs that the existing green corridors of remnant native vegetation be retained and enhanced as part of the future environment. These remnants are a key characteristic of Warkworth's landscape character and are expected to continue to be fundamental to the town's character and identity in the future.¹³

This is supported by the Rodney Greenways: Paths and Trails Plan, Pūhoi to Pakiri (May 2017). The document is intended to be a visionary document which enables the local government and residents to work together to develop their network of cycleways, walkways and parkland. Map 4 and Map 6 of the document illustrate existing, proposed and future greenway connections. Several of these greenway connections relate to the proposed transport corridors, including proposed greenway

¹² Ibid

¹³ Warkworth Structure Plan June 2019

connections along Matakana Road and Sandspit Road, and within the vicinity of NOR 6. Future greenway connections are also depicted within the vicinity of NOR 1 and NOR 7.

6.4 Waterways and Wetlands

Water is a connecting element in the landscape and provides a connection between people and the environment, as recognised by Te Mana o Te Wai.¹⁴

Warkworth is located within the lower Mahurangi River Catchment, which is approximately 5,892ha in area and drains to the Mahurangi Harbour within the Hauraki Gulf. Around the existing settlement of Warkworth there is a network of localised stream valleys and basins amongst a rolling hill type landscape to the north, south and west of the Mahurangi River.¹⁵

The Mahurangi River is a significant natural feature within the landscape context of the Warkworth Package. It is a central focal point for Warkworth and provides a connecting landscape pattern throughout the town via its extensive tributary system. Many of these waterways are clearly legible and are a dominant landscape attribute.

Streams in the area are all part of the Mahurangi River system (all proposed NoRs, except NOR 4 Project, cross waterways). “*These streams vary from natural streams with good quality indigenous riparian vegetation to farm drains.*”¹⁶ The left and right branches of the Mahurangi River join at the intersection of Falls Road and Woodcocks Road.

The Mahurangi Waitematā aquifer lies beneath Warkworth and is designated in the AUP:OP as a High-Use Aquifer Management Area. Typically, high-use aquifers are sensitive to the reduction of impervious surfaces as this can reduce infiltration and aquifer recharge.¹⁷

There are also several natural wetlands within Warkworth, including to the east of NOR 4, north of NOR 7, and east of NOR 1, as well as east and west of NOR 3 Project, NOR 6 Project and NOR 8 Project. Waterway and wetland ecological values are described further in the ‘Assessment of Ecological Effects’ and will be addressed in the future regional resource consenting stages of the Warkworth Package.

6.5 Land Use

Much of Warkworth’s existing urban footprint is concentrated around its town centre and the Mahurangi River. Residential uses, along with business areas, schools and areas of open space surround the town centre, with small areas of light industrial land in the outskirts of the existing urban footprint, with land outside the built-up settlement area being generally highly productive pasture.¹⁸

The Warkworth area is in the process of urbanisation. A large proportion of the area inside the RUB is identified as FUZ. While it is not certain what the exact nature of this future urban area will be, the

¹⁴ NPS:FM Clause 1.3: Fundamental concept – Te Mana o te Wai

¹⁵ Warkworth Structure Plan June 2019

¹⁶ Warkworth Structure Plan June 2019, page 130.

¹⁷ Warkworth Structure Plan June 2019

¹⁸ Ibid

Warkworth Structure Plan directs low density zoning along areas with higher elevation (including ridges, hills and knolls), with more intense urban land use on low lying areas within the catchment. Small areas of open space exist within the catchment and are largely sections of esplanade reserve along the Mahurangi River or along tributaries of the river.

The likely future land use zones for the Warkworth Package are as follows:

- NOR 1: Business (Light Industry, Local Centre and Mixed Use), Residential – Mixed Housing Urban, FUZ and Open Space – Sport and Active Recreation.
- NOR 2: FUZ, Open Space – Conservation (adjacent the Mahurangi River), Residential – Single House (a small area south-east of the designation) Residential – Mixed Housing (a small area north-east of the designation).
- NOR 3: primarily FUZ. Residential – Single House (a small area north of the designation), and Business – Local Centre (north-east of the designation). When the Ara Tūhono expressway opens the role of the existing SH1 is expected to operate as an urban arterial road.
- NOR 4: primarily Residential (Single House, Mixed Housing Suburban and Mixed Housing Urban) or FUZ. Open Space – Conservation (a small section south-east and south-west of the designation).
- NOR 5: primarily FUZ (either side of Sandspit Road). Open Space – Conservation (south, adjacent the Mahurangi River, as well as along a tributary at the north-west extent of the designation).
- NOR 6: primarily FUZ. Business – Light Industry and Open Space – Informal Recreation (a small section at the northern extent of the designation).
- NOR 7: primarily FUZ. Open Space – Conservation (a small area south-west, along the tributaries). A limestone quarry currently operates to the north of the road. The AUP:OP identifies a Quarry Buffer Area Overlay around this area.
- NOR 8: FUZ, with Open Space – Conservation (adjacent the Mahurangi River) and Rural Production Zone (immediately to the west).

While much the Warkworth Package area is currently characterised by rural activity, as outlined in the AUP:OP, urbanisation of the town is planned. Implementation of the Warkworth Package will not occur unless urbanisation is undertaken.

6.6 Rural Character

Public feedback as part of the Warkworth Structure Plan showed that the Warkworth community sees itself as a rural town. The community has a strong desire for this rural character to be retained as the town grows and develops.¹⁹

Aspects which contribute to Warkworth's current rural character include the extensive pastoral land on the outskirts of the town (including rural land use in the north-east and south-west areas inside the rural urban boundary (RUB)). These areas are typified by rural roads, farm buildings and yards, fence lines, exotic trees (either in lines or scattered in paddocks), stock, water tanks, and minimal structures. Low areas of traffic, rural smells (such as from animals, grass and soil), dominance of

¹⁹ Warkworth Structure Plan June 2019

natural sounds over humanmade noises, and open vistas also contribute to the rural character of the setting.

In accordance with the Warkworth Structure Plan, it is expected that some rural landscape characteristics will still contribute to the landscape character of the town in the future, including the bush-clad escarpment of the Mahurangi River (as well as views of this area) and by retaining the Morrison's Heritage Orchard as a rural feature of the town. Other rural landscape characteristics expected to be retained include Warkworth's size, green and blue corridors, rural views (such as rural views out from the FUZ into the wider landscape), rural uses in the surrounding area outside of Warkworth, and separation from Auckland's urban area.²⁰

6.7 Historical Sites

Several places of heritage interest or significance exist within Warkworth, including several that are unrecorded.²¹ Heritage values are discussed further in the 'Assessment of Archaeological Effects'.

One widely recognised historic site is the Morrison's Heritage Orchard (to the west of NOR 3 Project). The orchard was established in the 1870s and by 1914 it was the largest orchard and nursery in New Zealand. The original orchard was closed in 1919. The current Morrison family orchard, which was planted in 1935, continues to sell heirloom fruit.²²

There are several places of potential or actual historic heritage within Warkworth, including the Coombes and Daldy lime work site and the Wilson's Portland Cement Company dam. The lime and cement industry significantly contributed to the development of Warkworth. There are also WWII US military camp sites and related places in the vicinity of Warkworth (including near NOR 2 Project and NOR 8 Project).²³ Other heritage sites of potential relevance to the Warkworth Package include the remnants of a historical bridge (Cherry's Bridge) within NOR 2 Project, an artefacts site towards the eastern edge of NOR 2 Project, and a historical road bench within NOR 6 Project.²⁴

Other places of heritage interest or value identified within the Warkworth catchment include the sites of early (1850s-70s) settler dwellings, including at 360 Sandspit Road and 190 Matakana Road (adjacent NOR 4 Project), which have early plantings of mature English oak trees associated with them. These trees may meet the criteria for inclusion in the AUP:OP Schedule of Notable Trees.²⁵

These historical sites add to the character of Warkworth and contribute to the memorability of the place, providing connections between people and place. While not all historical sites are legible (such as the WWII camp sites), the values people associate with these sites remains.

²⁰ Warkworth Structure Plan June 2019

²¹ Warkworth Structure Plan June 2019. Consideration of associative or shared and recognised values are an important part of understanding and assessing a landscape. To gain an understanding of the values that are shared and recognised by the wider community, I have relied on available published information and field work.

²² Warkworth Structure Plan June 2019

²³ Ibid

²⁴ Further information is provided in the 'Assessment of Archaeological Effects'.

²⁵ Basse and Walker (2018)

6.8 Cultural Significance

Te Tupu Ngātahi engaged with mana whenua on the Warkworth Package prior to and during wider community engagement and have held ongoing monthly hui with mana whenua. Mana whenua partners also attended the multi-criteria analysis workshops. The purpose of these workshops was to gather feedback on specific options under investigation by Te Tupu Ngātahi. Ngāti Manuhiri facilitated a cultural induction for Te Tupu Ngātahi.

Mana whenua have highlighted a number of considerations, including:

- avoiding floodplains
- minimising environmental impacts, particularly those on streams, wetlands, and the Mahurangi River
- avoiding areas of cultural significance to mana whenua
- retaining and enhancing connectivity to communities²⁶

People have tangible and intangible cultural connections with landscapes. It is these connections which ground people to a place and give them tūrangawaewae. Cultural considerations are discussed in detail in the 'Cultural Impact Assessment'.

6.9 Protected Areas

The AUP:OP identifies several overlays within the Warkworth area requiring protection, including an Outstanding Natural Feature (ONF), Outstanding Natural Landscape (ONL), High Natural Character (HNC) area and SEA (which are discussed under 5.3 Vegetation and addressed in the 'Assessment of Ecological Effects'). There are also Natural Stream, High-Use Stream, and High-Use Aquifer Management Areas Overlays within the Warkworth catchment. The proposed transport corridors are located outside of ONF, ONL and HNC overlays.

Mahurangi North Parnell Grits is recognised as an ONF. The AUP:OP describes the feature as the best exposed sequence of more than one Parnell Grit bed within the Waitematā Basin. Here, three Parnell Grit beds occur within a Waitematā Sandstone exposure.²⁷ The nearest proposed designation (NOR 5 Project) is at least 1km from this ONF.

West Mahurangi Harbour is identified as an ONL (ID 43). A small section of the ONL is approximately 60m to the south of NOR 3 Project at its closest, with the majority of the ONL being over 100m away, and around 220m south of NOR 5 Project). The ONL is described in the AUP:OP as a very distinctive coastal landscape, combining ridges, river and stream valleys, bays and harbour headlands to create a complex harbour topography that is defined and framed by large pockets of native forest. It includes the Mahurangi River up to Warkworth and its bush-clad escarpment. The ONL is identified as having high levels of naturalness and memorability, as well as having high geological/topographical, ecological, and dynamic values.²⁸

²⁶ Warkworth DBC Engagement Summary report, October 2022, Version 1.0.

²⁷ AUP:OP, Schedule 6

²⁸ AUP:OP, Schedule 7

The Mahurangi River southern escarpment is recognised as having HNC (approximately 140m to the south of NOR 5 Project). The AUP:OP describes the area as unmodified by development. It remains extensively vegetated in mature native forest. Although the river’s southern banks are extensively modified in places, particularly at the historic cement works, the integrity of the landforms and landcover to the north and the tidal influence of the Hauraki Gulf imbue this area with HNC.²⁹ There are not areas identified as having outstanding natural character (ONC) within Warkworth.

The relevance of ONF, ONL and HNC overlays are discussed in Section 18 ‘Statutory Considerations’.

6.10 Existing Character Ratings

The landscape character and natural character of the existing and likely future environment has been assessed based on the description and analysis provided in the previous subsections of Section 6. Existing character ratings were considered at a range of scales, including at the broader scale of Warkworth, the localised scale of the Northern and Southern Project areas, and the site scale of the individual designations.

Landscape character ratings have been particularly influenced by the presence/absence of distinctive landforms and features, areas of vegetation, quality of waterways, existing and expected modifications in the likely future, heritage and cultural values associated with the area, and the proximity of ONFLs.

Natural character ratings have been predominantly influenced by levels of modification to waterway channels, the quality and extent of riparian vegetation, the surrounding landscape context of the existing and likely future environment, and proximity to areas of ONC and HNC. The natural character assessment focused on the waterways themselves, with more importance placed on the immediate context of the waterways.

Figure provides the assessed character ratings of the existing and likely future environment, with more emphasis placed on the urbanised character likely to be present in the future:

Scale	Warkworth	Northern Project Area	Southern Project Area	NOR							
				1	2	3	4	5	6	7	8
Landscape character	M	M	L-M	L	L-M	L-M	M-H	M-H	L-M	M-H	L-M
Natural character	M	M-H	L-M	L	M	L	M	H	L	M	M

²⁹ AUP:OP, Schedule 8

Figure 6-1 Northern Project Area refers to NOR 1, NOR 4, NOR 5 and NOR 7. Southern Project Area refers to NOR 2, NOR 3, NOR 6 and NOR 8.

Key: V-L ('Very Low'), L ('Low'), L-M ('Low Moderate'), M ('Moderate'), M-H ('Moderate High'), H ('High') and V-H (Very High).

6.11 Key Considerations

The ridgelines, hills and knolls within Warkworth are a defining landscape feature of the 'rolling hills' landscape character of the area. They provide focal points within the town and give the area its overall sense of enclosure and seclusion. While these landforms are not protected via statutory regulations, it is directed in the documents outlined in Section 5.1.5 of the methodology for future urbanisation to be sensitive to the landform. Although topographical changes may occur as part of this urbanisation, these landforms will likely retain some sensitivity to topographical changes in the future.

There are some significant pockets of remnant native vegetation scattered throughout Warkworth. The integrity and visual coherence of these vegetated areas contribute greatly to the town's aesthetics and amenity and, as such, they are expected to be retained as a key feature as Warkworth becomes urbanised.

Warkworth is incised by an extensive network of waterways, with the Mahurangi River being at the heart of the system. Any changes to these tributaries have flow-on effects for the Mahurangi River. In addition, several natural wetlands are within the Warkworth Package area which contribute to the hydrological system of Warkworth. It is anticipated that the Mahurangi River will retain its importance as urbanisation occurs.

In the future, land use within the RUB is expected to be predominately urban. It is within this context that the Warkworth Package will be experienced. Although the likely future of Warkworth will move from having a largely rural character to one which is urbanised, there are certain rural landscape characteristics which are expected to be retained, including rural uses outside the RUB, as well as views of these areas.

There are several historical sites and cultural overlays within Warkworth which provide connections for people to the area. These connections provide opportunities for their significance to be recognised and celebrated.

The AUP:OP identifies several overlays within Warkworth, including ONFLs, a HNC area and SEA. These areas require protection from inappropriate development, including the protection of physical and visual qualities. It is important to note that these overlays can be affected by changes in the vicinity of the identified areas, but which occurs outside their boundaries.

7 Warkworth Package of NORs – Overall network

This section assesses common or general landscape and natural character matters across the overall Warkworth Package, i.e. the combination of public transport interchanges, existing road upgrades and new corridors. This section also recommends measures to avoid, remedy, or mitigate actual or potential adverse landscape effects for the overall network. Corridor-specific matters are further discussed in the report Sections 10 – 17.

7.1 Overview and description of works

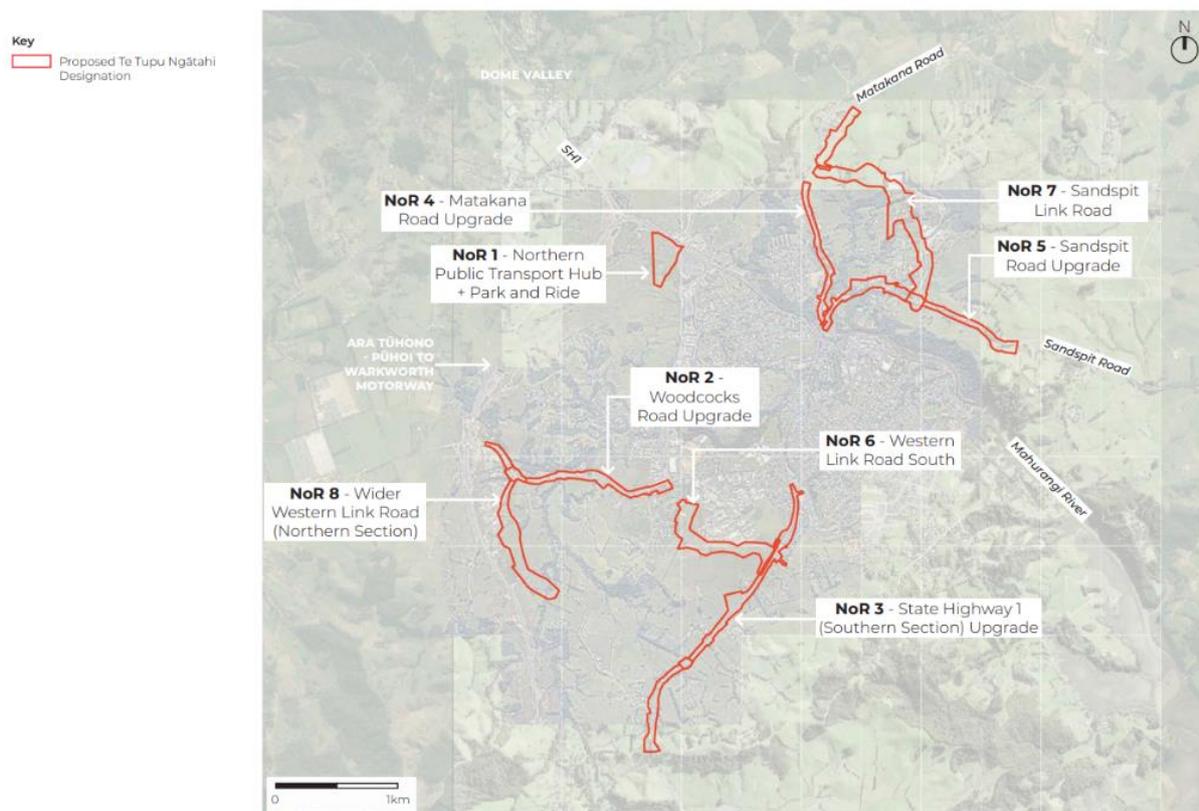


Figure 7-1. Overview of works

Refer back to the AEE in Volume 2 for a more detailed description of works to be authorised.

7.2 Landscape character and natural character assessment

The Warkworth Package will provide part of the infrastructure for the planned urbanisation of Warkworth. It is assumed that the transport corridors will be constructed and operate in the existing and planned urban environment as anticipated by the zones in the AUP:OP.

It is expected that areas of the FUZ in Warkworth will undergo a material change in their character from what is existing. It is likely that the construction of the transport corridors will occur ahead of, or in parallel to, the urbanisation of these areas. Therefore, the starting assumption is that corridors will be constructed predominately in a rural greenfield environment and operate in an urban environment.

As the proposed designations being sought are anticipated to provide longer-term protection of transport corridors there potential for this to be made more certain as design drawings are refined. As part of my assessment I have assumed that roads will be constructed following a similar layout as that shown in the current Project drawings. The LNCVA anticipates the potential effects of the Warkworth Package on existing and likely future landscape values that are important to the area.

Potential effects on existing residential areas

In places, there are tight constraints for the proposed designation boundaries between existing residential properties. In some places, the proposed designations will result in the loss of entire sections and houses and will likely also cause some existing residential sections to be reduced in size, diminishing the buffer between dwellings and the transport corridor where roading upgrades are planned. Where new transport corridors are planned, it is anticipated that the existing amenity of the surrounding landscape will have undergone significant change through the planned future urbanisation of Warkworth. Urbanisation in these areas will be planned with the expectation of a transport corridor being implemented at some stage, reducing potential amenity concerns for transport corridors in newly urbanised areas.

Potential effects on landform

Warkworth sits within a 'basin' landscape along the Mahurangi River, which is defined by the surrounding elevated topography. There are several prominent landforms within the town which contribute to Warkworth's distinctive character. It is anticipated that the future urbanisation of Warkworth will be sensitive to the topography of these landforms, although it is recognised that some earthworks will occur as part of this process. Parts of the Warkworth Package are located across elevated sections of the landscape and will likely result in changes to the landform through cut and fill. These landform changes will be experienced cumulatively with any landform modifications undertaken as part of the urbanisation process. Views of the proposed transport corridors will vary throughout the Warkworth area, depending on localised topography (Appendix A).

Potential effects on vegetation

Indigenous vegetation is a distinctive attribute of Warkworth and contributes to both the natural setting and existing rural character of the town. The interaction of rolling topography and mature vegetation creates a layer effect when viewed from different locations, adding to the visual amenity of the landscape. Some exotic trees, including hedge rows and farm shade trees also add to the rural character of the area. However, it is likely that these will not be retained as part of the future urbanisation process as the rural character changes to urban. Mature native vegetation, particularly along waterways, is expected to remain as part of the future urban environment and is recognised as a characteristic in the Structure Plan. It is anticipated that some native vegetation will be removed as part of the Warkworth Package. Several SEAs are located adjacent to, or within, sections of the Warkworth Package. Several QEIIIs are also near parts of the Warkworth Package but are outside the scope of works. Ecological effects are discussed in detail in the 'Assessment of Ecological Effects'.

Potential effects on waterbodies

The Mahurangi River catchment is an important element within the landscape and a defining attribute of Warkworth. It is considered taonga by Mana Whenua. The health of the river is directly affected by the health of the tributaries spread throughout the town. As such, it is expected that future urban development will be sensitive to the existing hydrological system and follow water sensitive urban design principles. Due to the extensive network of waterways, as well as the presence of several

natural wetlands, the Warkworth Package will cross numerous waterways and natural wetlands, and directly impact 20 streams ranging from low to high ecological value and 17 natural inland wetlands ranging from low to moderate ecological value.³⁰ The currently proposed Project drawings show a designation width that allows for fill over such features or specific structures that will reduce the effect of the crossing, such as bridges. Approximately 868m of stream reclamation will be required to accommodate the Project works and approximately 14,863m² of direct wetland loss will occur.³¹ This is discussed further in the 'Assessment of Ecological Effects'.

Potential effects on rural landscape characteristics

While the rural character of Warkworth is expected to change with future urban development, as set out by the zones in the AUP:OP, some rural landscape characteristics are likely to be retained, including rural vistas of the landscape outside the RUB, views of the natural environment (including riparian vegetation), and connections with the Morrison's Heritage Orchard. The Warkworth Package will be consistent with the anticipated future urban development within the area and may provide opportunities to enhance views of the wider rural landscape outside the RUB.

Potential effects on heritage values

Throughout Warkworth there are numerous heritage sites. In places the proposed designations will be located adjacent or across heritage sites. These effects are discussed in detail in the 'Assessment of Archaeological Effects'.

Potential effects on cultural values

Te Tupu Ngātahi have engaged with mana whenua on the Warkworth Package prior to, and during, wider community engagement. Cultural values and effects are discussed in detail in the 'Cultural Impact Assessment'.

Potential effects on AUP:OP overlays

An ONF, ONL and area of HNC are identified in the AUP:OP within the broader context of Warkworth. The AUP:OP provides a description of the characteristics which require protection for these identified areas. Potential effects on these recognised areas are discussed in detail in Section 18 'Statutory Considerations'.

7.3 Nature and magnitude of effects

The proposed designations have the potential to affect the landscape character and natural character of Warkworth. Without recommended measures to avoid, remedy or mitigate effects, it is anticipated that effects will be as follows:

- Construction effects on landscape character: **'Moderate'**
- Construction effects on natural character: **'Moderate'**
- Operational effects on landscape character: **'Moderate-High'**
- Operational effects on natural character: **'Moderate-High'**

³⁰ Assessment of Ecological Effects

³¹ Ibid

The following sections breakdown the nature and magnitude of effects into temporary effects during construction of the proposed transport corridors and permanent effects during the operation of the proposed transport corridors. Measures are recommended to avoid, remedy or mitigate these effects. The residual magnitude of effects is then assessed once the recommended measures have been implemented or established.

7.4 Assessment of landscape effects during construction

The following section discusses the temporary potential landscape and natural character and visual effects which could arise during the Warkworth Package construction.

Larger construction footprint

The construction works footprint will be somewhat wider than the finished road. Construction machinery will also be present (including heavy vehicles), which may require access tracks. The additional width of works required during construction may cause vegetation outside of the permanent roading structure to be removed and for work to occur within the drip line of existing trees. If riparian vegetation is affected this will likely have implications for natural character.

Work within waterbodies

It is anticipated that work will be undertaken in, or near, waterways and wetlands, potentially including the construction of bridge piers, which could cause waterway and wetland bed disturbance, and potentially significant effects. Potential effects on waterbodies are applicable to landscape character but relate predominately to natural character.

Exposed earthworks

There is the risk of sediment entering waterways where earthworks are exposed and from accidental sediment discharge from within construction areas (including from stockpiles). Exposed earthworks can also result in visual effects. Additional visual effects could arise from the clutter of materials, machinery, and construction yards.

Compaction of soil profile

Stockpiling of construction materials and machinery in construction yards can result in compaction of the soil profile, which potentially alters natural drainage and ground water movement. This compaction potentially adversely effects the long-term success of any reinstated landscape post-construction.

Reduced amenity

During the construction phase of the proposed transport corridors, adjacent residents are likely to experience reduced amenity, including from noise, dust, and lighting, as well as from visual effects caused by the presence of construction machinery, construction yard buildings, material stockpiles, and temporary traffic control measures. There will also be a loss of established plants from within existing residential properties, including heritage amenity plants.

Short-term effects

Adverse effects of this nature are common to infrastructure projects and are mitigated by the short-term duration of the works and subsequent remediation.

7.5 Recommended measures to avoid, remedy or mitigate construction effects

To address the construction effects of the Warkworth Package I recommend the following should be addressed through future outline plan or resource consent.

- How the Project can appropriately integrate with existing landscape features (including natural wetlands) and the wider natural landscape.
- Consider opportunities for suitable felled tree species for re-use as landscape features.
- Minimise sedimentation of waterbodies using appropriate erosion controls, by limiting the extent of exposed earthworks at any one time and revegetate earthworks, as appropriate.
- Consider opportunities for topsoil stripping and stockpiling for re-use, ensuring that topsoil is suitable for landscape purposes.
- Where appropriate, select visually discrete locations for the placement of construction yards and material storage. Consider screening of construction yards as mitigation for temporary visual effects.
- Ensure the reinstatement of construction yards is undertaken in a manner appropriate for the anticipated future use of the land.
- Identify opportunities for the survey, collection, and propagation of heritage amenity plants in private gardens that will be demolished to enable construction to occur (subject to the agreement with the landowner), so that as appropriate these may be re-established as part of the planting programme during finishing works.
- Take into account the potential visual impacts of structures and look to adopt appropriate architectural and landscape treatment to manage these effects.
- How the Project can enable integration of street trees into the transport corridor design.
- Where practicable, undertake bridge construction from dry land, avoid piers in the beds of waterways and wetlands, minimise piers on riverbanks, and minimise fill over waterbodies.
- It is noted that detailed responses to waterway and natural wetland treatment will be detailed in the future regional resource consenting stages of the Warkworth Package.

NoR specific recommendations build on the recommendations for the overall network by providing more detail which is specific to individual transport corridors.

With the above recommended measures, it is anticipated that construction effects for the Warkworth Package will be:

- Landscape character: **'Low-Moderate'**
- Natural character: **'Low-Moderate'**

7.6 Assessment of operational effects

The following section discusses the permanent potential landscape and natural character and visual effects which could arise during the operation of the proposed transport corridors.

Landscape character effects and opportunities

In accordance with zoning in the AUP:OP, it is anticipated that greater urban intensification in existing residential zones will occur, compared to what presently exists. It is expected that, with time, existing housing areas will be infilled with additional residential dwellings in line with the MDRS. The proposed

designations will have effects on some existing residential areas. Where existing residential properties and houses are directly adjacent the proposed designation boundaries, it is possible that there will be amenity effects, including loss of privacy, compromised views, reduced buffers between houses and transport corridors, reduced section size, and increased traffic noise and light disturbance (e.g. from car headlights and streetlights).

However, the built outcomes of the proposed transport corridors will be in character with the planned urban intensification, with roads being an essential element of urban areas. As such, amenity effects on future planned residential areas and dwellings will be limited. The Warkworth Package provides the opportunity to enhance connectivity for Warkworth as a whole by integrating with the existing local street network and improving user road safety. It will also improve transport network connectivity to the adjacent landscape outside of Warkworth. The width of the proposed designations has allowed for active modes of transport, with cycle lanes and footpaths on both sides of the road. There is the opportunity for further positive effects to be achieved by integrating active travel routes and recreational paths with Warkworth's 'green network' of bush and vegetated riparian margins.

There is potential for stormwater wetlands to become attractive focal points through considered planting and wetland construction. There is also scope for stormwater wetlands to be integrated with proposed active transport routes.

The UDMLP directs the integration of the proposed transport corridors with future surrounding land uses. As illustrated in the design drawings (Appendix 1), the proposed designation widths can accommodate a good level of amenity planting, for instance street trees, raingardens, and boundary planting (where required, such as to minimise the visual dominance of transport corridors from adjoining sites). Amenity planting has the potential to create attractive environments, which can enhance the built character of their surroundings and positively contribute to the visual quality of the streets and the area's sense of place. These aspects are captured in the proposed Warkworth Package conditions as part of the UDLMP (refer to Condition 9).

Changes to landform

The 'basin' formation of Warkworth's landscape ensures perceptual effects of the proposed designations will be restricted to Warkworth. Within Warkworth there are also a series of distinctive spaces created by knolls, hills, and ridges. These will further limit the perceptual effects of the Warkworth Package, likely resulting in relatively localised effects.

While the proposed designations avoid prominent spurs and ridgelines, some designations do travel across elevated landforms (particularly NOR 6 and NOR 7), and large areas of cut and fill are anticipated for several designations. Some landform modification is expected to occur as part of the urbanisation of Warkworth. To a degree this has the potential to limit the extent of earthworks anticipated to occur as part of the Warkworth Package. However, there is the potential for cut and fill as part of the Warkworth Package to result in visual effects for the Warkworth community due to loss of vegetation, visibility of new transport corridors on elevated landforms, and changes in the topography of the landform. Substantial areas of fill are also likely to be required for designations on flatter areas, changing the existing landform.

Even so, there is the potential for the transport corridors to be absorbed into the adjacent land through contouring of cut and fills and planting. The integration of the proposed transport corridors with future landform and development is anticipated through the proposed Warkworth Package conditions. As noted, it is expected that there will be some earthworks associated with the future urbanisation of

surrounding land, separate to the Warkworth Package. While the proposed transport corridors may become incorporated as part of this process of urbanisation, there is the potential for cumulative effects to occur.

Scope for planted areas

The Warkworth Package will likely result in the removal of some vegetation, which may potentially include mature indigenous species. It is anticipated that the proposed designations will also cross several small sections of SEA. However, the alignment of the proposed designations has been mindful to minimise effects on these areas, as well as avoiding QEII covenant areas.

Where riparian vegetation is affected, it is likely that there will be effects on natural character. This is discussed in more detail in below sections, which address effects on individual designations. There is scope within the designation to include new areas of vegetation and street trees.

Potential for integrated stormwater management

Due to the extensive network of waterways and wetlands within Warkworth, some effects on waterbodies are anticipated, as are effects on natural character. These effects are most likely to occur due to modification of natural overland flow paths, fill over streams and wetlands, bridge piers in waterway and wetland beds, and the removal of riparian vegetation. An increase in impervious surfaces also has the potential to create contaminated road run-off, as well as reduce water infiltration and aquifer recharge. Minimising reductions in infiltration due to development is an important consideration for the continuing viability of aquifer resources.³²

Where the proposed designations are within greenfield sites, there is the opportunity to integrate stormwater management to maintain pre-development hydrology. This includes providing for on-site infiltration to improve aquifer recharge and stream baseflows, such as through raingardens and vegetated swales. The proposed designation boundaries have allowed space for stormwater treatment wetlands to address issues of run-off treatment and management. However, the location of proposed stormwater wetlands near natural wetlands should be minimised.

Opportunity to maintain some rural landscape characteristics

While the Warkworth Package is expected to be implemented within a future urbanised area, it is expected that some rural landscape characteristics will be retained. There is the potential opportunity for the proposed transport corridors to provide elevated views towards the rural landscape outside the RUB (e.g. NOR 6 Project and NOR 7 Project) and views of vegetated areas within the RUB. Several proposed designations will pass existing remnant bush areas, which will enable transport corridor users to have close-up views of this natural environment.

7.7 Recommended measures to avoid, remedy or mitigate operational effects

To address the operational effects of the Warkworth Package I recommend the following should be addressed through future outline plan or resource consent. In this regard, it is noted that the primary means of mitigating effects is through design responses to be illustrated in an ULDMP.

³² Warkworth Structure Plan 2019

- How the project can appropriately integrate with existing landscape features (including natural wetlands) and the wider natural landscape.
- How the project (including roadside elements such as lighting, signage and the landscape treatment of structures) can:
- Enable integration of the Project's permanent works into the surrounding landscape and urban context; and
- Ensure that the Project manages potential adverse landscape and visual effects and contributes to a quality urban environment.
- Consider further refinement of stormwater treatment wetland design to appear 'natural' with a variety of habitats, e.g. irregular shape with curved boundaries, varying depths and islands.
- Consider water sensitive urban design principles. Recommendation to prioritise the use of soft engineering strategies for stormwater management.
- Take into account the potential visual impacts of structures and look to adopt appropriate architectural and landscape treatment to manage these effects.
- Re-validate the landscape and natural character values identified in the LNCVA prior to the commencement of conceptual design.
- It is noted that detailed responses to waterway and natural wetland treatment will be detailed in the future regional resource consenting stages of the Warkworth Package.

NoR specific recommendations build on the recommendations for the overall network by providing more detail which is specific to individual transport corridors.

With the above recommended measures, it is anticipated that operational effects for the Warkworth Package will be:

- Landscape character: '**Low**'
- Natural character: '**Low**'

7.8 Summary and Conclusions

The Warkworth Package will introduce an extensive transport network into Warkworth, which is anticipated to result in modifications to existing residential areas, earthworks, vegetation removal, waterbody modification and potential modification to heritage and cultural sites. However, the proposed designations also provide the opportunity to improve connectivity between existing roads, improve road user safety, enhance active and public transport modes, better connect people and fauna with existing bush and riparian margins, increase the extent and quality of indigenous vegetation, and highlight heritage and cultural narratives in the landscape.

It is expected that natural character will be specifically affected by modification of waterways and wetlands, including due to cut and fill, diversions, potential structures within waterbodies, and the removal of riparian vegetation. It is likely that these effects can be reduced through avoidance of waterbodies, the use of bridges, avoiding piers in the beds of waterways and wetlands and minimising piers on the banks of waterbodies, and revegetating riparian margins. These issues will be addressed during the future regional consenting stages of the Warkworth Package and the proposed outline plan process (Condition 1), with the primary means of mitigating effects being through design responses to be illustrated in an ULDMP (Condition 9).

With the implementation and establishment of recommended measures, construction effects are anticipated to be **'Low-Moderate'** and operational effects are anticipated to be **'Low'**. A summary of effects is provided in Table 8.

Proposed conditions at the future regional consent stage will provide specific mitigation for future transport projects within each designation.

Table 8. Summary of assessment of effects of recommendations – Warkworth Package overall network

Residual effect after recommendations	Assessment	Recommendation
Effects during construction		
Landscape Character: 'Low-Moderate' Natural Character: 'Low-Moderate'	Larger construction area, than operational footprint. This may result in some additional vegetation removal.	<p>Appropriately integrate Project with existing landscape features (including natural wetlands) and the wider natural landscape.</p> <p>Consider opportunities for suitable felled tree species for re-use as landscape features.</p>
	Work to be undertaken in or near waterbodies.	<p>Minimise sedimentation of waterbodies using appropriate erosion controls, by limiting the extent of exposed earthworks at any one time and revegetate earthworks, as appropriate.</p> <p>Consider opportunities for topsoil stripping and stockpiling for re-use, ensuring that topsoil is suitable for landscape purposes.</p> <p>Where practicable, undertake bridge construction from dry land, avoid piers in the beds of waterways and wetlands, minimise piers on riverbanks, and minimise fill over waterbodies.</p>
	Visual effects from the clutter of materials, machinery, and construction yards.	<p>Where appropriate, select visually discrete locations for the placement of construction yards and material storage. Consider screening of construction yards as mitigation for temporary visual effects.</p> <p>Ensure the reinstatement of construction yards is undertaken in</p>

		<p>a manner appropriate for the anticipated future use of the land.</p> <p>Take into account the potential visual impacts of structures and look to adopt appropriate architectural and landscape treatment to manage these effects.</p>
Residual effect after recommendations	Assessment	Recommendation
<p>Landscape Character (cont'): 'Low-Moderate'</p> <p>Natural Character (cont'): 'Low-Moderate'</p>	<p>Effects on existing residential areas.</p>	<p>Identify opportunities for the survey, collection, and propagation of heritage amenity plants in private gardens that will be demolished to enable construction to occur (subject to the agreement with the landowner), so that as appropriate these may be re-established as part of the planting programme during finishing works.</p>
Operational effects		
<p>Landscape Character: 'Low'</p> <p>Natural Character: 'Low'</p>	<p>Opportunity to integrate the Warkworth Package with the wider landscape.</p>	<p>Consider how the Project (including roadside elements such as lighting, signage and the landscape treatment of structures) can:</p> <ul style="list-style-type: none"> • Enable integration of the Project's permanent works into the surrounding landscape and urban context; and • Ensure that the Project manages potential adverse landscape and visual effects and contributes to a quality urban environment. <p>Take into account the potential visual impacts of structures and look to adopt appropriate architectural and landscape treatment to manage these effects.</p> <p>How the Project can enable integration of street trees into the transport corridor design.</p>

Residual effect after recommendations	Assessment	Recommendation
Landscape Character (cont'): 'Low'	Potential for effects on landscape features, including indigenous vegetation and waterbodies.	Integrate the Project with existing landscape features (including natural wetlands) and the wider natural landscape.
Natural Character (cont'): 'Low'	Opportunity to integrate stormwater management.	<p>Consider further refinement of stormwater treatment wetland design to appear 'natural' with a variety of habitats, e.g. irregular shape with curved boundaries, varying depths and islands.</p> <p>Consider water sensitive urban design principles.</p> <p>Recommendation to prioritise the use of soft engineering strategies for stormwater management.</p> <p>It is noted that detailed responses to waterway and natural wetland treatment will be detailed in the future regional resource consenting stages of the Warkworth Package.</p>
	Anticipated likely future environment based on assumptions.	Re-validate the landscape and natural character values identified in the LNCVA prior to the commencement of conceptual design.

8 Northern Project Area (NOR 1, NOR 4, NOR 5 and NOR 7)

This section assesses specific landscape and natural character matters at a localised scale relating to the 'Northern Project Area' (NOR 1, NOR 4, NOR 5 and NOR 7) within the Warkworth Package. Corridor-specific matters are further discussed in the report sections 10 – 17.

8.1 Overview and description of works

The Northern Project Area includes a transport hub with a Park and Ride area, a new link transport corridor, and the upgrade of two existing roads which connect Warkworth with the surrounding settlements of Matakana and Sandspit. Refer to the AEE in Volume 2 for a more detailed description of works to be authorised.

8.2 Landscape character and natural character assessment

The existing environment of the Northern Project Area is predominately rural with some scattered residential areas and a limestone quarry. The landscape is perceived as a transitional space for those entering and leaving the north end of Warkworth. The Mahurangi River provides the southern border for this area. In line with the AUP:OP zones, it is anticipated that the Northern Project Area will become fully urbanised, with the FUZ accounting for majority of the land area.

Potential effects on existing residential areas

To the west, along Matakana Road, and at the eastern end of the Sandspit Road upgrade, there are existing residential areas which will be affected by the Northern Project Area and could result in reduced residential amenity for these properties, including loss of privacy, compromised views, reduced buffers between houses and transport corridors, reduced section size, and increased traffic noise and light disturbance (e.g. from car headlights and streetlights).

Potential effects on vegetation

Green corridors are a defining attribute of Warkworth's landscape character, and it is expected that they will continue to characterise Warkworth in the future as the town becomes urbanised. There are several SEAs within the Northern Project Area, including the northern bush-clad escarpment of the Mahurangi River. In some places, small sections of the proposed designations cut across these SEAs. There are also other bush areas outside of SEAs which could be potentially affected by the proposed designations, including riparian vegetation. Where riparian vegetation is affected, this will likely have effects on natural character. While several QEII covenant areas are within the Northern Project Area, none are situated within the designations.

Potential effects on waterbodies

As with green corridors, the extensive hydrological network through Warkworth provides a key landscape pattern for the town. It is expected that this broad landscape pattern will remain a key attribute (as emphasised in the Warkworth Structure Plan) as the town is urbanised. Several tributaries which feed into the Mahurangi River flow through the Northern Project Area. There are multiple areas where the proposed designations cross waterways and wetlands, with the potential for this to affect both the landscape and natural character of the Northern Project Area. The currently proposed Project drawings show a designation width that allows for fill over such features or specific structures that will reduce the effect of the crossing, such as bridges.

Opportunity to connect with rural landscape characteristics

Although it is planned for Warkworth to become largely urbanised, it is anticipated that some rural landscape characteristics of the town will remain in the future. Connections with the wider rural context outside the RUB are one way to retain rural landscape characteristics of Warkworth, including

maintaining views towards rural areas outside the RUB. Views eastwards from elevated areas of the proposed transport corridor are expected to provide the best opportunity for these rural views.

Potential effects on heritage values

Heritage values contribute towards how people associate with a landscape. Within the Northern Project Area there are some sites with heritage value, including along Matakana Road. There is the potential for proposed road widening to have some effects on these sites. Heritage values are discussed in the 'Assessment of Archaeological Effects'.

Potential effects on cultural values

The Mahurangi River is important to Mana Whenua and its mana is affected by the health of its connecting tributaries.

Potential effects on AUP:OP overlays

An ONF, ONL and area of HNC are identified in the AUP:OP within the vicinity of the Northern Project Area. The AUP:OP provides a description of the characteristics which require protection for these identified areas. Potential effects on these recognised areas are discussed in detail in Section 18 'Statutory Considerations'.

8.3 Nature and magnitude of effects

The proposed designations have the potential to affect the landscape character and natural character of the Northern Project Area. Without recommended measures to avoid, remedy or mitigate effects, it is anticipated that effects will be as follows:

- Construction effects on landscape character: **'Moderate-High'**
- Construction effects on natural character: **'Moderate-High'**
- Operational effects on landscape character: **'Moderate-High'**
- Operation effects on natural character: **'Moderate-High'**

8.4 Summary and Conclusions

The Northern Project Area involves the proposed upgrading and widening of two existing roads, as well as the introduction of a new link road and transport hub. There are no additional effects for the Northern Project Area than what have been identified in Section 7 'Warkworth Package of NORs – Overall Network'. With the implementation and establishment of recommended measures outlined in Section 7, effects are anticipated to be as follows:

- Construction effects on landscape character: **'Low-Moderate'**
- Construction effects on natural character: **'Low-Moderate'**
- Operational effects on landscape character: **'Low'**
- Operational effects on natural character: **'Low'**

9 Southern Project Area (NOR 2, NOR 3, NOR 6 and NOR 8)

This section assesses specific landscape and natural character matters at a localised scale relating to the Southern Project Area (NOR 2, NOR 3, NOR 6 and NOR 8) of the Warkworth Package. Corridor-specific matters are further discussed in the report sections 10 - 17.

9.1 Overview and description of works

The proposed Southern Project Area includes two new link transport corridors, as well as upgrades to two existing roads, one of which serves as the current SH1. Refer to the AEE in Volume 2 for a more detailed description of works to be authorised.

9.2 Landscape character and natural character assessment

The Southern Project Area is on the outskirts of Warkworth and is predominately rural with some concentrated residential areas and an industrial area. The Southern Project Area is bordered to the west by the newly constructed Ara Tūhono expressway, while the eastern extent runs parallel with the existing SH1 south of Warkworth township. According to the zones in the AUP:OP, it is expected that most of the area will be FUZ, with heavy industry indicated in the Warkworth Structure Plan within the NOR 8 project area.

Potential effects on amenity

Effects on existing residential areas will be very limited, however, there is potential for adverse visual amenity effects to result from the Southern Project Area being located on elevated land. Views of the Southern Project Area will be possible from existing elevated land which orientates down towards the proposed designations, such as from Viv Davie-Martin Drive towards the NOR 2 Project and NOR 6 Project (Appendix A).

Potential effects on vegetation

There are several SEAs within the Southern Project Area, including north of Woodcocks Road, which contribute to the current character of Warkworth and are expected to remain a defining attribute of the town in the future. In some places small sections of the proposed designations cross these SEAs. There are also other bush areas outside of the SEAs which could potentially be affected by the Southern Project Area, including riparian vegetation. Where riparian vegetation is affected, this will likely impact on natural character.

Potential effects on waterbodies

Several tributaries flow through the Southern Project Area, including the left and right branches of the Mahurangi River. These waterways provide a distinctive pattern in the landscape and are expected to remain a key element as Warkworth is urbanised. There are several areas where the transport corridor will cross waterways and wetlands, with the potential for this to affect both the landscape and natural character of the area. The currently proposed Project drawings show a designation width that allows for fill over such features or specific structures that will reduce the effect of the crossing, such as bridges.

Potential effects on rural landscape characteristics

While it is planned through the AUP:OP for Warkworth to become largely urbanised, some rural landscape characteristics are expected to remain. Retaining views of the wider rural context outside the RUB is one way to assist in retaining the rural landscape characteristics of Warkworth. Views west and south from elevated areas of the proposed transport corridors are anticipated to provide the best opportunities for rural views.

Potential effects on heritage values

Heritage values contribute towards how people associate with a landscape. Within the Southern Project Area there are some sites with heritage value, including along Woodcocks Road. There is potential for proposed road widening and new roads to have some effects on these sites. Heritage values are discussed in the 'Assessment of Archaeological Effects'.

Potential effects on cultural values

The Mahurangi River is important to Mana Whenua and its mana is affected by the health of its connecting tributaries.

9.3 Nature and magnitude of effects

The proposed designations have the potential to affect the landscape character and natural character of the Southern Project Area. Without recommended measures to avoid, remedy or mitigate effects, it is anticipated that effects will be as follows:

- Construction effects on landscape character: **'Moderate'**
- Construction effects on natural character: **'Moderate'**
- Operational effects on landscape character: **'Moderate'**
- Operation effects on natural character: **'Moderate'**

9.4 Summary and Conclusions

The Southern Project Area involves the proposed upgrading and widening of two existing roads, as well as the introduction of two new link roads. There are no additional effects for the Southern Project Area than what have been identified in Section 7 'Warkworth Package of NORs – Overall Network'. With the implementation and establishment of recommended measures outlined in Section 7, effects are anticipated to be as follows:

- Construction effects on landscape character: **'Low-Moderate'**
- Construction effects on natural character: **'Low-Moderate'**
- Operational effects on landscape character: **'Low'**
- Operational effects on natural character: **'Low'**

10 NOR 1 – Northern Public Transport Hub and Western Link - North

This section assesses specific landscape and natural character matters relating to the proposed NOR 1 – Northern Public Transport Hub, Park and Ride and Western Link - North (the NOR 1 Project’).

10.1 Overview and description of works

The NOR 1 Project involves construction of :

- A Public Transport Hub
- Park and Ride facilities with approximately 228 car park spaces
- A four-lane urban arterial, with cycle lanes and footpaths on both sides
- Two bridges
- A large stormwater wetland
- Areas of cut and fill

This provides a separate facility to the existing park and ride on the north side of SH1.

The proposed designation will enable access to strategic public transport services for residents in Warkworth and the Kōwhai Coast and will enable a viable alternative to public transport use, preventing residents from needing to traverse through Warkworth to access a Park and Ride service.

Refer to the AEE in Volume 2 for a more detailed description of works to be authorised.

10.2 Landscape character and natural character assessment

The proposed designation and surrounding area are on the existing urban fringe of Warkworth to the west. Adjacent to the proposed designation is a developing industry area, on which a supermarket is currently being built and a petrol station already exists. The landscape is dissected by the existing SH1, which runs parallel to the designation. To the north Te Honohono ki Tai (Matakana Link Road) provides a new transport corridor through a once rural landscape, which is in the process of being urbanised.

Through zoning and precinct in the AUP:OP, it is anticipated that the future area of the proposed designation and surrounding landscape will be characterised by business activities (including general business, light industry, a local centre and mixed use), residential urban mixed housing, FUZ, and open space for sport and active recreation (to the north across the current SH1). The Warkworth Structure Plan also identifies this area as a business – light industry zone.

Consistent with existing and planned landscape character

The vicinity of the proposed designation is currently characterised by a busy industrial area. It is experienced as a transitional area at the edge of Warkworth and as a thoroughfare along SH1. It is expected that business activity will expand in the future as the area is urbanised. While the low-lying industrial area does not currently have high amenity value and is not anticipated to have high levels of amenity in the future, the area is visible from an existing, elevated residential area to the southeast (Appendix A). Future residential areas to the north are also likely to have views of the proposed designation. Development of this nature will be an expected sight for surrounding residential areas

both now and in the future. As such, while the designation will be visible, adverse visual effects are not expected as the NOR 1 Project will not alter the existing landscape values.

Minimal effects on landform

The area is relatively flat, with elevated land to the north and south containing the area. The designation is located away from prominent landforms. The hill above the designation, between Hudson Road and Falls Road, is a notable landform in Warkworth. It is acknowledged that this landform may undergo some landform modifications as part of the urbanisation process of Warkworth separate to the Warkworth Package.

Limited effects on vegetation

There are several SEAs in the wider area of the designation but none within the designation itself. Vegetation within the designation is predominately exotic pasture grass. Vegetation in the wider area is a mixture of exotic and native species, including taller trees such as eucalyptus, pittosporum, and willow. There is also some residential planting to the southeast. Ecological effects are discussed in detail in the 'Assessment of Ecological Effects'.

Potential effects on waterbodies

A stream runs along the southern and eastern sides of the proposed designation, and links with a natural wetland. The designation crosses a section of this stream and wetland. Effects on these waterbodies are discussed further in the 'Assessment of Ecological Effects'.

No effects on rural landscape characteristics

Although the designation is on an existing urban fringe of Warkworth, it is already undergoing a transition to industrialisation. In line with the AUP:OP zoning, it is expected that this pattern of development will continue into the future. As such, it is not anticipated that the designation will affect rural landscape characteristics. However, it is likely that the area will continue to provide a transitional space between the urban area of Warkworth and the wider, rural area to the west.

10.3 Nature and magnitude of effects

The designation has the potential to affect the landscape character and natural character of the proposed designation and adjacent area. Without recommended measures to avoid, remedy or mitigate effects, It is anticipated that effects will be as follows:

- Construction effects on landscape character: **'Low-Moderate'**
- Construction effects on natural character: **'Moderate'**
- Operational effects on landscape character: **'Low'**
- Operation effects on natural character: **'Low-Moderate'**

The following sections breakdown the nature and magnitude of effects into temporary effects during construction of the transport corridor and permanent effects during the operation of the proposed transport corridor. Measures are recommended to avoid, remedy or mitigate these effects. The residual magnitude of effects is then assessed once the recommended measures have been implemented or established.

10.4 Assessment of landscape effects during construction

The following section discusses the specific temporary potential landscape and natural character and visual effects which could arise during the transport corridor construction.

Work within waterbodies

The currently proposed NOR 1 Project drawing shows the Western Link - North crossing the same waterway and natural wetland twice, with a bridge over both crossings, resulting in two bridges within the NOR. Construction work in waterbodies has the potential to affect both natural character and landscape character.

Exposed earthworks risk to waterbodies

The currently proposed NOR 1 Project drawing depicts a small area of fill at the southern extent of the proposed Transport Hub. Adjacent to this is a waterway and natural wetland. There is the risk of sediment entering the waterway and wetland while earthworks are exposed.

10.5 Recommended measures to avoid, remedy or mitigate construction effects

There are no additional recommended measures for the proposed transport corridor beyond those provided in the overall recommended measures outlined in Section 7.5.

With the relevant recommended measures outlined in Section 7.5, it is anticipated that construction effects within, and adjacent to, the proposed designation will be:

- Landscape character: **'Low'**

10.6 Natural character: 'Low' Assessment of operational effects

The following section discusses the specific permanent potential landscape and natural character and visual effects which could arise during the operation of the proposed designation.

In character with present and future setting

The proposed designation will be co-located with an existing industrial area, adjacent to the existing SH1. While the area currently has some rural attributes, it is anticipated that industrial activities will extend in the future, along with further urbanisation. The proposed Transport Hub will be in character with this future urban setting. However, there is likely to be an extensive area of impervious surface which could be detrimental to the visual amenity of the area. There is scope within the NOR 1 Project to extensively plant the open space around the proposed stormwater wetland. This would assist in softening hardscapes and improving visual amenity by integrating the stormwater wetland with the wider surrounds.

Minor changes to landform

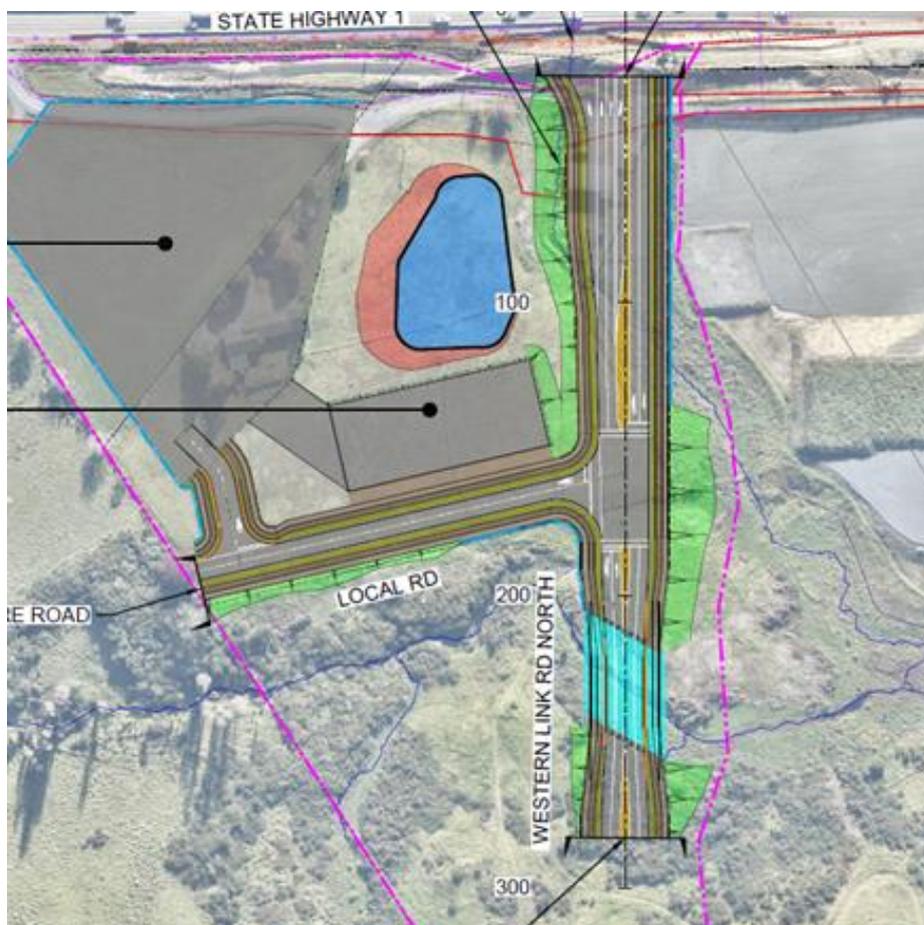
While there will be some small areas of the proposed fill, there will only be minor changes to the landform due to the relatively flat topography within the proposed designation.

Opportunity to increase wetland vegetation

The proposed designation will likely result in the removal of some riparian vegetation, which may have effects on natural character. However, there is an opportunity to extend existing areas of riparian vegetation in the southern section of the designation.

Potential loss of, and alterations to, wetlands and waterways

The currently proposed NOR 1 Project drawings illustrate an existing stream diverted west, away from an area of fill, and directed through an outlet under the Western Link - North. The drawing also shows some fill over the wetland adjacent to the southern crossing (Figure). As such, there is the potential for NOR1 Project to result in adverse effects on the waterway and wetland, consequently affecting natural character (which relates to waterbodies). If adverse effects on natural character occur, these effects are anticipated to be required to be addressed in situ (where the effects occur).



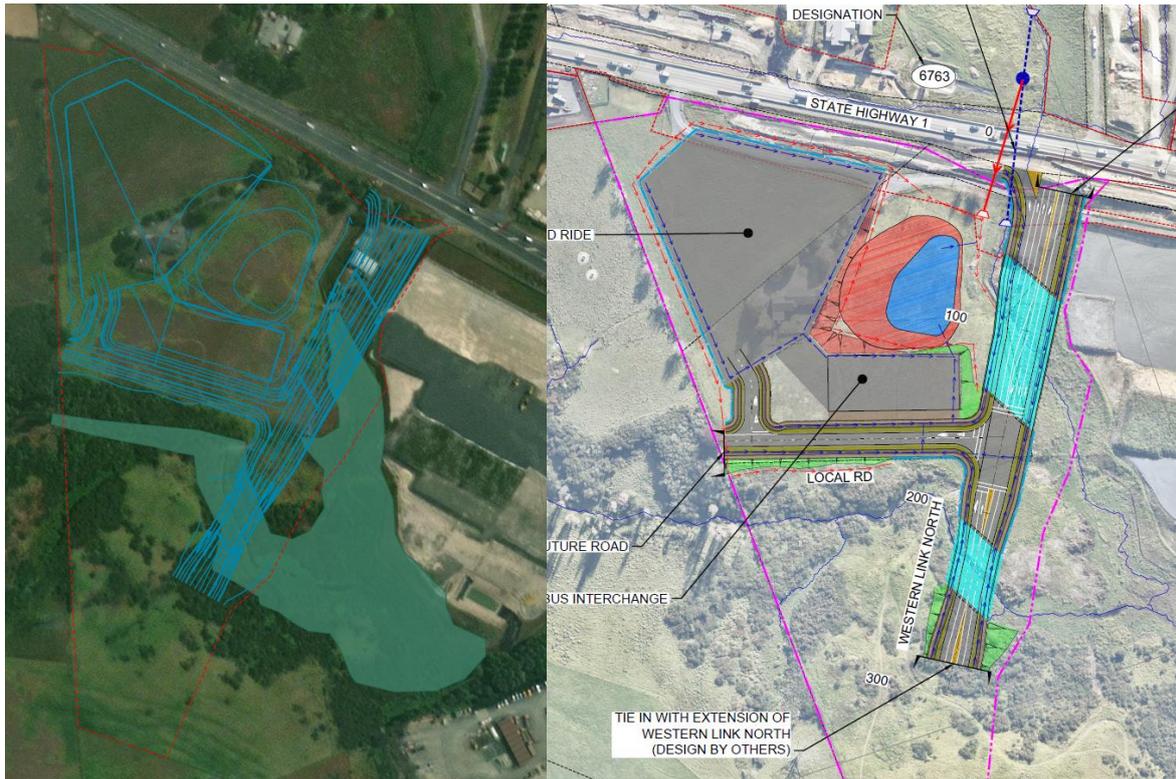


Figure 10-1 Natural wetland area identified in green in left image. Area of fill indicated in bright green in right image.

10.7 Recommended measures to avoid, remedy or mitigate operational effects

There are no additional recommended measures for the proposed transport corridor beyond those provided in the overall recommended measures outlined in Section 7.7. In this regard, it is noted that the primary means of mitigating effects is through design responses to be illustrated in an ULDMP.

With the relevant recommended measures outlined in Section 7.7, it is anticipated that operational effects within, and adjacent to, the proposed designation will be:

- Landscape character: **'Very Low'**
- Natural character: **'Low'**

10.8 Summary and Conclusions

The proposed designation will introduce an extensive car park area and roading into the western area of Warkworth, which could potentially result in modifications to a waterway and wetland. However, the proposed designation also provides the opportunity to increase indigenous planting in the area, including natural wetland planting.

There is the potential for natural character to be affected by modifications to a waterway and natural wetland. It is likely that these potential effects could be reduced through avoiding piers in the riverbed, minimising piers on the riverbank, minimising fill over waterbodies, and revegetating the existing wetland. These issues will be addressed during the future regional consenting stages of the

Warkworth Package and the proposed outline plan process (Condition 1), with the primary means of mitigating effects being through design responses to be illustrated in an ULDMP (Condition 9).

With the implementation and establishment of the recommended measures, construction effects are anticipated to be **'Low'** and operational effects are anticipated to be **'Low'** at most. Proposed conditions at the future regional consent stage will provide specific mitigation for future transport projects within each designation.

Table 9. Summary of Assessment of Effects and Recommendations – NOR 1 Northern Public Transport Hub, Park and Ride and Western Link - North (Public Transport Hub Section)

Residual effect after recommendations	Assessment	Recommendation
Effects during construction		
Landscape Character: 'Low' Natural Character: 'Low'	Work within waterbodies. Exposed earthworks are a risk to waterbodies.	Refer to overall network recommendations.
Operational effects		
Landscape Character: 'Very Low' Natural Character: 'Low'	Potential effects on waterbodies.	Refer to overall network recommendations.

11 NOR 2 – Woodcocks Road – West Upgrade

This section assesses specific landscape and natural character matters relating to NOR 2 – Woodcocks Road Upgrade (Western Section) (the 'NOR 2 Project').

11.1 Overview and description of works

The NOR 2 Project includes an existing arterial extending from the interchange with the Ara Tūhono expressway in the west, to the Mansell Drive intersection in the east. The proposed upgrade includes:

- Widening the existing corridor to a two-lane urban arterial, with cycling and walking facilities on both sides.
- Areas of cut and fill

Two stormwater wetlands Refer to the AEE in Volume 2 for a more detailed description of works to be authorised.

11.2 Landscape character and natural character assessment

Woodcocks Road has an existing rural character. Within the proposed designation and adjacent area, there is an extensive amount of pastoral farmland, which is fragmented in places by native bush and the sinuous left and right branches of the Mahurangi River. East of Mason Heights there is an existing residential area on either side of Woodcocks Road.

The designation area is largely FUZ under the AUP:OP, with Open Space Conservation land predominately to the north of the Mahurangi River. There is also an Open Space Informal Recreation area at the intersection with Falls Road. The existing residential area at the eastern extent of the proposed designation is zoned as Residential Single House and Residential Mixed Housing on the southern side of Woodcocks Road, and Residential Mixed Housing on the northern side of the road. The Warkworth Structure Plan identifies residential – mixing housing urban and business – heavy industry zones (at the western end).

Potential effects on existing residential areas

Key attributes within the existing landscape include pasture, fence lines and rural buildings. A contained residential area exists at the eastern extent of the proposed designation. It is anticipated that the entire surrounding area will be urbanised in the future. The designation is expected to be in-keeping with this planned future environment. However, the character of the future transport corridor will likely affect the amenity of the existing residential area by introducing a new road type into the area, removing existing houses, reducing section sizes, and reducing buffers between the road and residential properties.

Minimal effects on landform

The proposed designation is within the flat basin west of Warkworth town centre. Rolling hills gently extend upwards to the north and south of Woodcocks Road. Although, the proposed designation is located away from prominent landforms, views of the proposed transport corridor will likely be attainable from adjacent raised areas, such as along Viv Davie-Martin Drive looking south. Visual effects are expected to be very low (Appendix A).

Potential effects on indigenous vegetation

Within the NOR 2 Project area existing indigenous vegetation and meandering natural waterways provide a defining pattern in the landscape. It is anticipated that this landscape pattern will remain a key attribute as the area becomes urbanised. There is a large stretch of SEA on the northern side of Woodcocks Road. In places the proposed designation crosses small sections of SEA. Both branches of the Mahurangi River have substantial riparian vegetation, which is visible from Woodcocks Road. Ecological effects are discussed in detail in the 'Assessment of Ecological Effects'.

Reduced potential effects on waterways

There are two existing bridges along Woodcocks Road which cross the Mahurangi River, with the left branch located on the north side of the road and the right branch to the south. On the northern side of Woodcocks Road, the Mahurangi River runs parallel to the road for almost the entire length of the designation. The currently proposed Project drawings also illustrate bridges in these locations,

reducing the potential for adverse effects on waterways, with 20m of stream length anticipated to be lost as a result of Project works and 57m² of natural wetland.³³ Effects on the Mahurangi River are discussed further in the 'Assessment of Ecological Effects'.

Opportunity to retain rural landscape characteristics

Currently, Woodcocks Road is set within a rural context within the proposed designation boundary. It is anticipated that the area will become urbanised in the future as part of the FUZ in the AUP:OP. However, there is potential for rural landscape characteristics to be retained with future urbanisation, including through existing indigenous vegetation (Appendix A).

Potential effects on heritage values

Three heritage sites have been identified in the 'Assessment of Archaeological Effects' as relevant to NOR 2 Project. These include Cherry's Bridge, a WWII camp and an artefact find spot. Effects on these heritage sites are discussed in detail in the 'Assessment of Archaeological Effects'. There is the opportunity to interpret these heritage areas within the transport corridor through markers and interpretations of the history of the sites.

11.3 Nature and magnitude of effects

The proposed designation has the potential to affect the landscape character and natural character of the adjacent area. Without recommended measures to avoid, remedy or mitigate effects, it is anticipated that effects will be as follows:

- Construction effects on landscape character: **'Low-Moderate'**
- Construction effects on natural character: **'Moderate-High'**
- Operational effects on landscape character: **'Low'**
- Operation effects on natural character: **'Moderate'**

The following sections breakdown the nature and magnitude of effects into temporary effects during construction of the proposed transport corridor and permanent effects during the operation of the proposed transport corridor. Measures are recommended to avoid, remedy or mitigate these effects. The residual magnitude of effects is then assessed once the recommended measures have been implemented or established.

11.4 Assessment of landscape effects during construction

The following section discusses the specific temporary potential landscape and natural character and visual effects which could arise during the construction of the proposed transport corridor within this designation.

Designation boundary within SEA

The proposed designation crosses into a SEA on the northern side of Woodcocks Road at the western extent of the designation where it follows the existing road corridor boundary, and the SEA extends inside the road boundary, as well as at the midpoint of the designation, where the bridge crosses the Mahurangi River. There is the potential for construction to result in the removal of additional riparian vegetation outside the operational structures of the proposed transport corridor.

³³ Assessment of Ecological Effects, Table 16-2 and Table 16-3.

Any impacts on riparian vegetation will likely have adverse effects on natural character and landscape character.

Potential work within the Mahurangi River

The proposed designation crosses the Mahurangi River, which is a significant waterway within Warkworth. While there are already bridges in place, the bridges will require widening and lengthening, and one may require a slight realignment. As such, construction work could be required in the waterway, which could have potential effects on natural character and landscape character.

Exposed earthworks in wetland and existing residential area

The currently proposed Project drawings depict an area of fill over a natural wetland on the northern side of Woodcocks Road, towards the eastern extent of the proposed designation. There is the risk of sediment entering the wetland while earthworks are exposed. A large area of cut is also depicted on the southern side of Woodcocks Road, at the eastern end of the proposed designation. This is in an existing residential area and has the potential to be unsightly for neighbouring residents while earthworks are exposed. The extent and location of earthworks will be confirmed at the detailed design phase with potential effects addressed through future regional consent processes.

Reduced amenity for existing residential area

Amenity issues are expected to be concentrated at the eastern extent of the proposed designation, where there is an existing residential area. Most of the effects on amenity will likely be caused by the large area of cut to the south of Woodcocks Road that is currently depicted in the proposed Project drawings.

11.5 Recommended measures to avoid, remedy or mitigate construction effects

In addition to the overall recommended measures outlined in Section 7.5 (as relevant), I recommend the following measures should be addressed through future outline plan or resource consent processes (as appropriate) to address the specific construction effects of the proposed transport corridor.

- Where practicable, stage earthworks for the large area of cut within the existing residential area. Provide temporary screening for residential properties on the southern side of Woodcocks Road until planting on the earthworks is established.

With the above recommended measures, It is anticipated that construction effects within, and adjacent to, the proposed designation will be:

- Landscape character: **'Low'**
- Natural character: **'Low-Moderate'**

11.6 Assessment of operational effects

The following section discusses the specific permanent potential landscape and natural character and visual effects which could arise during the operation of the proposed designation.

Potential effects on existing residential area

The proposed designation includes an existing road which requires upgrading and will also complement the future urbanisation planned for the area. As such, a transport corridor is an expected element in this area and is consistent with the existing and anticipated future landscape. However, widening of the existing road will likely affect an existing residential area at the eastern extent of the proposed designation. Approximately five houses will be removed and three properties on the southern side of Woodcocks Road will have reduced section sizes. Additionally, there will be a reduced buffer between the transport corridor and a row of houses on Oliver Street. The proposed designation is also expected to abut residential land use in the future as the FUZ becomes urbanised. However, the proposed designation will be consistent with this anticipated suburban character, and it is expected that future urban planning will take the designation into consideration.

Opportunity to create an attractive transport corridor

While the large area of cut illustrated in the currently proposed Project drawings on the southern side of Woodcocks Road has the potential to be visually dominant, there is the opportunity to create an attractive planted area, which has the potential to become a community asset. There is also the opportunity to incorporate the stormwater treatment wetland with active transport routes. Furthermore, the location of the proposed designation along the vegetated banks of the Mahurangi River has scope to provide an attractive experience for those travelling both in vehicles and via active modes of transport.

Minimal changes to landform

It is likely that the proposed designation will require some areas of cut and fill, however, these are not relatively extensive due to the location of the proposed designation along a somewhat flat area of land and as it involves the upgrading of an existing road, rather than the creation of a new road. The width of the proposed designation is expected to enable areas of cut and fill to be appropriately integrated with the surrounding, natural landform.

Opportunity for mitigating potential effects on natural character

Based on the currently proposed Project drawings, there is the potential for riparian vegetation to be adversely affected by the proposed designation, which would consequently affect natural character. These potential effects could be addressed by indigenous revegetation planting within the designation.

Opportunity to recognise rural landscape characteristics through views

While the proposed designation is currently predominately rural in character, it is anticipated that the proposed transport corridor and surrounding area will become urbanised in the future. Even so, it is likely that some rural landscape characteristics will be retained. Opportunities to recognise these rural landscape characteristics include design measures which enable transport corridor users views towards the surrounding vegetation, particularly on the northern side of Woodcocks Road.

Opportunity to recognise heritage sites

There are several historical sites within the vicinity of the proposed designation. The NOR 2 Project provides an opportunity to raise awareness of the history in the area, such as cultural markers and interpretation panels that highlight the historical WWII US military campsites.

11.7 Recommended measures to avoid, remedy or mitigate operational effects

In addition to the overall recommended measures outlined in Section 7.7 (as relevant), I recommend the following measures should be addressed through future outline plan or resource consent processes (as appropriate) to address the specific operational effects of the proposed transport corridor. In this regard, it is noted that the primary means of mitigating effects is through design responses to be illustrated in an ULDMP.

- Minimise visual effects on adjacent residential dwellings with appropriate buffering and screening.
- Integration of the transport corridor where the corridor intersects waterways and areas of vegetation.
- Opportunity to provide cultural markers and interpretation panels for historical and culturally significant areas.

With the above recommended measures, it is anticipated that operational effects within, and adjacent to, the proposed designation will be

- Landscape character: **'Very Low'**
- Natural character: **'Low-Moderate'**

11.8 Summary and Conclusions

The proposed designation will result in the upgrading and widening of an existing road in the southwest of Warkworth, which is anticipated to result in modifications to existing residential areas, some earthworks, and potential vegetation removal. However, the proposed designation also provides the opportunity to create an attractive travel corridor, as well as recognise heritage sites.

It is expected that natural character could be potentially affected by the widening of two bridges and the potential removal of riparian vegetation. It is likely that these effects could be reduced through avoiding piers in the riverbed, minimising piers on the riverbank, and riparian revegetation. These issues will be addressed during the future regional consenting stages of the Warkworth Package and the proposed outline plan process (Condition 1), with the primary means of mitigating effects being through design responses to be illustrated in an ULDMP (Condition 9).

With the implementation and establishment of the recommended measures, construction effects are anticipated to be **'Low-Moderate'** at most and operational effects are anticipated to be **'Low-Moderate'** at most. Proposed conditions at the future regional resource consent stage will provide specific mitigation for future transport projects within each designation.

Table 10. Summary of Assessment of Effects and Recommendations – NOR 2 Woodcocks Road Upgrade (Western Section)

Residual effect after recommendations	Assessment	Recommendation
Effects during construction		
Landscape Character: 'Low'	Designation boundary within SEA. Work within the Mahurangi River and wetland area.	Refer to overall network recommendations.
Natural Character: 'Low-Moderate'	Exposed earthworks in wetland and residential area.	Where practicable, stage earthworks for the large area of cut within the existing residential area. Provide temporary screening for residential properties on the southern side of Woodcocks Road until planting on the earthworks is established.
Operational effects		
Landscape Character: 'Very Low'	Minimising effects on existing residential areas.	Minimise visual effects on adjacent residential dwellings with appropriate buffering and screening.
Natural Character: 'Low-Moderate'	Addressing effects on waterbodies and natural character.	Integration of the transport corridor where the corridor intersects waterways and areas of vegetation.
	Opportunity for recognising heritage sites	Opportunity to provide cultural markers and interpretation panels for historical and culturally significant areas.

12 NOR 3 – State Highway 1 – South Upgrade

This section assesses specific landscape and natural character matters relating to NOR 3 – Existing State Highway 1 Upgrade (Southern Section) (the 'NOR 3 Project').

12.1 Overview and description of works

SH1 is an existing arterial extending from the Northern Gateway Toll Road in the south to its intersection with Auckland Road in the northeast, with the extents of the proposed NOR 3 Project upgrade from the FUZ boundary in the south to its intersection with Fairwater Road in the north. The proposed NOR 3 Project upgrade involves:

- Upgrading of the existing two-lane highway to a two-lane urban arterial, with cycle lanes and footpaths on both sides
- A large stormwater wetland
- Areas of cut and fill

Refer to the AEE in Volume 2 for a more detailed description of works to be authorised.

12.2 Landscape character and natural character assessment

SH1 currently transitions from a rural road in the south to the urban fringes of Warkworth in the north, becoming the southern ‘gateway’ of Warkworth at the northern extent of the proposed designation.

The existing rural landscape either side of SH1 is zoned FUZ in the AUP:OP and is expected to become urbanised in the future. Other AUP:OP zoning includes Residential Single House at the northern extent of the proposed designation, as well as a Business Local Centre. When the Ara Tūhono expressway opens in 2023 the classification of the existing SH1 is expected to operate as a local urban arterial road. The Warkworth Structure Plan identifies several zones along the length of the designation, including residential (terrace housing and apartment buildings, mixed housing urban, and mixing housing suburban), protection areas (not for development), Morrison’s Heritage Orchard, and a business – neighbourhood centre.

Limited effects on amenity

At the northern extent of the proposed designation, the existing residential area which flanks the current SH1 has reduced amenity due to the high use road, which is often congested with traffic in the current situation. The existing large-format retail area at the northern extent of the proposed designation also reduces amenity in this area. Retail stores include a petrol station, fast food restaurants and a building materials store. These stores currently signal the southern ‘gateway’ to central Warkworth.

Along the urban fringes and the rural landscape to the south, there are higher levels of amenity and it is typically rural in character. Aspects which contribute to the amenity of the setting include residential planting, roadside planting (which largely consists of exotic species), and tree species typical of farms (such as eucalyptus, poplar and willow trees). These farmland trees are often planted in regimented stands as shelterbelts, providing a linear landscape pattern. However, it is expected that this amenity will change in the future as the area becomes urbanised and much of this vegetation will be removed.

Minimal effects on landform

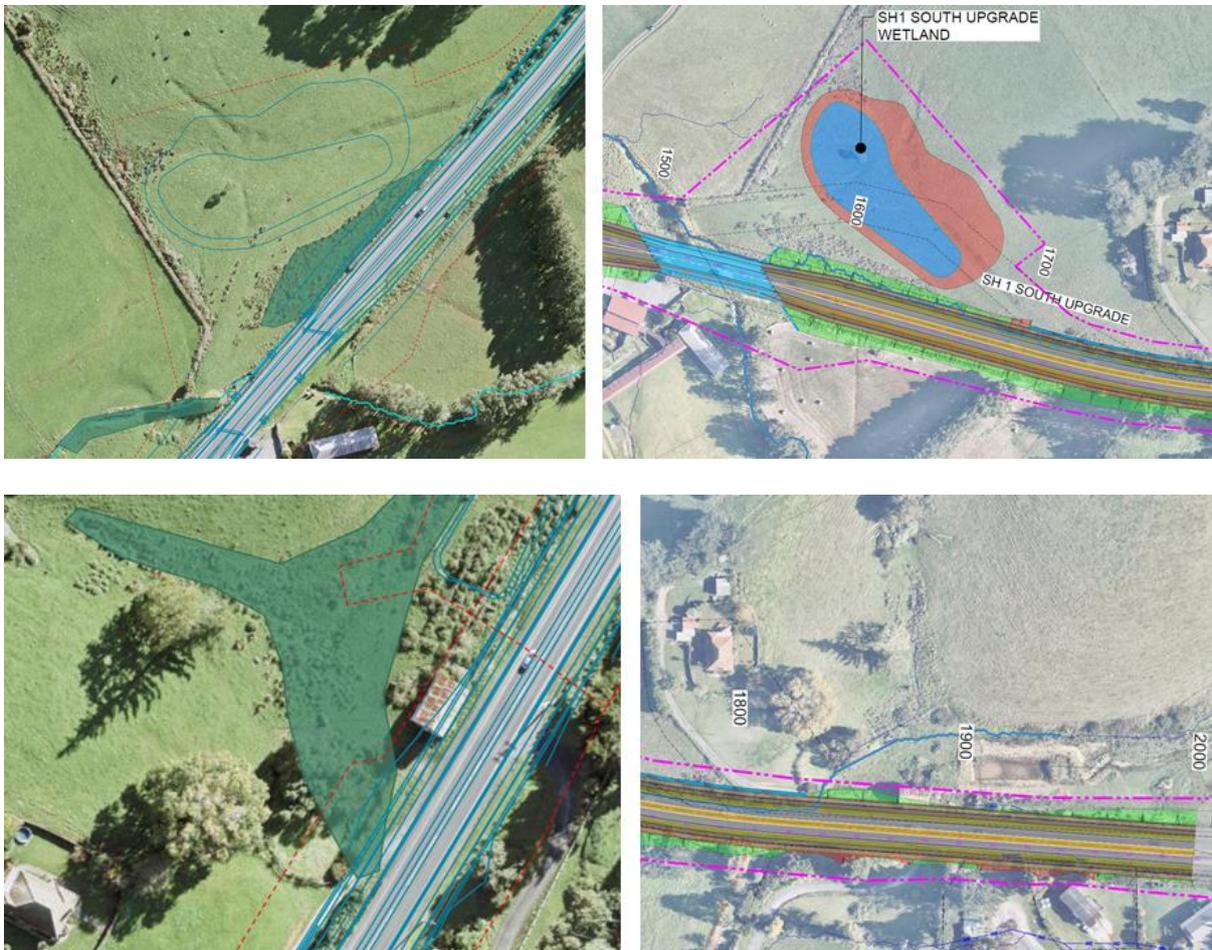
While the proposed designation runs through a relatively flat area of land, some areas of cut and fill are likely to be required, particularly at the southern extent. As the NOR 3 Project involves a road upgrade, rather than a new road, earthworks are less extensive than what would be expected for a transport corridor through a greenfield site.

Limited effects on vegetation

Avice Miller Reserve is located outside the designation, to the southeast, and is identified in the AUP:OP as a SEA and an ONL. The designation is unlikely to affect these identified areas. Other vegetation in the area includes orchard planting, shelterbelts and fence line planting, scattered farm trees, roadside vegetation, and residential planting. Much of this planting is expected to be removed as part of the future urbanisation of Warkworth outside the scope of the Warkworth Package. Ecological effects are discussed in detail in the 'Assessment of Ecological Effects'.

Potential effects on waterbodies

Towards the midpoint of the proposed designation, the transport corridor crosses the right branch of the Mahurangi River twice via two bridges to the north and south of Toovey Road. While these are existing bridges, they will require widening as part of the NOR 3 Project. Areas of fill are also shown in the currently proposed Project drawings over two wetland areas (Figure). It is anticipated that Project works will result in the loss of 206m of stream and 1,564m² of natural wetland.³⁴ Effects on these waterbodies are discussed further in the 'Assessment of Ecological Effects'.



³⁴ Assessment of Ecological Effects, Table 16-2 and 16-3.

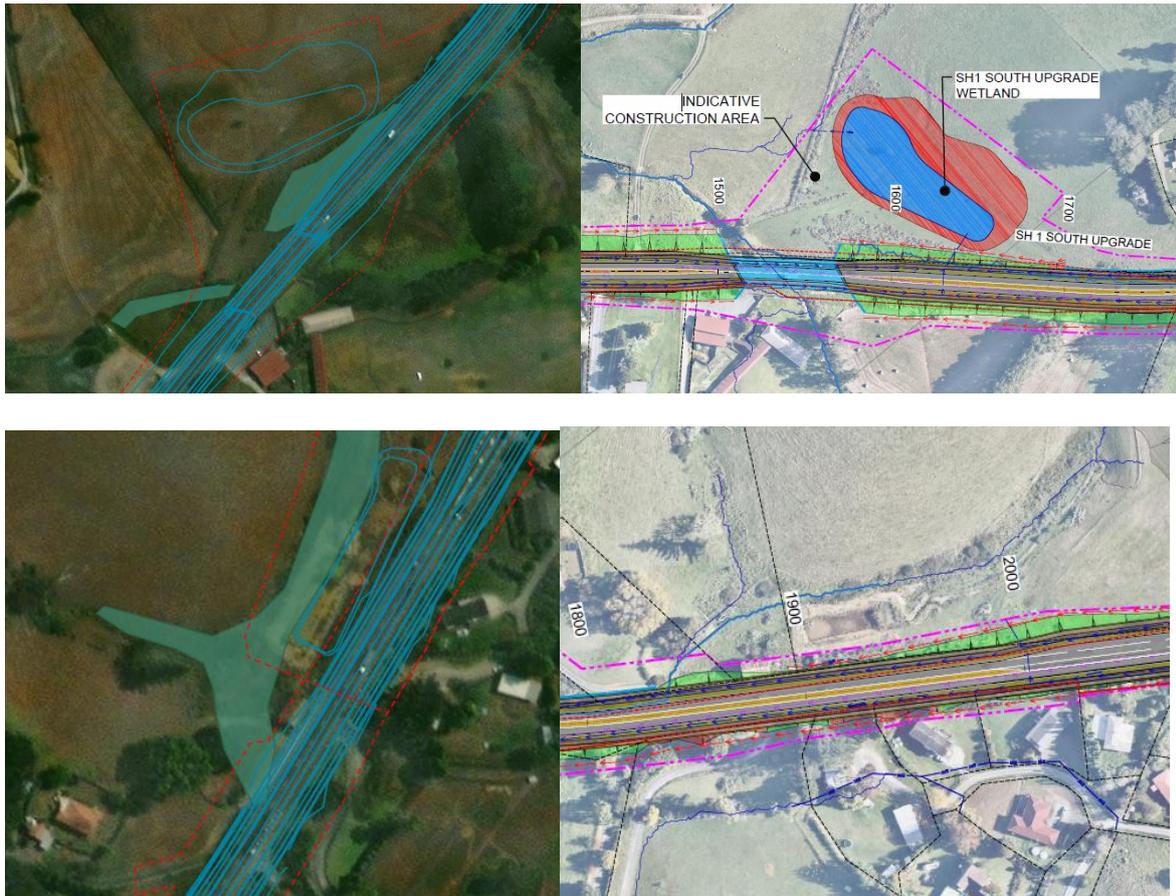


Figure 12-1 Left images show natural wetlands in green. Right images show areas of fill in bright green.

Potential rural landscape characteristics to be retained

Aside from the northern extent of the proposed designation, the existing environment has an overriding rural character due to expansive areas of pasture adjacent to, and visible from, the road. Heading towards the northern extent of the proposed designation, SH1 transitions from a rural to urban character. It is anticipated that this rural character will change to an urbanised landscape in the future, however, rural landscape characteristics, such as Morrison's Heritage Orchard, are likely to remain as discussed in the next section. As it is expected that Project implementation will occur in an urban setting and as it is a road upgrade, rather than a new road, it is anticipated that visual effects will be very low, with the potential for some positive visual effects from streetscaping.

Potential effects on heritage orchard

Towards the southwest of the proposed designation, tucked behind an established planting border, is Morrison's Heritage Orchard. The orchard has heritage value and is identified in the Warkworth Structure Plan as an important rural landscape characteristic. As such, is expected that the orchard will be retained as Warkworth becomes urbanised in the future. The proposed designation will overlap with a small section of the orchard.

Potential effects on AUP:OP overlays

An ONL is identified in the AUP:OP to the south and southeast of the proposed designation. The AUP:OP provides a description of the characteristics which require protection for this identified area.

Potential effects on these recognised areas are discussed in detail in Section 18 'Statutory Considerations'.

12.3 Nature and magnitude of effects

The proposed designation has the potential to affect the landscape character and natural character of the adjacent area. Without recommended measures to avoid, remedy or mitigate effects, it is anticipated that effects will be as follows:

- Construction effects on landscape character: **'Low-Moderate'**
- Construction effects on natural character: **'Low-Moderate'**
- Operational effects on landscape character: **'Low-Moderate'**
- Operation effects on natural character: **'Low'**

The following sections breakdown the nature and magnitude of effects into temporary effects during construction of the proposed transport corridor and permanent effects during the operation of the proposed transport corridor. Measures are recommended to avoid, remedy or mitigate these effects. The residual magnitude of effects is then assessed once the recommended measures have been implemented or established.

12.4 Assessment of landscape effects during construction

The following section discusses the specific temporary potential landscape and natural character and visual effects which could arise during the proposed transport corridor construction.

Disruption to heritage orchard

A retaining wall is depicted in the currently proposed Project drawings adjacent to Morrison's Heritage Orchard. There is the potential for works in this area to disrupt commercial activities within the orchard and may also result in the removal of some orchard trees. This has the potential to affect rural landscape characteristics which contribute to the landscape character, as well as heritage values.

Work within the Mahurangi River

The proposed designation crosses the Mahurangi River, which is a defining feature of Warkworth. There are currently bridges at these crossings, however, the bridges will require widening as part of the proposed design. Therefore, construction could potentially be required in the waterway, which could result in adverse effects on both natural and landscape character.

Exposed earthworks

Some areas of cut and fill are illustrated in the currently proposed Project drawings, including two small sections off fill over two recognised wetlands on the western side of the proposed designation. While earthworks are exposed, there is the risk of sediment entering the wetlands. In addition, some areas of cut and fill may be unsightly for nearby residential properties.

Limited amenity effects

Amenity effects are limited as the proposed designation is for a road upgrade, rather than a new road. However, cut and fill, as well as the removal of planting, have the potential to reduce the area's amenity.

12.5 Recommended measures to avoid, remedy or mitigate construction effects

In addition to the overall recommended measures outlined in Section 7.5 (as relevant), I recommend the following measures should be addressed through future outline plan or resource consent processes (as appropriate) to address the specific construction effects of the proposed transport corridor.

- Where practicable, avoid construction works in Morrison's Heritage Orchard.
- Where practicable, stage earthworks south of the tie-in with the Wider Western Link.
- Provide temporary screening for residential properties south of the tie-in with the Wider Western Link until earthworks are remediated.

With the above recommended measures, it is anticipated that construction effects within, and adjacent to, the proposed designation will be:

- Landscape character: **'Low'**
- Natural character: **'Low'**

12.6 Assessment of operational effects

The following section discusses the specific permanent potential landscape and natural character and visual effects which could arise during the operation of the proposed transport corridor.

Opportunity to improve southern 'gateway'

The proposed designation boundary is near several existing residential dwellings, limiting the ability for mitigation measures, such as planting and/or fencing, to lessen potential effects on residential amenity (Figure). Where the proposed designation is close to residential dwellings, mitigation is expected to be particularly important. There is potential for localised effects on existing residential properties at the northern extent of the proposed designation. However, the NOR 3 Project provides an opportunity to enhance the southern 'gateway' into Warkworth through careful street design, including amenity planting.



Figure 12-2 Example of locations where the designation boundary is near residential dwellings.

Minimal changes to landform

While it is expected that there will be relatively minimal changes to the landform, towards the southern extent of the proposed designation several large areas of cut and fill are depicted in the currently proposed Project drawings, some of which will be near existing residential properties. It is likely that mitigation planting will be particularly important on the large area of fill adjacent to #1659 SH1 (Figure). Consideration will also need to be given as to how the area of cut at the southern extent of the designation integrates with the adjoining SH1 corridor to minimise effects on landform. This is particularly important given its proximity to an ONL. Condition 9 of the ULDM directs the integration of the proposed transport corridor with the surrounding future environment. As it is uncertain at this stage how the topography of the land may change with future development, cut and fill in the proposed Project drawings are based on existing topography.

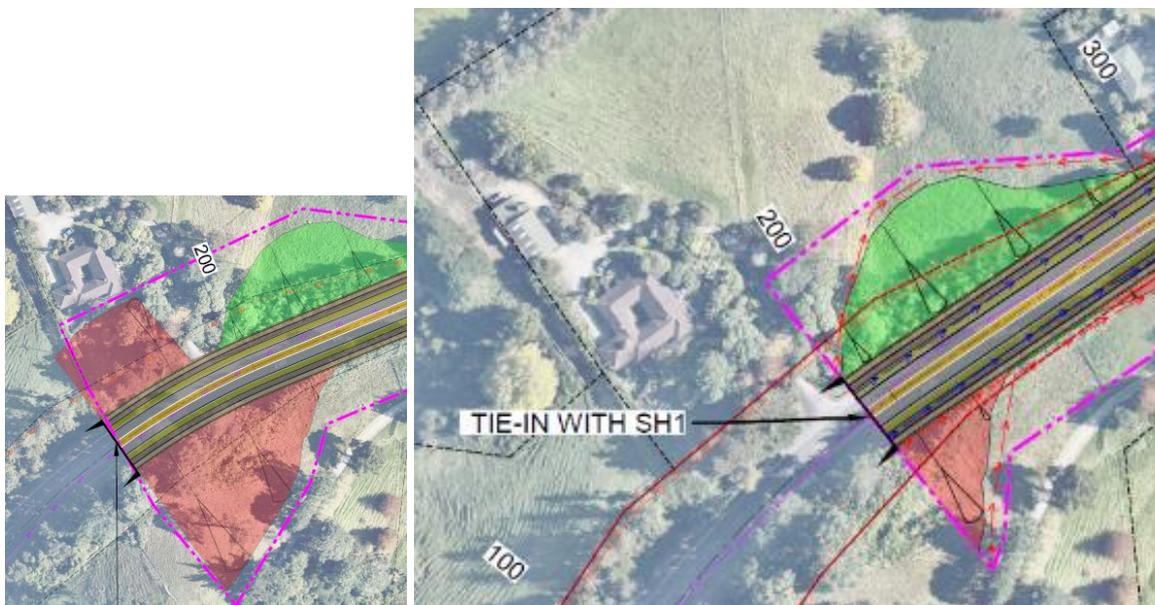


Figure 12-3 Large area of fill near #1659 SH1.

Opportunity for biodiversity and amenity planting

The NOR 3 Project provides an opportunity for planting of indigenous roadside species to enhance biodiversity and improve amenity by minimising the visual dominance of the transport corridor from adjoining sites.

Scope for mitigating potential natural character effects

Small areas of fill are shown in the currently proposed Project drawings over two natural wetland areas. The proposed stormwater treatment wetland is also depicted very close to a natural wetland. Any adverse effects on natural wetlands within the proposed designation will also likely adversely affect natural character. Potential effects on natural character, which relate to waterbodies (including riparian vegetation), would be required to be addressed in situ (where the effects occur). There is an opportunity to increase the extent of riparian indigenous planting within the proposed designation by revegetating wetlands (Figure).



Figure 12-4 Opportunity to revegetate natural wetland to address potential natural character effects.

Opportunity to emphasise existing rural landscape characteristics

Although it is expected that the area's rural character will be altered with future urbanisation separate to the Warkworth Package, it is anticipated that some rural landscape characteristics in the wider landscape will be retained. The NOR 3 Project provides some opportunities for emphasising remaining rural landscape characteristics, such as through roadside planting and design connections with Morrison's Heritage Orchard.

Opportunity to integrate heritage orchard through design

The Warkworth Structure Plan strongly advocates for the protection of Morrison's Heritage Orchard as a means for retaining some rural landscape characteristics in the future urban form of Warkworth. The proposed designation encroaches into Morrison's Heritage Orchard (#1773 SH1), with a retaining wall depicted in the current Project drawings adjacent to the property (Figure). This has the potential to

affect heritage trees within the orchard. However, there is an opportunity to improve access to and from Morrison's Heritage Orchard, including using street trees to signal the entranceway to the orchard.

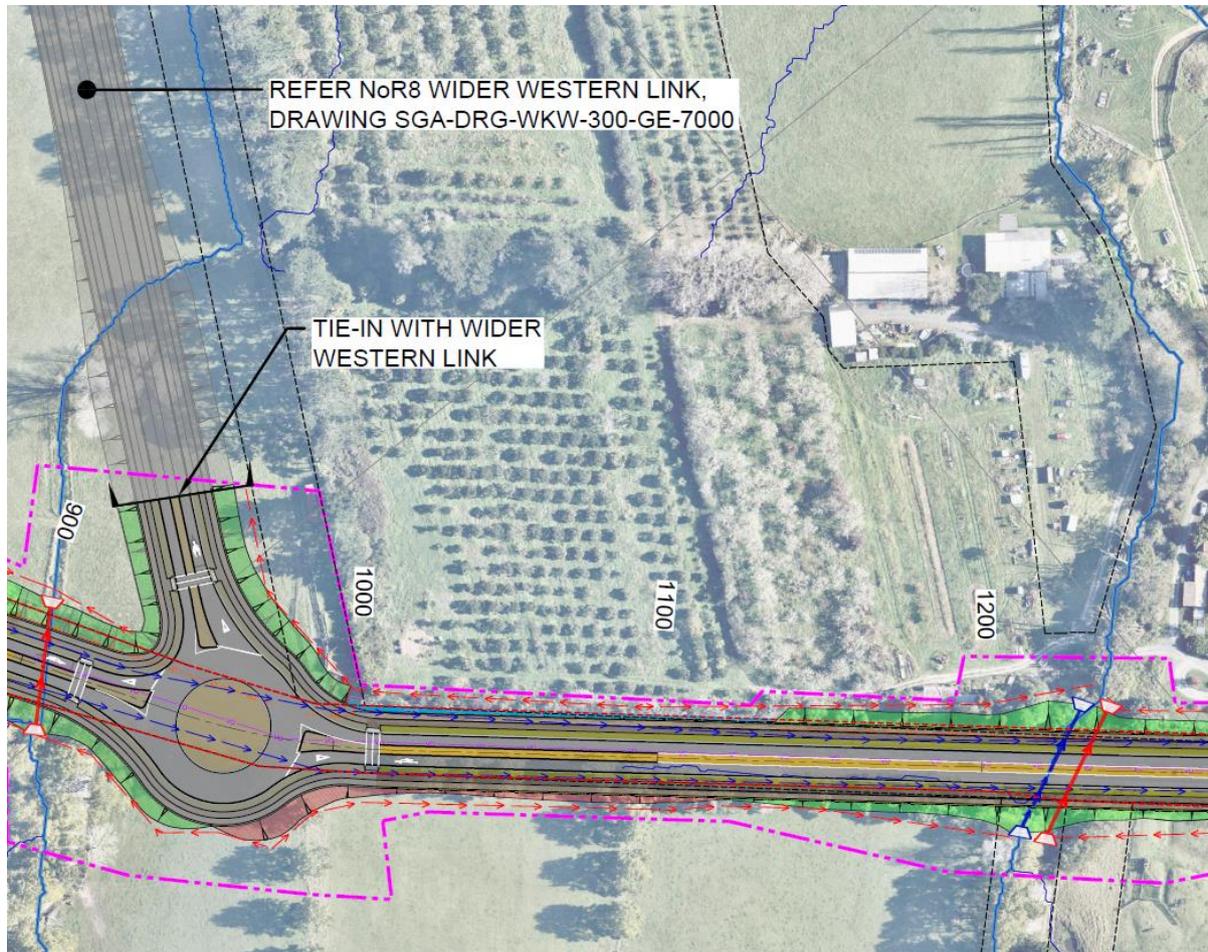


Figure 12-5 Morrison's Heritage Orchard in relation to the NOR 3 Project boundary. Retaining wall indicated by the blue 'RW' line'.

12.7 Recommended measures to avoid, remedy or mitigate operational effects

In addition to the overall recommended measures outlined in Section 7.7 (as relevant), I recommend the following measures should be addressed through future outline plan or resource consent processes (as appropriate) to address the specific operational effects of the proposed transport corridor. In this regard, it is noted that the primary means of mitigating effects is through design responses to be illustrated in an ULDMP.

- Provide detailed plans at the future regional resource consent stage for the enhancement of Warkworth's southern 'gateway'.
- Large area of cut at the southern end of the designation is well integrated with the adjoining SH1 corridor in a way that is sensitive to the landform and reduces the extent of cut.
- Provide suitable separation between natural and artificial wetlands.
- Where practicable, avoid impacts on Morrison's Heritage Orchard. Avoid adverse effects to orchard trees where intrusion into the property boundaries is unavoidable.

- Provide detailed plans at the future regional resource consent stage illustrating how the location of Morrison's Heritage Orchard will be positively enhanced through the transport corridor design.
- It is noted that detailed responses to waterway and natural wetland treatment will be detailed in the future regional resource consenting stages of the Warkworth Package.

With the above recommended measures, it is anticipated that operational effects within, and adjacent to, the proposed designation will be:

- Landscape character: **'Low'**
- Natural character: **'Very Low'**

12.8 Summary and Conclusions

The proposed designation will result in the upgrading and widening of an existing road in the southern area of Warkworth, which is anticipated to result in modifications to existing residential areas and some earthworks. However, the NOR 3 Project also provides the opportunity to strengthen the southern 'gateway' of Warkworth and enhance indigenous planting within the proposed designation.

It is expected that natural character will be specifically affected by the widening of two bridges and potential fill over two natural wetlands. It is likely that these effects can be reduced through avoiding piers in the riverbed, minimising piers on the riverbank, and revegetating existing wetlands. These issues will be addressed during the future regional consenting stages of the Warkworth Package and the proposed outline plan process (Condition 1), with the primary means of mitigating effects being through design responses to be illustrated in an ULDM (Condition 9).

With the implementation and establishment of the recommended measures, construction effects are anticipated to be **'Low'** and operational effects are anticipated to be **'Low'** at most. Proposed conditions at the future regional resource consent stage will provide specific mitigation for future transport projects within each designation.

Table 11. Summary of Assessment of Effects and Recommendations – NOR 3 Existing State Highway 1 Upgrade (Southern Section)

Residual effect after recommendations	Assessment	Recommendation
Effects during construction		
Landscape Character: 'Low'	Disruption to heritage orchard.	Where practicable, avoid construction works in Morrison's Heritage Orchard.
	Work within the Mahurangi River and wetland area.	Refer to overall network recommendations.
Natural Character: 'Low'	Exposed earthworks.	Where practicable, stage earthworks south of the tie-in with the Wider Western Link. Provide temporary screening for residential properties south of the tie-in with the Wider Western Link until earthworks are remediated.
Operational effects		
Landscape Character: 'Low'	Effects on existing residential areas. Opportunity to improve southern 'gateway'.	Provide detailed plans at the future regional resource consent stage for the enhancement of Warkworth's southern 'gateway'.
	Potential issues with landform integration.	Large area of cut at the southern end of the designation is well integrated with the adjoining SH1 corridor in a way that is sensitive to the landform and reduces the extent of cut.
Natural Character: 'Very Low'		

Residual effect after recommendations	Assessment	Recommendation
<p>Natural Character (cont'):</p> <p>'Low</p> <p>Natural Character (cont'):</p> <p>'Very Low</p>	<p>Scope for mitigating effects on natural character.</p>	<p>Provide suitable separation between natural and artificial wetlands.</p> <p>It is noted that detailed responses to waterway and natural wetland treatment will be detailed in the future regional resource consenting stages of the Warkworth Package.</p>
	<p>Potential effects on heritage orchard.</p>	<p>Avoid Morrison's Heritage Orchard. Avoid adverse effects to orchard trees where intrusion into the property boundaries is unavoidable.</p> <p>Provide detailed plans at the future regional resource consent stage illustrating how the location of Morrison's Heritage Orchard will be positively enhanced through the transport corridor design.</p>

13 NOR 4 – Matakana Road Upgrade

This section assesses specific landscape and natural character matters relating to NOR 4 – Matakana Road Upgrade (the 'NOR 4 Project').

13.1 Overview and description of works

Matakana Road is an existing arterial connecting the growth area of Warkworth and the towns of Matakana and Omaha. The proposed designation extends from the tie-in with the Hill Street intersection upgrade (a non-Te Tupu Ngātahi project) in the south, to the FUZ boundary in the north, where it is intersected by the Te Honohono ki Tai (a non-Te Tupu Ngātahi project) at its midpoint.

The Matakana Road upgrade will consist of:

- Widening of the existing road corridor to a 18m-24m two-lane cross section, including cycle lanes and footpaths
- The portion of the corridor between Hill Street and Melwood Drive is proposed to have a bidirectional facility for cyclists, rather than separate cycle lanes on both sides of the corridor
- Two large stormwater wetlands
- Areas of cut and fill
- Removal of some residential dwellings

Refer to the AEE in Volume 2 for a more detailed description of works to be authorised.

13.2 Landscape character and natural character assessment

Matakana Road is currently an urban road to the south, transitioning to a rural road in the north. There is an existing residential area to the west of the road. Scattered residential housing also extends northwards up both sides of the road.

Under the zoning in the AUP:OP, it anticipated that the proposed transport corridor and surrounding area will become fully urbanised in the future. The area is primarily zoned as residential (including single house, mixed housing suburban and mixed housing urban) or FUZ. There is also a small section of existing open space conservation land east and west of the proposed designation. The Warkworth Structure Plan also identifies residential zoning (mixed housing suburban and mixed housing urban) adjacent the designation.

Effects on existing residential areas

The southern extent of Matakana Road is characterised by the busy Hill Road intersection, which is frequently congested. Existing residential areas located along the edge of Matakana Road are typically screened by roadside vegetation and topography. Proposed widening of the road will result in the loss of houses, reduced section sizes, removal of vegetation and changes to topography.

Landform constraints

Along with existing residential areas, steep topography adds to the high constraints for development along Matakana Road between Hill Street and North of Melwood Drive. Within the southern extent of the proposed designation, sections of land drop to the west and rise away from the road to the east. Towards the northern end of the proposed designation the landscape becomes more open and views

of the rolling hill country to the east are attainable. However, it is anticipated that these views may become somewhat obscured by future urbanisation separate to the Warkworth Package.

Due to the topography, it is anticipated that visual effects will be varied for residents. Where residential properties are located close to areas of cut and fill, it is expected that potential visual effects will be greater. However, as the proposed transport corridor is for a road upgrade, rather than a new road, visual effects are reduced. Overall, visual effects are anticipated to be low but will vary for specific viewpoints, with some residential areas expected to experience greater effects.

Established vegetation characterises the designation and surrounding area

At the southern extent of the proposed designation, there is mature native vegetation in the adjacent Kōwhai Park. This connects with the bush along the Mahurangi River escarpment, providing a natural contrast to the busy roads in the area. On the eastern side of Matakana Road, a section of this vegetation is protected with a QEII covenant. Heading north the existing road is sandwiched between established residential plantings, which are a mix of native and exotic species. The AUP:OP identifies two Notable Trees on the western side of the proposed designation, near Melwood Drive (Figure 13-3 Area of fill depicted near the designation). The roadside in the northern section of the proposed designation is predominately covered with pastoral grass. However, under the AUP:OP zoning, this is expected to become urbanised in the future. Ecological effects are discussed in detail in the 'Assessment of Ecological Effects'.

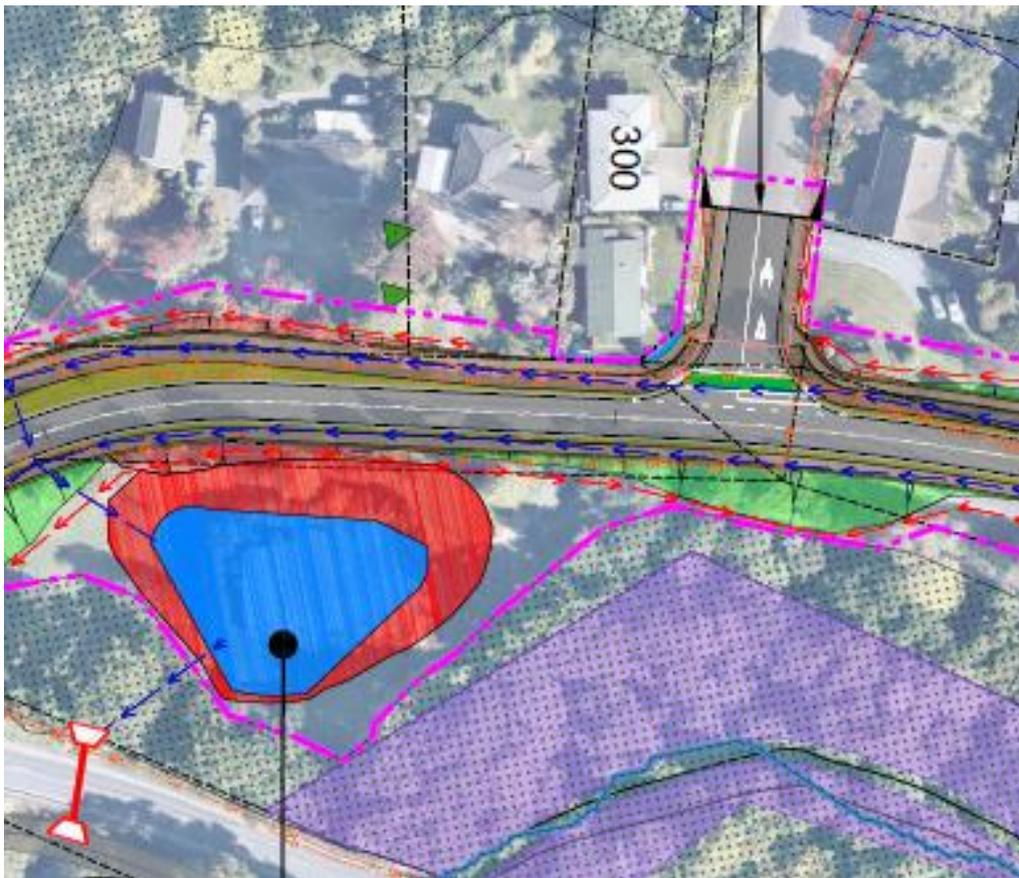


Figure 13-1 Notable Trees are indicated by the two green triangles on the opposite side of the road from the proposed stormwater wetland (indicated in blue and red).

Potential effects on waterbodies

Several recognised natural wetlands are in the northern section of the proposed designation, on the eastern side of Matakana Road. It is anticipated that Project works will result in the loss of 76m of stream and 857m² of natural wetland.³⁵ Potential effects on these natural wetlands are discussed further in the 'Assessment of Ecological Effects'.

Opportunity for visual connections with wider rural character

- The southern extent is enclosed by topography, houses, and vegetation. Further north where there are less houses, roadside vegetation and ground changes either side of the road, open vistas across rolling hills are attainable, with pasture characterising the eastern side of the road at the northern extent of the proposed designation. Under the AUP:OP zoning it is expected that this landscape will become urbanised in the future, however, the adjacent land to the north will remain in rural production. There is scope for strengthening connections between the designation and these adjacent rural areas, such as through views to the wider landscape beyond (Appendix A). This has the potential to provide some positive visual effects.

Potential effects on heritage and associational values

A property with heritage value is located at 190 Matakana Road, which has an early (1850s-70s) settler dwelling and early plantings of five mature oak trees. These trees may meet the criteria for inclusion in the AUP:OP Schedule of Notable Trees.³⁶ It is likely that the proposed designation will affect this property and is discussed further in 'Assessment of Archaeological Effects'.

13.3 Nature and magnitude of effects

The proposed designation has the potential to affect the landscape character and natural character of the adjacent area. Without recommended measures to avoid, remedy or mitigate effects, It is anticipated that effects will be as follows:

- Construction effects on landscape character: **'High'**
- Construction effects on natural character: **'Low'**
- Operational effects on landscape character: **'High'**
- Operation effects on natural character: **'Low'**

The following sections breakdown the nature and magnitude of effects into temporary effects during construction of the transport corridor and permanent effects during the operation of the transport corridor. Measures are recommended to avoid, remedy or mitigate these effects. The residual magnitude of effects is then assessed once the recommended measures have been implemented or established.

³⁵ Assessment of Ecological Effects, Table 16-2 and 16-3.

³⁶ Bassey and Walker (2018)

13.4 Assessment of landscape effects during construction

The following section discusses the specific temporary potential landscape and natural character and visual effects which could arise during the proposed transport corridor construction.

Exposed earthworks and reduced amenity for residential areas

Areas of fill are illustrated in the currently proposed Project drawings over identified natural wetlands towards the northern extent of the proposed designation, on the eastern side of Matakana Road.

There is the potential risk of sediment entering the wetlands while earthworks are exposed. Several large areas of cut and fill are also depicted in the currently proposed Project drawings adjacent to existing residential properties. These have the potential to be unsightly for neighbouring residents while earthworks are exposed.

13.5 Recommended measures to avoid, remedy or mitigate construction effects

In addition to the overall recommended measures outlined in Section 7.5 (as relevant), I recommend the following measures should be addressed through future outline plan or resource consent processes (as appropriate) to address the specific construction effects of the proposed transport corridor.

- Provide temporary screening for residential properties adjacent areas of cut and fill until earthworks are remediated.

With the above recommended measures, it is anticipated that construction effects within, and adjacent to, the proposed designation will be:

- Landscape character: **'Moderate-High'**
- Natural character: **'Low'**

13.6 Assessment of operational effects

The following section discusses the specific permanent potential landscape and natural character and visual effects which could arise during the operation of the proposed transport corridor.

Opportunity to create attractive transport corridor

The main landscape issue for the proposed designation will be potential effects on existing residential areas, due to the proximity of existing residential properties to Matakana Road. The NOR 4 Project will result in the removal of several houses and a reduction in size for numerous residential sections. The proposed designation boundary will be near several remaining residential dwellings, potentially limiting the ability of mitigation planting and/or fencing (Figure 13-4). Where the proposed designation is close to residential dwellings, mitigation will be particularly important. However, there are opportunities to create an attractive transport corridor through careful design, including amenity planting.



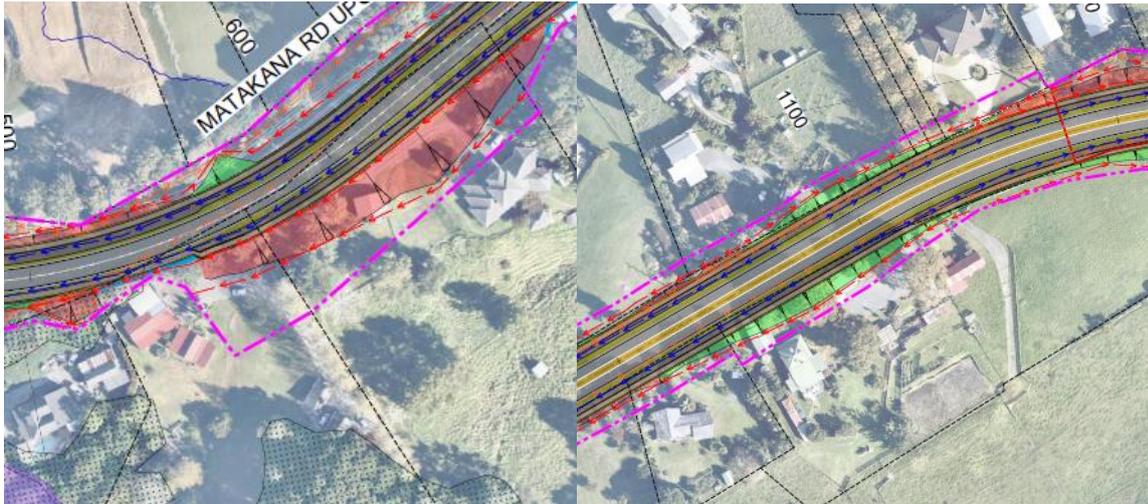


Figure 13-2 Examples of the close proximity of the designation boundary with some existing residential dwellings.

Potential adverse effects from cut and fill

As the proposed designation involves the upgrading of an existing road, rather than creation of a new road, effects on landform are limited to an extent. However, areas of cut and fill are still likely to be required, some of which will be potentially close to existing residential areas. In general, the width of the proposed designation is expected to enable areas of cut and fill to be appropriately integrated with the surrounding, natural landform. Specific mitigation may be required near 49 Matakana Road, where the proposed designation boundary follows closely to an area of fill depicted in the currently proposed Project drawings (Figure).

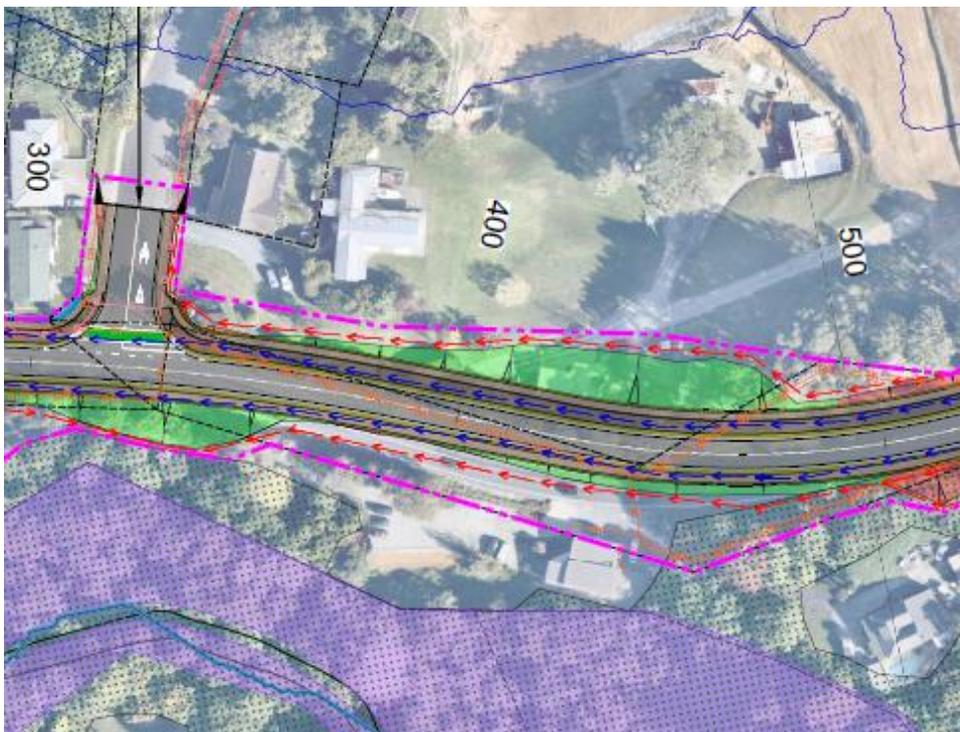


Figure 13-3 Area of fill depicted near the designation boundary at 49 Matakana Road.

Scope to increase planted areas

The proposed designation crosses several sections of existing SEA towards the southern extent of the NOR 4 Project, which could potentially result in adverse effects on vegetation. Sections of the proposed designation (such as adjacent to 96 Matakana Road and the section north of the Te Honohono ki Tai (Matakana Link Road) tie-in, on the eastern side of Matakana Road) provide opportunities for indigenous revegetation (Figure 13-4).



Figure 13-4 Opportunity for the revegetation of cut areas outside 96 Matakana Road.

Opportunities for mitigating potential natural character effects

Towards the northern extent of the proposed designation, areas of fill are shown in the currently proposed Project drawings across two natural wetlands (Figure 13-5Figure 13-5). This has the potential to have adverse effects on natural character. Effects on natural character relate to waterbodies and are required to be addressed in situ (where the effects occur). Opportunities for mitigating potential effects on natural character include wetland revegetation.

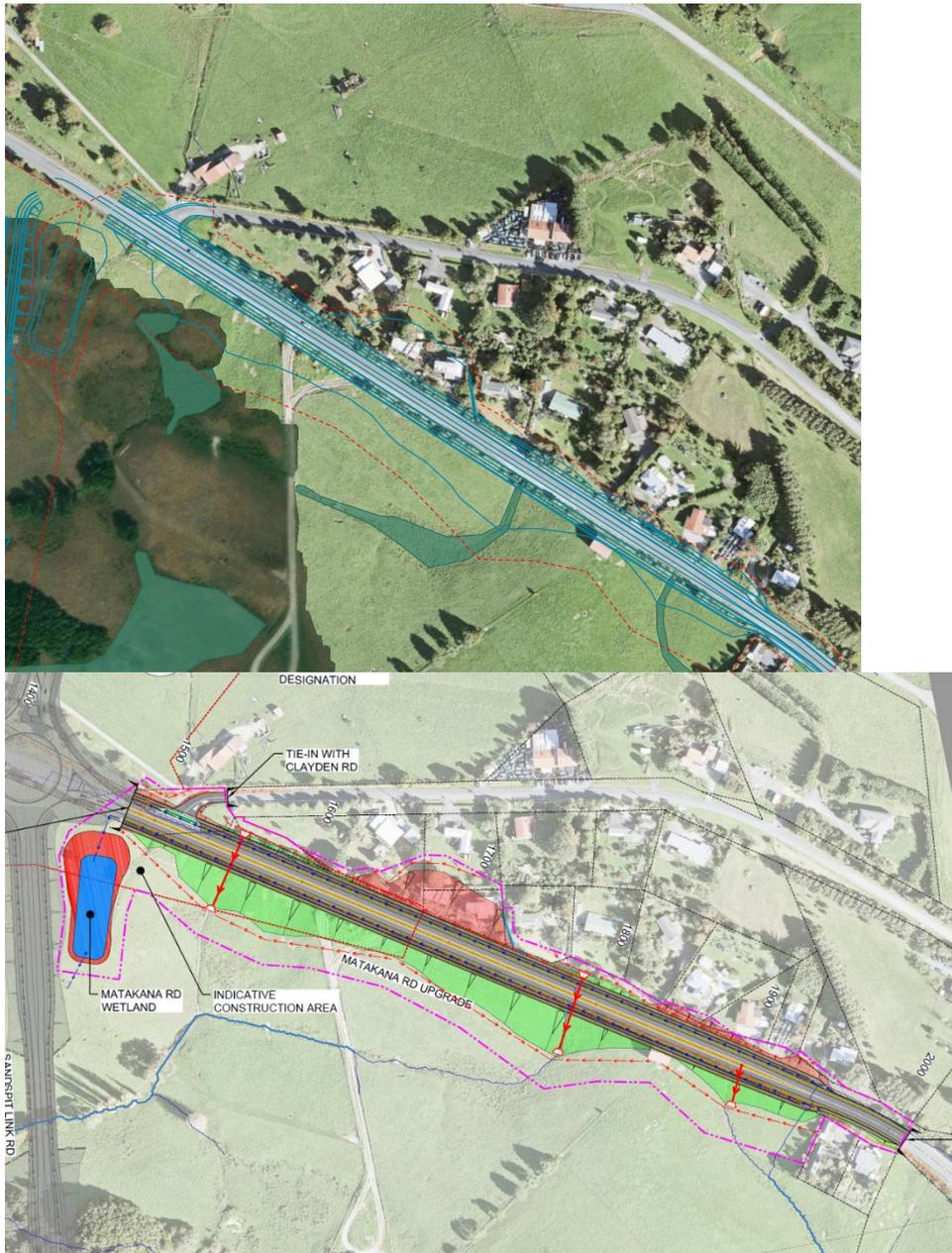


Figure 13-5 Proposed designation areas of fill over natural wetlands.

Opportunity to create visual connections with surrounding rural landscape

While the surrounding area is expected to become urbanised in the future separate to the Warkworth Package, there is an opportunity to provide visual connections with the surrounding rural landscape through rural vistas for Matakana Road users. Towards the northern extent of the proposed designation there is scope to retain views to the east, particularly from sections of raised road.

Possible effects on Notable Trees and potential heritage trees

The AUP:OP identifies two Notable Trees near 5 Matakana Road (Figure). The proposed designation boundary is adjacent to these trees. While the trunks of the trees are located outside of the designation, there is the potential that these trees will require further protection to avoid negative impacts on tree health.

The proposed designation also extends into the historic property at 190 Matakana Road, which could potentially affect the dwelling and five English oak trees that have potential heritage value. Heritage values are discussed in detail in the 'Assessment of Archaeological Effects'.

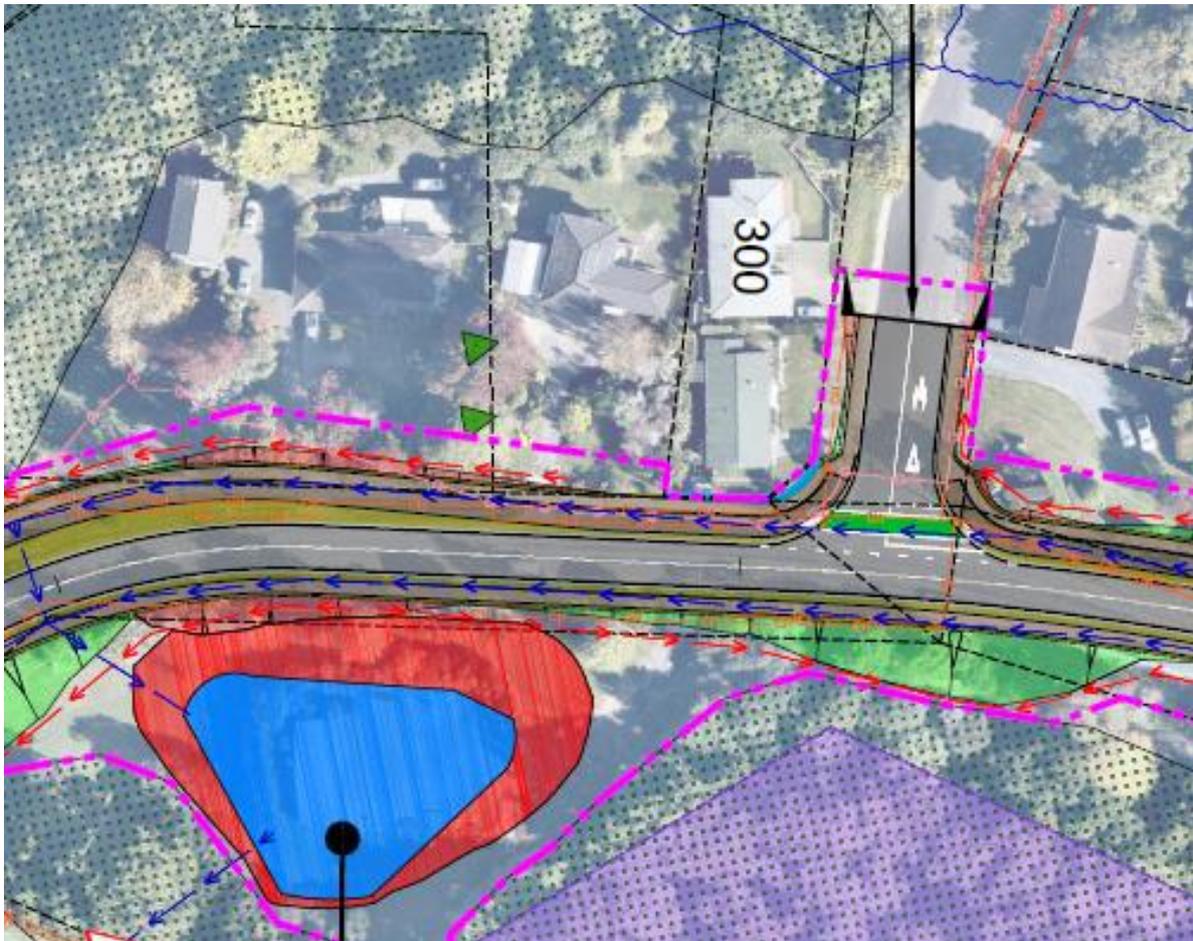


Figure 13-6 Notable Trees indicated by the two green triangles near 5 Matakana Road.

13.7 Recommended measures to avoid, remedy or mitigate operational effects

In addition to the overall recommended measures outlined in Section 7.7 (as relevant), I recommend the following measures should be addressed through future outline plan or resource consent processes (as appropriate) to address the specific operational effects of the proposed transport corridor. In this regard, it is noted that the primary means of mitigating effects is through design responses to be illustrated in an ULDMP.

- To the north of the Te Honohono ki Tai tie-in, consider opportunities to frame key rural views for northbound transport corridor users.

With the above recommended measures, it is anticipated that operational effects within, and adjacent to, the proposed designation will be:

- Landscape character: **'Moderate'**
- Natural character: **'Low'**

13.8 Summary and Conclusions

The proposed designation will include the upgrading and widening of an existing road in the northern area of Warkworth, which is anticipated to result in modifications to existing residential areas, earthworks, and potential adverse effects on vegetation, natural wetlands and heritage values. However, the proposed designation also provides the opportunity to create an attractive transport corridor, extend areas of indigenous vegetation and provide visual connections with the adjacent rural landscape.

It is expected that natural character will be specifically affected by fill over natural wetlands. It is likely that these effects can be reduced through wetland revegetation. These issues will be addressed during the future regional consenting stages of the Warkworth Package and the proposed outline plan process (Condition 1), with the primary means of mitigating effects being through design responses to be illustrated in an ULDMP (Condition 9).

With the implementation and establishment of the recommended measures, construction effects are anticipated to be **'Moderate-High'** at most and operational effects are anticipated to be **'Moderate'** at most. Proposed conditions at the future regional resource consent stage will provide specific mitigation for future transport projects within each designation.

Table 12. Summary of Assessment of Effects and Recommendations – NOR 4 Matakana Road Upgrade

Residual effect after recommendations	Assessment	Recommendation
Effects during construction		
Landscape Character: 'Moderate-High' Natural Character: 'Low'	Exposed earthworks and reduced amenity for residential areas.	Provide temporary screening for residential properties adjacent areas of cut and fill until earthworks are remediated.
Operational effects		
Landscape Character: 'Moderate' Natural Character: 'Low'	Effects on existing residential areas. Opportunity to create attractive transport corridor.	Refer to overall network recommendations.
	Some crossovers between the designation boundary and SEAs. Potential effects on wetlands.	

Residual effect after recommendations	Assessment	Recommendation
<p>Landscape Character (cont'):</p> <p>'Moderate'</p>	Opportunity to provide visual connections with surrounding rural landscape.	To the north of the Te Honohono ki Tai (Matakana Link Road) tie-in, consider opportunities to frame key rural views for northbound transport corridor users.
<p>Natural Character (cont'):</p> <p>'Low'</p>		

14 NOR 5 – Sandspit Road Upgrade

This section assesses specific landscape and natural character matters relating to NOR 5 – Sandspit Road Upgrade (the 'NOR 5 Project').

14.1 Overview and description of works

Sandspit Road is an existing arterial providing an east-west connection between the Warkworth growth area and the towns of Sandspit and Snells Beach. The proposed designation extends to tie in with the Hill Street intersection upgrade (non-Te Tupu Ngātahi project) in the west and to the eastern FUZ boundary.

It is proposed that the existing rural corridor be upgraded and include:

- An indicative 18m-24m urban arterial cross section with cycle lanes and footpaths on both sides of the corridor (along the eastern portion only). Along the western portion of Sandspit Road, the cross-section ranges between 18m and 20m, to accommodate active mode users an offline shared walking and cycling facility has been proposed from the Hill Street intersection to the second bridge along the corridor.

Areas of cut and fill A large stormwater wetland A boardwalk Refer to the AEE in Volume 2 for a more detailed description of works to be authorised.

14.2 Landscape character and natural character assessment

Sandspit Road is currently a rural road which provides a transit route west into Warkworth town centre. Tributaries to the north of Sandspit Road feed down to the Mahurangi River on the south side of the road.

In the AUP:OP, the area along Sandspit Road is primarily FUZ. There is also open space conservation to the south of Sandspit Road, adjacent the Mahurangi River, as well as along a tributary at the northwest extent of the proposed designation. The Warkworth Structure Plan identifies several areas of zoning alongside the designation, including residential – large lot, residential – single house, areas for further landscape protection controls, and protection areas (not for development).

Limited effects on existing residential area

Due to the low number of existing residential houses along Sandspit Road, effects on residential amenity will be limited. The NOR 5 Project provides an opportunity to contribute positively to the amenity of the area through planting, as well as via a boardwalk through existing vegetation. As such, it is expected that there is the potential for positive visual effects to occur.

Located away from characteristic landforms

The topography either side of Sandspit Road is steep, with rolling hill country characterising the landform north of the road. To the south of road, the land typically rises before sharply descending to the Mahurangi River. The escarpment on the northern side of the Mahurangi River is a significant feature in Warkworth, however, the proposed designation boundaries are located away from this area. According to the AUP:OP, FUZ is planned both to the north and south of Sandspit Road.

Potential effects on vegetation

There are several SEAs adjacent to the proposed designation, with the transport corridor crossing some sections of SEA. There is the potential for the NOR 5 Project to affect vegetation in these areas. A QEII covenanted area is also located adjacent to the western extent of the proposed designation and over part of the Mahurangi River escarpment, to the south of Sandspit Road. The proposed designation avoids this QEII covenanted area. The proposed designation will also avoid effects on the coastal bush along the river escarpment. Ecological effects are discussed in detail in the 'Assessment of Ecological Effects'.

Potential effects on waterbodies

The Mahurangi River, which is a significant feature in Warkworth, runs almost parallel to Sandspit Road, on the southern side of the road. While the proposed designation will cross some tributaries, it will not cross the Mahurangi River. It is anticipated that Project works will result in the loss of 105m of stream and 325m² of natural wetland.³⁷ Effects on these waterbodies are discussed further in the 'Assessment of Ecological Effects'.

Opportunities to create visual connections with surrounding rural landscape

Sandspit Road is characterised by roadside planting which is a mix of native and exotic trees and shrubs, as well as open vistas over paddocks, which in places afford views of the vegetated ridgeline to the north. As part of AUP:OP zoning, it is anticipated that the areas adjacent to Sandspit Road will become urbanised in the future separate to the Warkworth Package and much of this vegetation is expected to be removed as part of that process. However, further north, much of the rolling hill country will retain its rural character as zoning in this area will remain rural. There are opportunities for visual connections to be maintained with this rural character by retaining strategic views from the transport corridor alignment towards the wider rural landscape to the north.

14.3 Nature and magnitude of effects

³⁷ Assessment of Ecological Effects, Table 16-2 and 16-3.

The proposed designation has the potential to affect the landscape character and natural character of the adjacent area. Without recommended measures to avoid, remedy or mitigate effects, it is anticipated that effects will be as follows:

- Construction effects on landscape character: **'High'**
- Construction effects on natural character: **'High'**
- Operational effects on landscape character: **'Moderate-High'**
- Operation effects on natural character: **'Moderate-High'**

The following sections breakdown the nature and magnitude of effects into temporary effects during construction of the proposed transport corridor and permanent effects during the operation of the proposed transport corridor. Measures are recommended to avoid, remedy or mitigate these effects. The residual magnitude of effects is then assessed once the recommended measures have been implemented or established.

14.4 Assessment of landscape effects during construction

The following section discusses the specific temporary potential landscape and natural character and visual effects which could arise during the proposed transport corridor construction.

Designation boundary within SEA

The proposed transport corridor crosses into a SEA at the western extent of the proposed designation, on both the north and south side of Sandspit Road (Figure), predominantly where it follows the existing road corridor boundary, and the SEA extends inside the boundary. Construction could result in the removal or damage of additional riparian vegetation outside the footprint of permanent operational structures in the transport corridor. Any impacts on riparian vegetation will also likely have adverse effects on natural character and landscape character.

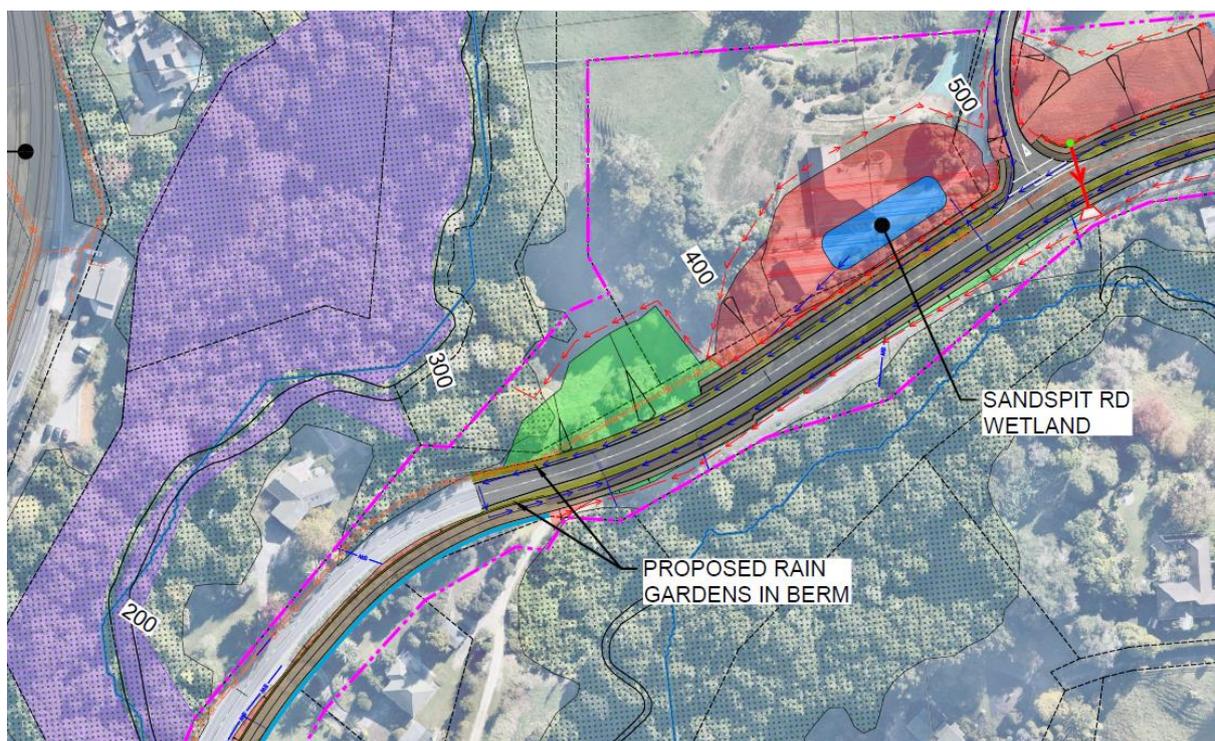


Figure 14-1 NOR 5 Project crosses into a SEA.

Work within waterways

The proposed designation crosses a tributary of the Mahurangi River. While there is already a bridge in place, the bridge will require widening. Therefore, construction work could potentially be required in the waterway, which could affect both natural character and landscape character.

Exposed earthworks near waterway

Towards the western extent of the proposed designation, on the northern side of Sandspit Road, an area of fill is illustrated in the currently proposed Project drawings over a section of SEA (Figure 14-2). There is the risk of sediment entering the adjoining waterway while earthworks are exposed.

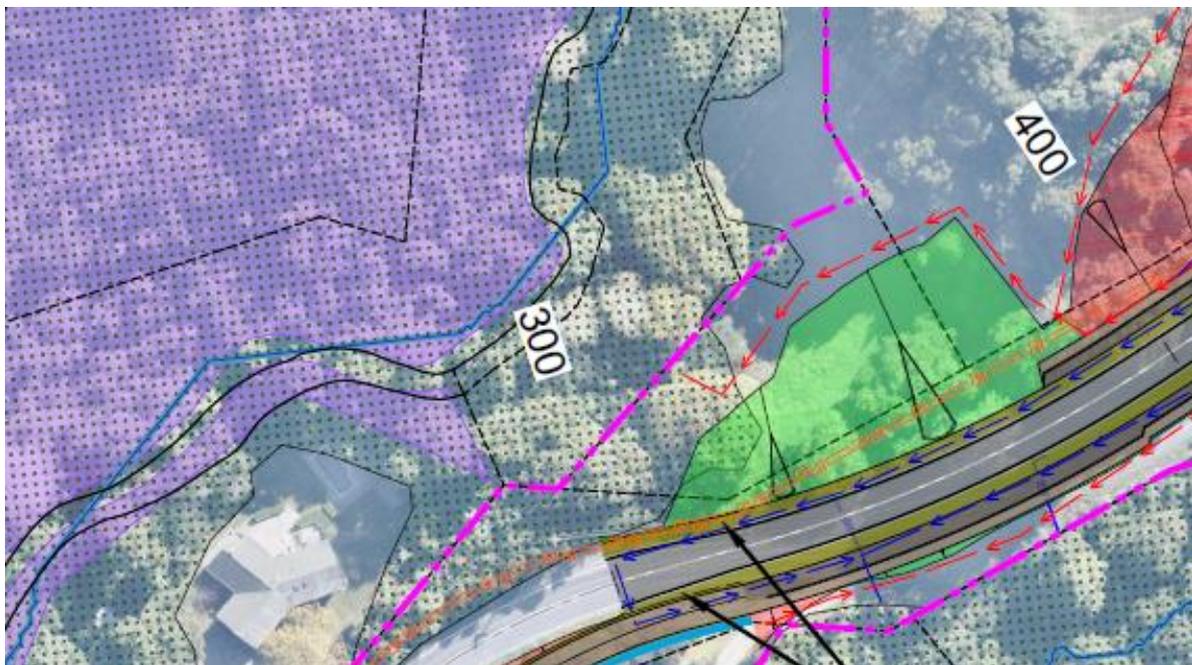


Figure 14-2 Area of fill depicted over SEA.

Large areas of cut near Withers Lane

A potential large area of cut is proposed to the east of Withers Lane, as well as an area of cut to the west of Withers Lane, associated with the proposed stormwater wetland. Exposed earthworks during construction have the potential to be unsightly and cause sedimentation.

14.5 Recommended measures to avoid, remedy or mitigate construction effects

There are no additional recommended measures for the proposed transport corridor beyond those provided in the overall recommended measures outlined in Section 7.5.

With the recommended measures outlined in Section 7.5, it is anticipated that construction effects within, and adjacent to, the proposed designation will be:

- Landscape character: **'Moderate-High'**
- Natural character: **'Moderate-High'**

14.6 Assessment of operational effects

The following section discusses the specific permanent potential landscape and natural character and visual effects which could arise during the operation of the proposed transport corridor.

Opportunity to create attractive transport corridor

As the proposed designation involves the upgrade of an existing road, rather than the construction of a new road, a transport corridor is an expected element in the setting. Furthermore, the NOR 5 Project will be consistent with the urban character that is anticipated in the future, separate to the Warkworth Package. The proposed transport corridor provides an opportunity to enhance the urban amenity of the setting through careful design, including amenity planting. There is also the opportunity to create visual interest through careful design of the proposed stormwater wetland, by applying a natural design approach to the wetland. It is noted that the stormwater wetland depicted in the current Project drawings is indicative only and its design will be confirmed through detailed design, which will include its integration with the surrounding landscape (as per the recommendations in Table 8).

The proposed designation has scope to enhance riparian planting along the proposed boardwalk to create an attractive amenity walkway. There is the opportunity to incorporate cultural elements into the boardwalk, for instance in relation to the Mahurangi River.

Changes to landform

Landform changes are limited as the proposed designation is for enabling a road upgrade, rather than the creation of a new road. While it is accepted that some landform modification is likely to be undertaken during the urbanisation of the area, due to the topography, some large areas of cut and fill will still be potentially required, which are anticipated to result in adverse effects. The width of the proposed designation is expected to enable areas of cut and fill to be appropriately integrated with the surrounding, natural landform. Appropriate planting of earthworked areas will also assist in reducing potential adverse effects.

Opportunity to enhance biodiversity

The proposed transport corridor crosses sections of SEA towards the western extent of the proposed designation, which have the potential to result in vegetation loss. Where riparian vegetation is affected, natural character will also be affected. To mitigate potential effects on natural character replacement planting would likely be required. There is an opportunity to increase the extent of indigenous planting within the proposed designation, including riparian vegetation.

The proposed designation has space for extensive indigenous planting to be undertaken on the southern side of Sandspit Road, near the bridge (Figure 14-3). This has the potential to reduce habitat fragmentation for the bush on the northern escarpment of the Mahurangi River. There is also the opportunity for extensive indigenous planting to the north of the proposed stormwater wetland (Figure 15-2). This planting has the potential to enhance the contiguous indigenous habitat within the adjacent QEII covenant area.

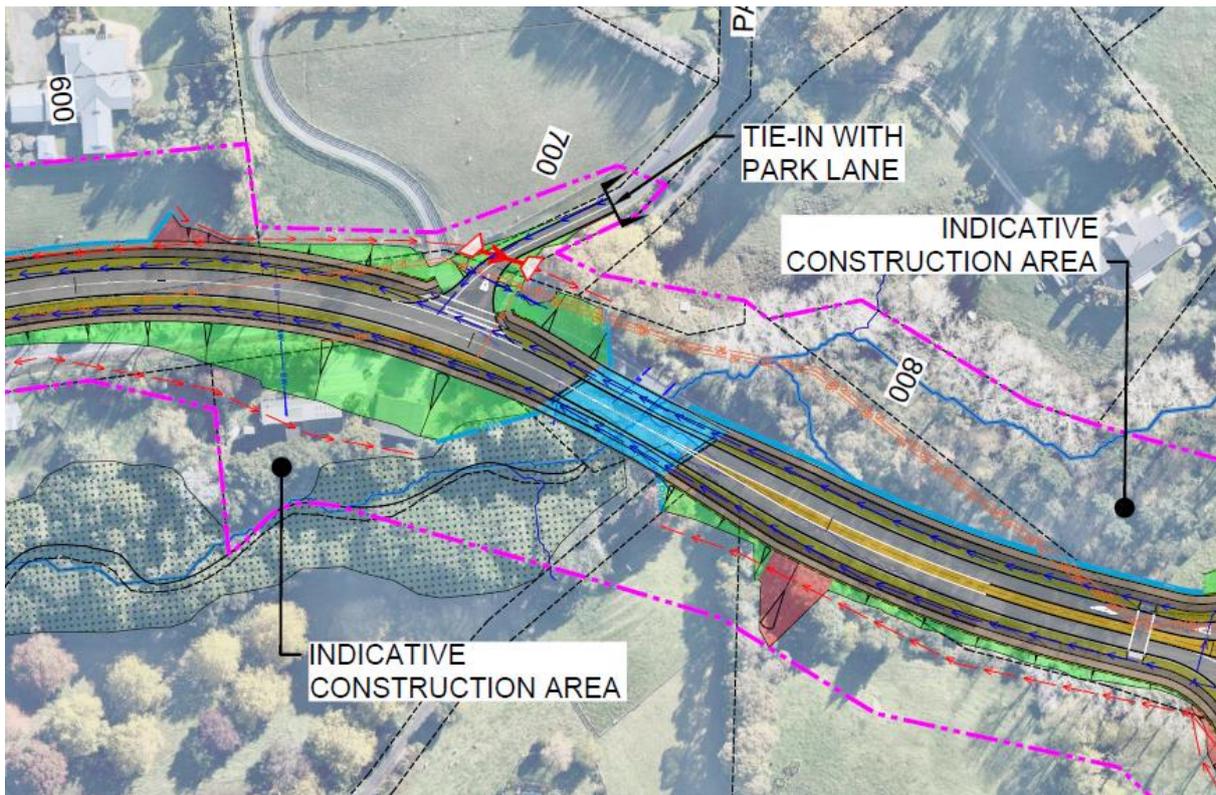
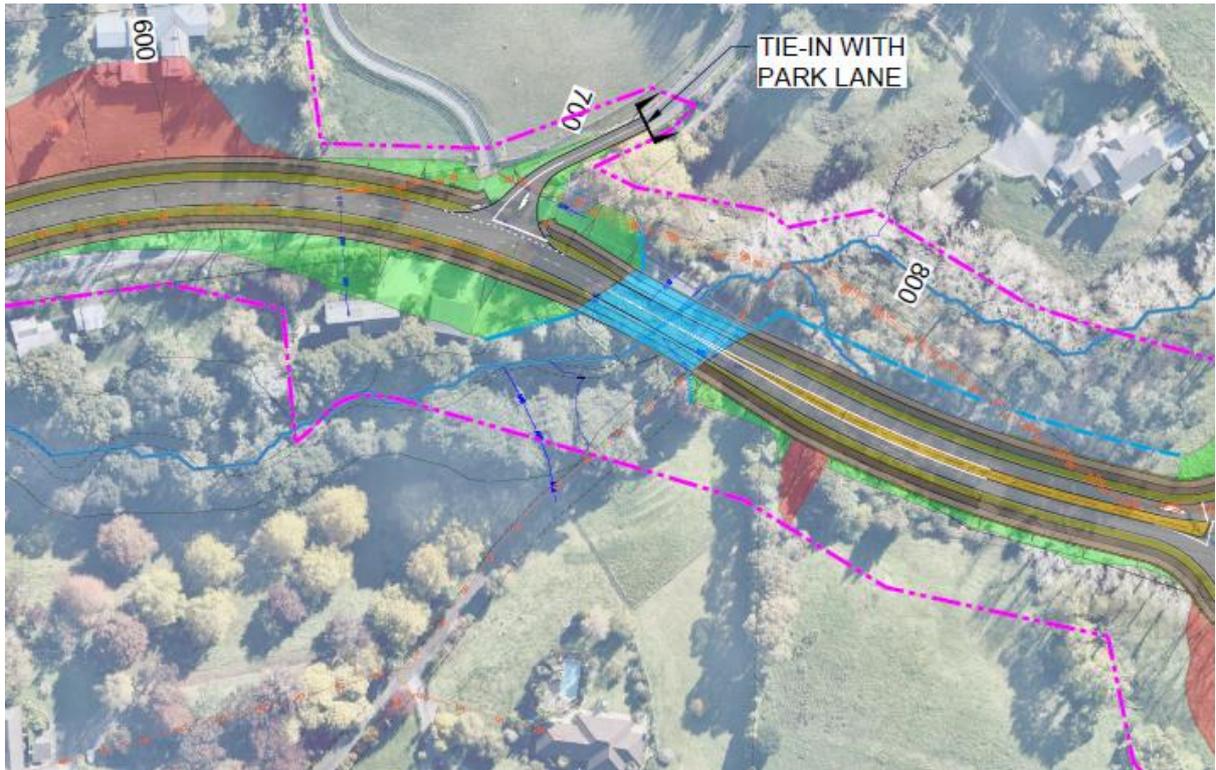


Figure 14-3 The southern side of Sandspit Road has space for extensive planting.

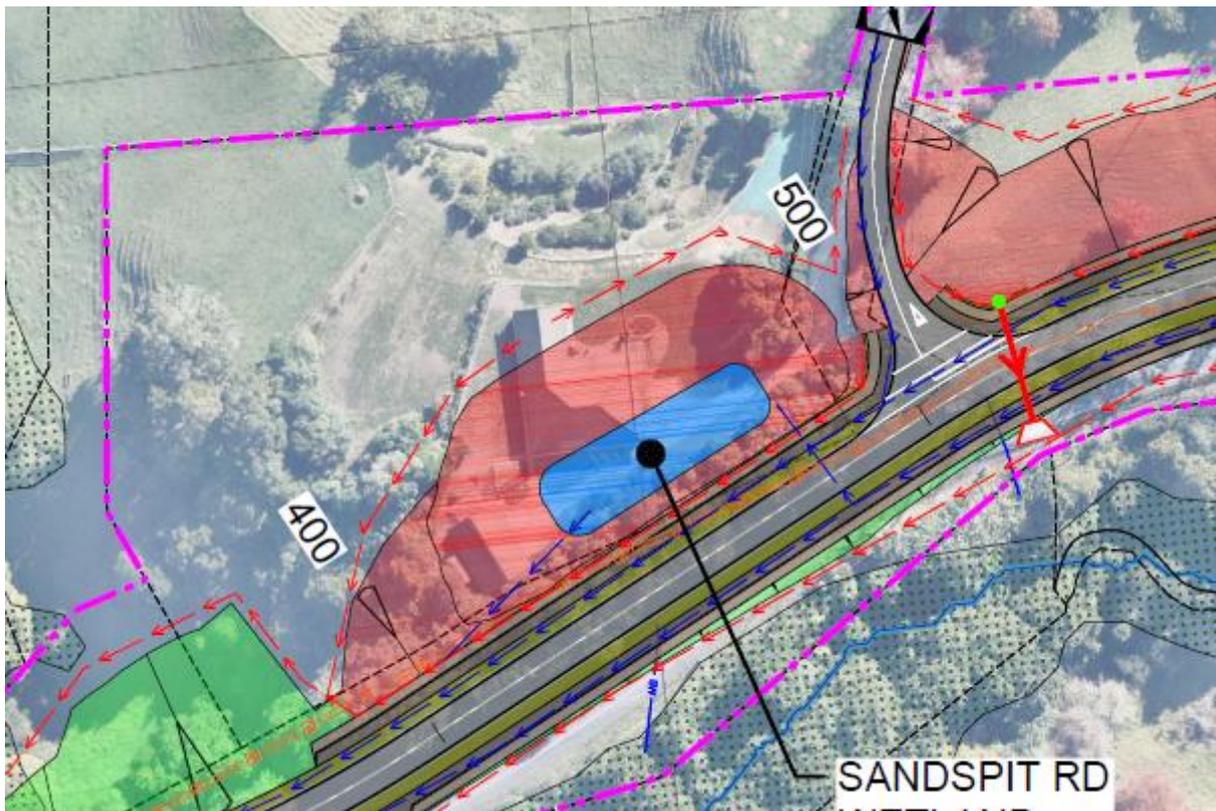
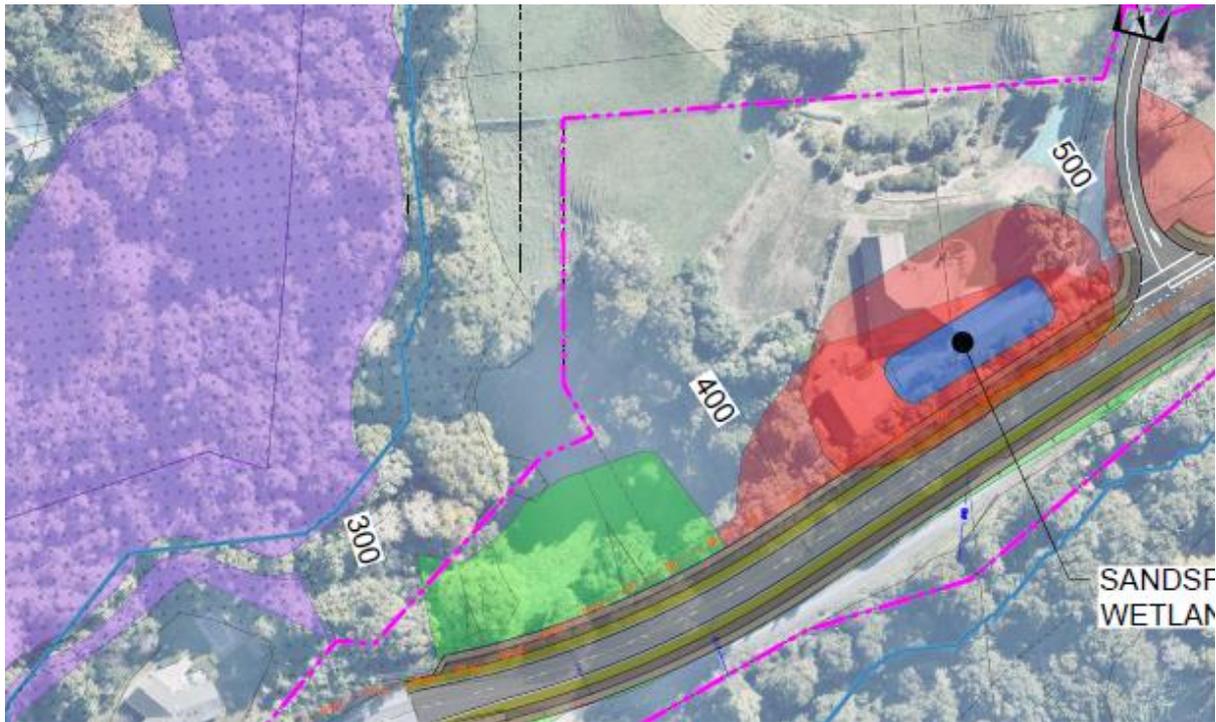


Figure 14-4 Space for extensive planting north of the stormwater treatment wetland.

Opportunity to create visual connections with surrounding rural landscape

Although it is planned through the AUP:OP for the proposed transport corridor to become urbanised, the rural character of the northern hill country will remain. There is an opportunity to create visual connections with this surrounding rural landscape by framing key rural vistas to the north, along Sandspit Road.

14.7 Recommended measures to avoid, remedy or mitigate operational effects

In addition to the overall recommended measures outlined in Section 7.7 (as relevant), I recommend the following measures should be addressed through future outline plan or resource consent processes (as appropriate) to address the specific operational effects of the proposed transport corridor. In this regard, it is noted that the primary means of mitigating effects is through design responses to be illustrated in an ULDM.

- Where feasible, and appropriate, enable opportunities for cultural expression in the design of the Mahurangi River boardwalk.
- Investigate opportunities to frame key rural views to the north of Sandspit Road, for transport corridor users.

With the above recommended measures, it is anticipated that operational effects within, and adjacent to, the proposed designation will be:

- Landscape character: **'Moderate'**
- Natural character: **'Moderate'**

14.8 Summary and Conclusions

The proposed designation will involve the upgrading and widening of an existing road in the northeast area of Warkworth, which is anticipated to result in modifications to a limited number of existing residential areas, earthworks, and potential vegetation removal. However, the proposed designation also provides the opportunity to create an attractive transport corridor, extend areas of indigenous vegetation, and retain rural connections through views.

It is expected that natural character will be specifically affected by the widening of an existing bridge and the potential removal of riparian vegetation. It is likely that these effects can be reduced through avoiding piers in the riverbed, minimising piers on the riverbank, and revegetating riparian margins. These issues will be addressed during the future regional consenting stages of the Warkworth Package and the proposed outline plan process (Condition 1), with the primary means of mitigating effects being through design responses to be illustrated in an ULDM (Condition 9).

With the implementation and establishment of the recommended measures, construction effects are anticipated to be **'Moderate-High'** and operational effects are anticipated to be **'Moderate'**. Proposed conditions at the future regional resource consent stage will provide specific mitigation for future transport projects within each designation.

Table 13. Summary of Assessment of Effects and Recommendations – NOR 5 Sandspit Road Upgrade

Residual effect after recommendations	Assessment	Recommendation
Effects during construction		
Landscape Character: 'Moderate-High' Natural Character: 'Moderate-High'	Designation boundary within SEA and work within waterways. Exposed earthworks near waterway.	Refer to overall network recommendations.
Operational effects		
Landscape Character: 'Moderate'	Opportunity to create an attractive transport corridor with cultural connections.	Where feasible, and appropriate, enable opportunities for cultural expression in the design of the Mahurangi River boardwalk.
Natural Character: 'Moderate'	Potential effects on SEAs. Scope to increase planted areas.	Refer to overall network recommendations.
	Opportunity to increase visual connections with surrounding rural landscape.	Investigate opportunities to frame key rural views to the north of Sandspit Road, for transport corridor users.

15 NOR 6 – Western Link - South

This section assesses specific landscape and natural character matters relating to NOR 6 – Western

15.1 Overview and description of works

The NOR 6 Project runs through existing greenfield land and is located at the end of Evelyn Street in the north, to SH1 in the south. The proposed designation involves the construction of:

- A new two-lane urban arterial, with walking and cycling facilities on both sides
- Two stormwater wetlands
- Large areas of cut and fill
- A bridge

Refer to the AEE in Volume 2 for a more detailed description of works to be authorised.

15.2 Landscape character and natural character assessment

The proposed designation and surrounding area are currently predominately a rural landscape. However, existing residential development is located to the northwest of proposed designation, as well as light industry to the northeast. The eastern extent of the proposed designation is bordered by SH1 and a residential area.

According to the zoning in the AUP:OP, it is anticipated that the industrial area will extend through part of the proposed designation. The remaining area is primarily FUZ. There is also a small area of informal recreation space existing at the northern edge of the proposed designation. The Warkworth Structure Plan identifies existing light industry and residential – mixing housing suburban zone within this area.

Views towards, and out from, the designation

The rural amenity of the area is already undergoing change due to residential and industrial development separate to the Warkworth Package. The proposed designation is expected to be consistent with the urban character predicted for the future of the area. Views of the proposed transport corridor are obtainable in several places to the west and north outside of the proposed designation, including from the elevated land along Viv Davie-Martin Drive and Mason Heights (Appendix A). Due to its visibility and proposed areas of cut and fill, it is anticipated that some adverse visual effects are likely to occur. Extensive views of the surrounding landscape will potentially be possible from within the proposed transport corridor, including distant views of the extensive ridges and bush-clad skyline of the Dome Forest to the north.

Potential effects on landform

The proposed designation will cross a distinctive knoll (Figure). The northern side of the knoll currently slopes steeply down towards the adjacent industrial buildings, with existing buildings cut into the hillside. There is limited space between the top of the knoll and the existing buildings. A retaining wall between the proposed transport corridor and 68 Morrison Drive is depicted in the current Project drawings. Large areas of cut are also anticipated towards the middle of the designation and at the western extent of the proposed transport corridor. While it is accepted that some landform modification is likely to occur within the NOR 6 Project area as Warkworth becomes urbanised

separate to the Warkworth Package, it is anticipated that the general form of the knoll will not be significantly altered, with future urban development expected to be sensitive to the landform in accordance with quality urban design principles. Condition 9 of the ULDMP directs the integration of the proposed transport corridor with the surrounding future environment. As it is uncertain at this stage how the topography of the land may change with future development, cut and fill in the proposed Project drawings are based on existing topography.



Figure 15-1 Designation shown with 1m contour intervals.

Potential effects on trees with associative value

To the south of the proposed designation centre there is a mature Pohutukawa grove. The trees were planted by a past generation of the family who currently own the land and, as such, hold associative value for the current landowners. Ecological effects are discussed in detail in the 'Assessment of Ecological Effects'.

Potential effects on waterbodies

The proposed designation will cross two wetlands and a waterway within the area. It is anticipated that Project works will result in the loss of 225m² of natural wetland.³⁸ Effects on these waterbodies are discussed further in the 'Assessment of Ecological Effects'.

Opportunity for visual connections with wider rural landscape

The top of the eastern knoll is marked with a concrete water tank, emphasising the current rural character of the landscape. While the rural character of the area is expected to change, there are

³⁸ Assessment of Ecological Effects, Table 16-2 and 16-3.

likely to be opportunities to provide visual connections with the wider rural landscape outside the RUB from within the proposed designation.

Potential effects on heritage road bench

A historic road bench is recorded within the designation. Several sections of the road bench are still visible and being used as farm tracks. Heritage values are discussed further in the 'Assessment of Archaeological Effects'.

15.3 Nature and magnitude of effects

The proposed designation has the potential to affect the landscape character and natural character of the adjacent area. Without recommended measures to avoid, remedy or mitigate effects, it is anticipated that effects will be as follows:

- Construction effects on landscape character: **'Moderate-High'**
- Construction effects on natural character: **'Moderate'**
- Operational effects on landscape character: **'High'**
- Operation effects on natural character: **'Moderate-High'**

The following sections breakdown the nature and magnitude of effects into temporary effects during construction of the proposed transport corridor and permanent effects during the operation of the proposed transport corridor. Measures are recommended to avoid, remedy or mitigate these effects. The residual magnitude of effects is then assessed once the recommended measures have been implemented or established.

15.4 Assessment of landscape effects during construction

The following section discusses the specific temporary potential landscape and natural character and visual effects which could arise during the proposed transport corridor construction.

Work within waterbodies

The proposed transport corridor crosses a natural wetland and waterway in the western section of the proposed designation, as well as another natural wetland at the eastern extent of the designation. There is the potential for construction to occur within these waterbodies. Any impacts on these wetlands and waterway will also likely have adverse effects on natural character and landscape character.

Exposed earthworks and reduced amenity

Due to the topography of the proposed designation, there is the potential for a substantial amount of cut and fill to be required. There is the risk of sediment entering the natural wetlands and waterway while earthworks are exposed. There is also potential for exposed cuts to be unsightly from several surrounding areas. Options for mitigation measures are limited for addressing effects on more distance views due to the elevated perspective from distant locations (Appendix A). However, there is potential for mitigation of amenity effects on neighbouring residential areas.

15.5 Recommended measures to avoid, remedy or mitigate construction effects

In addition to the overall recommended measures outlined in Section 7.5 (as relevant), I recommend the following measures should be addressed through future outline plan or resource consent processes (as appropriate) to address the specific construction effects of the proposed transport corridor.

- Where practicable, stage earthworks. Provide temporary screening, as feasible, for residential properties on the block between Mason Heights, Jamie Lane and Dunningham Street, until earthworks are remediated.

With the above recommended measures, it is anticipated that construction effects within, and adjacent to, the proposed designation will be:

- Landscape character: **'Moderate'**
- Natural character: **'Low-Moderate'**

15.6 Assessment of operational effects

The following section discusses the specific permanent potential landscape and natural character and visual effects which could arise during the operation of the proposed transport corridor.

Opportunity to enhance corridor user amenity

While the proposed designation will introduce a transport corridor into a currently rural landscape, the amenity of the area is already compromised by industrial activity and is future zoned for urbanisation separate to the Warkworth Package. The proposed transport corridor will be consistent with this future urban character. At this stage it is unknown whether access will be taken off the proposed transport corridor to service this future development and this may be a potential matter which needs to be addressed as part of the future processes of the Project. Planting provides the opportunity to enhance transport corridor user amenity by strategically framing distant views of the extensive ridgelines and the bush-clad Dome Forest skyline to the north.

Substantial changes to landform

It is expected that there will be substantial changes to the current landform, with large areas of cut and fill across a distinctive knoll, and limited space between earthworks and existing industrial buildings. Although it is expected that future urbanisation of the surrounding area will involve some earthworks (undertaken separately from the proposed transport corridor), it is anticipated that urban development will follow quality urban design principles and the general form of the landscape will not be altered, with future urban development generally following existing contours. The proposed designation could potentially result in benched cuts and retaining walls (Figure 15-2). Careful treatment of these areas will be required to reduce visual effects, such as through the use of natural and non-reflective materials, planting, and artistic expression for vertical surface treatments. Condition 9 of the ULDMP directs the integration of the proposed transport corridor with the surrounding future environment. As it is uncertain at this stage how the topography of the land may change with future development, cut and fill in the proposed Project drawings are based on existing topography.



Figure 15-2 Minimal space between large cut area and designation boundary could potentially result in benched cuts.

Opportunity for wetland enhancement

The proposed transport corridor crosses natural wetlands and a waterway to the west of the proposed designation and again at its eastern extent (Figure). Any adverse impacts on these waterbodies will also likely adversely affect natural character. Wetland restoration provides an opportunity to mitigate natural character effects.



Figure 15-3 Natural wetlands are depicted as green areas and waterways by bright blue lines.

Opportunity to increase visual connections with surrounding rural landscape

The elevated position of the proposed designation provides opportunities for new views of the surrounding rural landscape outside the RUB to be experienced.

15.7 Recommended measures to avoid, remedy or mitigate operational effects

In addition to the overall recommended measures outlined in Section 7.7 (as relevant), I recommend the following measures should be addressed through future outline plan or resource consent processes (as appropriate) to address the specific operational effects of the proposed transport corridor. In this regard, it is noted that the primary means of mitigating effects is through design responses to be illustrated in an ULDMP.

- Consider opportunities to frame key rural views in the surrounding landscape outside the RUB for transport corridor users.

With the above recommended measures, it is anticipated that operational effects within, and adjacent to, the proposed designation will be:

- Landscape character: '**Low-Moderate**'
- Natural character: '**Low**'

15.8 Summary and Conclusions

The proposed designation will introduce a new transport corridor into the southern area of Warkworth, which is anticipated to result in substantial modifications to the landform. However, the proposed designation also provides the opportunity to restore wetlands and provide new views of the rural landscape outside the RUB.

It is expected that natural character will be specifically affected by work in natural wetlands and a waterway. It is likely that these effects could be reduced through avoiding piers in the beds of wetlands and waterways, minimising piers on banks of waterbodies, and revegetating natural wetlands. These issues will be addressed during the future regional consenting stages of the Warkworth Package and the proposed outline plan process (Condition 1), with the primary means of mitigating effects being through design responses to be illustrated in an ULDM (Condition 9).

With the implementation and establishment of the recommended measures, construction effects are anticipated to be '**Moderate**' at most and operational effects are anticipated to be '**Low-Moderate**' at most. Proposed conditions at the future regional resource consent stage will provide specific mitigation for future transport projects within each designation.

Table 14. Summary of Assessment of Effects and Recommendations – NOR 6 Western Link - South

Residual effect after recommendations	Assessment	Recommendation
Effects during construction		
Landscape Character: 'Moderate'	Work within waterbodies.	Refer to overall network recommendations.
Natural Character: 'Low-Moderate'	Exposed earthworks and reduced amenity.	Where practicable, stage earthworks. Provide temporary screening, as feasible, for residential properties on the block between Masons Heights, Jamie Lane and Dunningham Street, until earthworks are remediated.
Operational effects		
Landscape Character: 'Low-Moderate'	Substantial changes to landform. Potential effects on waterbodies.	Refer to overall network recommendations. Consider opportunities to frame key rural views in the surrounding landscape outside the RUB for transport corridor users.
Natural Character: 'Low'	Opportunity to create visual connections with rural character in the wider landscape.	

16 NOR 7 – Sandspit Link

This section assesses specific landscape and natural character matters relating to NOR 7 – Sandspit Link (the ‘NOR 7 Project’).

16.1 Overview and description of works

The NOR 7 Project is a proposed new transport corridor with the purpose of providing strategic east-west movements to Matakana and Kōwhai Coasts, as well as providing local access to the northern growth area. The proposed designation extends from Matakana Road in the northwest and connects to Sandspit Road in the southeast. The alignment provides an alternative to the SH1 and Hill Street intersection, whilst improving dual accessibility between the northern growth area and Warkworth.

The proposed designation involves the construction of:

- A two-lane urban arterial, with cycle lanes and footpaths on both sides, as well as a new intersection at the connection with Sandspit Road and Matakana Road
- Large areas of cut and fill
- Two large stormwater wetlands
- Three bridges
- The removal of residential dwellings

Refer to the AEE in Volume 2 for a more detailed description of works to be authorised.

16.2 Landscape character and natural character assessment

The proposed transport corridor is set within a currently rural landscape. There are residential properties scattered towards the southern extent of the proposed designation and quarrying activity is present to the northeast. As part of the AUP:OP zoning, it is expected that the future area of the proposed designation and surrounding landscape will be largely urbanised in the future (FUZ), with a small area of open space conservation land along the lower extent of some tributaries. The AUP:OP identifies the existing limestone quarry as being within a Quarry Buffer Area Overlay. The Warkworth Structure Plan identifies several zones adjacent the designation, including residential (large lot, mixing housing suburban, mixing housing urban, and single house) and protection areas (not for development).

Limited effects on amenity

The proposed designation area is currently characterised by pasture, scattered exotic trees within paddocks, densely vegetated tributaries, a limestone quarry, scattered residential properties, a fertiliser plant, and a refuse station. Residential and roading development is occurring beyond the western extent of the proposed designation. It is expected that the area will become urbanised in the future and the proposed transport corridor will be consistent with this character.

Potential effects on landform

The proposed transport corridor travels across a notable hill to the north of Warkworth town centre. However, it is located below the prominent ridgeline. Due to the steep topography of the area, it is probable that the NOR 7 Project will result in changes to the landform. It is accepted that some landform changes may have already occurred as part of the future urbanisation of the area separate

from the Warkworth Package, however, it is anticipated that urban development will be sensitive to the landform. Any landform changes as part of the NOR 7 Project will need to be considered cumulatively with landform changes undergone during urbanisation. Condition 9 of the ULDM directs the integration of the proposed transport corridor with the surrounding future environment. As it is uncertain at this stage how the topography of the land may change with future development, cut and fill in the proposed Project drawings are based on existing topography. Changes to the landform have the potential to result in adverse visual effects. However, due to the location of the proposed transport corridor away from the ridgeline and the likely future urbanised environment, views towards the designation from the wider landscape are expected to be limited (Appendix 1).

Potential effects on vegetation

There are several streams within the proposed designation and adjacent area that have dense riparian vegetation. To the south, above Sandspit Road, a section of this vegetation is vested with QEII, however, this is beyond the designation boundary. As these vegetation corridors are a key attribute of Warkworth's landscape character, it is expected that it will be retained during the urbanisation process. There are no existing views of the quarry from distant areas around Warkworth due to screening vegetation within the quarry property (Appendix 1). However, it is possible that these trees may be removed as part of the urbanisation of the area. Ecological effects are discussed in detail in the 'Assessment of Ecological Effects'.

Potential effects on waterbodies

There are several waterbodies within the area, including wetlands and tributaries that flow south towards the Mahurangi River. It is anticipated that Project works will result in the loss of 180m of stream and 3,314m² of natural wetland.³⁹ Effects on these waterbodies are discussed further in the 'Assessment of Ecological Effects'.

Consistent with future urban character

The proposed designation is within a currently rural landscape, with this character contributed to by extensive areas of pasture, fence lines, farm infrastructure (such as water tanks), and linear patterns of farm trees and shelterbelts. It is anticipated that this will change to an urban context as residential development occurs in the future. The designation will be consistent with this new character.

16.3 Nature and magnitude of effects

The proposed designation has the potential to affect the landscape character and natural character of the adjacent area. Without recommended measures to avoid, remedy or mitigate effects, it is anticipated that effects will be as follows:

- Construction effects on landscape character: **'High'**
- Construction effects on natural character: **'High'**
- Operational effects on landscape character: **'High'**
- Operation effects on natural character: **'High'**

The following sections breakdown the nature and magnitude of effects into temporary effects during construction of the proposed transport corridor and permanent effects during the operation of the

³⁹ Assessment of Ecological Effects, Table 16-2 and 16-3.

proposed transport corridor. Measures are recommended to avoid, remedy or mitigate these effects. The residual magnitude of effects is then assessed once the recommended measures have been implemented or established.

16.4 Assessment of landscape effects during construction

The following section discusses the specific temporary potential landscape and natural character and visual effects which could arise during the proposed transport corridor construction.

Potential work within and around waterbodies

As the proposed designation crosses four tributaries and a natural wetland, construction in waterbodies is likely. The currently proposed Project drawings depict three bridges and some areas of cut and fill in the wetland area. There is the risk of sediment entering the waterways and wetland while earthworks are exposed. Construction work has the potential to affect both natural character and landscape character.

Exposed earthworks and reduced amenity

Due to the topography within the proposed designation area, there is the potential for a substantial amount of cut and fill to be required, with the potential for exposed cuts to be unsightly from some surrounding areas, including from future residential areas adjacent to the proposed transport corridor. However, as the proposed transport corridor is below the ridgeline, the likelihood of its visibility from the wider landscape is lessened (Appendix A). The visibility of the proposed works will be influenced by the future urban layout in the area. Mitigation measures are limited for addressing effects on possible distance views due to the angle of view from distant locations (Appendix A). However, there is the potential for mitigation of amenity effects on neighbouring residential areas if required.

16.5 Recommended measures to avoid, remedy or mitigate construction effects

There are no additional recommended measures for the proposed transport corridor beyond those provided in the overall recommended measures outlined in Section 7.5.

With the relevant recommended measures outlined in Section 7.5, it is anticipated that construction effects within, and adjacent to, the proposed designation will be:

- Landscape character: **'Low-Moderate'**
- Natural character: **'Low-Moderate'**

16.6 Assessment of operational effects

The following section discusses the specific permanent potential landscape and natural character and visual effects which could arise during the operation of the proposed transport corridor.

Opportunity to provide new views

The proposed designation will introduce a new transport corridor into the area and will result in the removal of three existing residential houses, as well as a reduction in some residential sections. It is expected that the transport corridor will operate within a future urbanised context and that the amenity

of the area will change over time outside of the Warkworth Package. However, the area will likely still be appreciated for its elevated landform, distinctive skyline, and rural character on the higher slopes. There is an opportunity to provide new vistas from the transport corridor over the surrounding landscape, including views south towards the existing Warkworth town centre and the Mahurangi River.

Changes to landform

Although it is expected that future urbanisation of the area will involve some earthworks (undertaken separately from the Warkworth Package), it is anticipated that the general form of the landscape will not be altered. There is scope for cut and fill areas to be extensively planted with indigenous species (while retaining views as appropriate). There is the opportunity for planting to be used to enhance existing vegetation within the area. The width of the proposed designation is also expected to enable areas of cut and fill to be appropriately integrated with the surrounding, natural landform.

Opportunity to increase planted areas

There is the potential for some loss of riparian vegetation between the western and central bridges, which will have possible effects on natural character. If effects were to occur on natural character, replacement riparian planting would likely be required. There is an opportunity to increase the extent of indigenous planting within the proposed designation, although scope for riparian planting is limited due to limited riparian planting areas within the designation (Figure). Effects on natural character, which relate to waterbodies (including riparian vegetation), are required to be addressed in situ (where the effects occur).



Figure 16-1 Natural wetland depicted in green in left image. Waterway shown as blue line in right image.

Opportunity to create visual connections with wider rural landscape

There is an opportunity to create visual connections with the wider rural landscape outside the RUB by retaining views towards surrounding vegetation and nearby rural areas.

16.7 Recommended measures to avoid, remedy or mitigate operational effects

In addition to the overall recommended measures outlined in Section 7.7 (as relevant), I recommend the following measures should be addressed through future outline plan or resource consent processes (as appropriate) to address the specific operational effects of the proposed transport corridor. In this regard, it is noted that the primary means of mitigating effects is through design responses to be illustrated in an ULDMP.

- Through planting design frame key views, as appropriate, of vegetated areas and the wider rural landscape outside the RUB for transport corridor users.

With the above recommended measures, it is anticipated that operational effects within, and adjacent to, the proposed designation will be:

- Landscape character: **'Low-Moderate'**
- Natural character: **'Low-Moderate'**

16.8 Summary and Conclusions

The proposed designation will introduce a new transport corridor into the northern area of Warkworth, which has the potential to result in substantial modifications to the landform, as well as the removal of some vegetation. However, the proposed designation also provides the opportunity to extend areas of indigenous vegetation and provide new views of the surrounding landscape.

It is expected that natural character will be specifically affected by the implementation of three bridges, earthworks over waterways and a natural wetland, and the potential removal of riparian vegetation. It is likely that these effects can be reduced through avoiding piers in the beds of waterbodies, minimising piers on the banks of waterways and the wetlands and revegetating riparian margins and the existing natural wetland. These issues will be addressed during the future regional consenting stages of the Warkworth Package and the proposed outline plan process (Condition 1), with the primary means of mitigating effects being through design responses to be illustrated in an ULDMP (Condition 9).

With the implementation and establishment of the recommended measures, construction effects are anticipated to be **'Low-Moderate'** and operational effects are anticipated to be **'Low-Moderate'**. Proposed conditions at the future regional resource consent stage will provide specific mitigation for future transport projects within each designation.

Table 15. Summary of Assessment of Effects and Recommendations – NOR 7 Sandspit Link

Residual effect after recommendations	Assessment	Recommendation
Effects during construction		
Landscape Character: 'Low-Moderate' Natural Character: 'Low-Moderate'	Work within and around waterbodies. Exposed earthworks and reduced amenity.	Refer to overall network recommendations.
Operational effects		
Landscape Character: 'Low-Moderate' Natural Character: 'Low-Moderate'	Changes to landform. Opportunity to increase planted areas. Opportunity to create visual connections with the wider rural landscape.	Refer to overall network recommendations. Through planting design frame key views, as appropriate, of vegetated areas and the wider rural landscape outside the RUB for transport corridor users.

17 NOR 8 – Wider Western Link - North

This section assesses specific landscape natural character matters relating to NOR 8 – Wider Western Link (Northern Section) (the ‘NOR 8 Project’).

17.1 Overview and description of works

The NOR 8 Project is a proposed new arterial road extending from Woodcocks Road in the north, towards SH1 in the south. The extent of the proposed designation is from Woodcocks Road in the north (including the intersection), to the midway point of the Warkworth south FUZ and is inclusive of the Mahurangi River.

The proposed transport corridor involves the construction of:

- A two-lane urban arterial, with walking and cycling facilities on both sides
- Two stormwater wetlands
- A bridge
- Large areas of fill

The proposed designation connects the Southern Interchange to Woodcocks Road and SH1, and provides access into the southern FUZ, where access would otherwise be difficult due to topography and streams.

For avoidance of doubt, at this stage the Wider Western Link - South is not being taken forward to NOR.

Refer to the AEE in Volume 2 for a more detailed description of works to be authorised.

17.2 Landscape character and natural character assessment

Currently, the proposed designation has an overriding rural character. To the east the Mahurangi River (left branch) provides a natural divider through the landscape. To the west the Ara Tūhono expressway forms a structural divider.

It is anticipated under the AUP:OP, that the proposed designation and surrounding area will become largely urbanised, as the FUZ extends through most of the area. The Warkworth Structure Plan indicates industrial activity to the north and residential areas to the south. There is also an existing open space conservation area adjacent the Mahurangi River. Immediately to the west of the proposed designation land use is expected to remain as rural. The Warkworth Structure Plan identifies business – heavy industry zone and protection areas (not for development) alongside the designation.

Limited effects on amenity

The proposed designation and the surrounding area are currently characterised by rural attributes, including pasture, shelterbelts, fence lines and minimal structures. However, it is expected that aside from the rural western extent outside the RUB, the area will become urbanised in the future. The Ara Tūhono expressway (to the west) is currently under construction and runs through the rural landscape. While there are only a few residential areas within the proposed transport corridor and adjacent land, the proposed designation is still likely to result in reduced section sizes for residential properties at either end.

Potential effects on landform

The proposed transport corridor crosses a low-lying area. Views of the proposed designation will be possible from some elevated surrounding areas, including from houses along Viv Davie-Martin Drive and Wyllie Road (Appendix A). Currently the area is seen in the context of rolling pasture. Some large areas of fill are depicted in the currently proposed Project drawings towards the south to enable the proposed designation to tie-in with the future Ara Tūhono expressway interchange. There is the potential for these areas of fill to result in adverse visual effects for nearby residents and from wider viewpoints.

Potential effects on vegetation

The riparian margin of the Mahurangi River is vegetated with tōtara and kahikatea. There are also exotic shelterbelts within paddocks. Within the proposed designation, pasture is the dominant vegetation type. It is anticipated that while riparian and mature indigenous vegetation remain, other vegetation will be removed during the urbanisation process. Ecological effects are discussed in detail in the 'Assessment of Ecological Effects'.

Potential effects on waterbodies

The Mahurangi River (left branch) and several smaller waterways cross through the proposed designation and surrounding area. At the southern extent, currently proposed Project drawings show the proposed transport corridor crossing the Mahurangi River via a bridge. It is anticipated that Project works will result in the loss of 211m of stream and 8,521m² of natural wetland.⁴⁰ Effects on these waterbodies are discussed further in the 'Assessment of Ecological Effects'.

Opportunity to emphasise rural landscape characteristics

Currently the landscape within the proposed designation is rolling pasture and fence lines, with fragments of native vegetation, and existing roading to service rural-residential development. While most of the area is likely to become urbanised, the land to the west of the proposed designation outside the RUB is expected to remain as rural productive land. The retention of vegetation and views of the adjacent rural landscape are two ways to emphasise rural landscape characteristics.

17.3 Nature and magnitude of effects

The proposed designation has the potential to affect the landscape character and natural character of the adjacent area. Without recommended measures to avoid, remedy or mitigate effects, it is anticipated that effects will be as follows:

- Construction effects on landscape character: **'Moderate-High'**
- Construction effects on natural character: **'Moderate-High'**
- Operational effects on landscape character: **'High'**
- Operation effects on natural character: **'High'**

The following sections breakdown the nature and magnitude of effects into temporary effects during construction of the proposed transport corridor and permanent effects during the operation of the proposed transport corridor. Measures are recommended to avoid, remedy or mitigate these effects.

⁴⁰ Assessment of Ecological Effects, Table 16-2 and 16-3.

The residual magnitude of effects is then assessed once the recommended measures have been implemented or established.

17.4 Assessment of landscape effects during construction

The following section discusses the specific temporary potential landscape and natural character and visual effects which could arise during the proposed transport corridor construction.

Work within waterbodies

The proposed transport corridor crosses two tributaries and two wetlands, as well as the Mahurangi River, which is a significant waterway within Warkworth. A bridge is depicted in the currently proposed Project drawings over the Mahurangi River to the south and large areas of fill are illustrated over other waterways and wetlands. There is the risk of sediment entering the waterways and wetlands while earthworks are exposed. Construction work has the potential to affect both natural character and landscape character.

Reduced amenity

Large areas of fill are shown in the currently proposed Project drawings and could potentially be unsightly from adjacent areas, including from Viv Davie-Martin Drive, Wyllie Road and the Ara Tūhono expressway. Mitigation measures are limited for addressing effects on distant views due to the elevated perspective from distant locations (Appendix A).

17.5 Recommended measures to avoid, remedy or mitigate construction effects

In addition to the overall recommended measures outlined in Section 7.5 (as relevant), I recommend the following measures should be addressed through future outline plan or resource consent processes (as appropriate) to address the specific construction effects of the proposed transport corridor.

- As appropriate, provide temporary screening for #346 Woodcocks Road (at on the northern extent of the designation) until earthworks are remediated.

With the above recommended measures, it is anticipated that construction effects within, and adjacent to, the proposed designation will be:

- Landscape character: **'Moderate'**
- Natural character: **'Moderate'**

17.6 Assessment of operational effects

The following section discusses the specific permanent potential landscape and natural character and visual effects which could arise during the operation of the proposed transport corridor.

Consistent with existing urban character

It is expected that the proposed transport corridor will be in character with the anticipated urban development in the designation and surrounding area. The Ara Tūhono expressway is a major

transport network already associated with the setting. The NOR 8 Project will be consistent with this transport corridor development.

Changes to landform from potentially large areas of fill

The currently proposed Project drawings depict large areas of fill in a relatively flat area. The width of the proposed designation is expected to enable areas of fill to be appropriately integrated with the surrounding, natural landform.

Opportunity to increase planted areas

Potentially there will be some loss of riparian vegetation towards the southern extent of the proposed designation (particularly to the north of the proposed roundabout), which will have potential effects on natural character. Other effects on natural character could occur due to potentially large areas of fill over waterways and natural wetlands (as depicted in the currently proposed Project drawings) (Figure).

If effects were to occur on natural character, replacement riparian planting would likely be required. There is the opportunity to increase the extent of indigenous planting within the proposed designation, although scope for riparian planting is limited due to restricted riparian planting areas within the proposed designation. Effects on natural character, which relate to waterbodies (including riparian vegetation), are required to be addressed in situ (where the effects occur). Consideration will need to be given to maintaining the hydrological connection of waterways and natural wetlands on both sides of the proposed transport corridor.

There is also the opportunity to undertake indigenous planting throughout the designation to reduce fragmentation of the riparian habitat along the Mahurangi River. Planting creates an opportunity for visual interest for transport corridor users and those with views towards the proposed transport corridor.

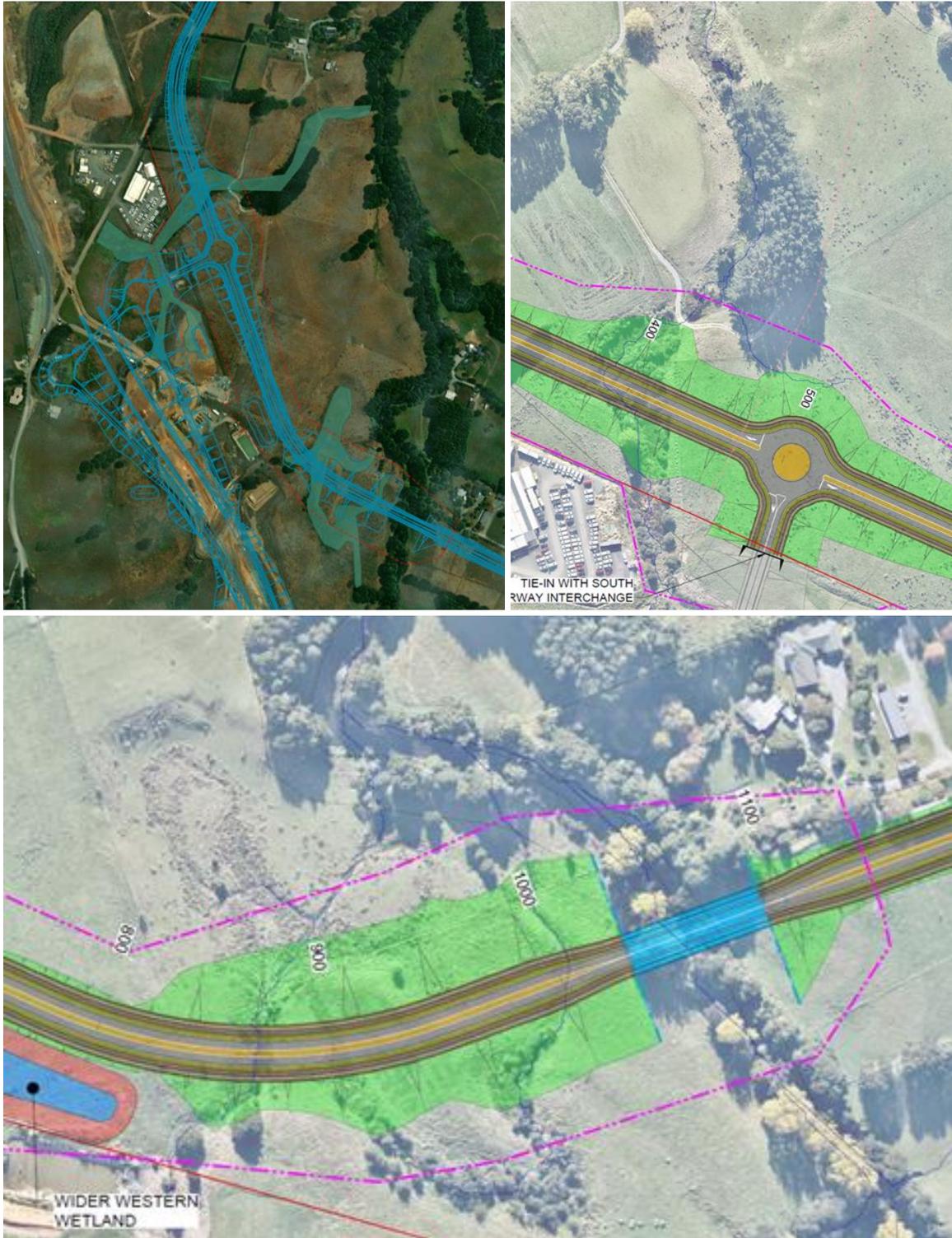




Figure 17-1 Natural wetlands are indicated by areas of green in the top image. Areas of fill are shown in bright green in the bottom image.

Opportunity to attain new views of the landscape

The elevation of the proposed transport corridor provides the opportunity to attain new views towards the Mahurangi River and the adjacent rural landscape to the west outside the RUB.

17.7 Recommended measures to avoid, remedy or mitigate operational effects

In addition to the overall recommended measures outlined in Section 7.7 (as relevant), I recommend the following measures should be addressed through future outline plan or resource consent processes (as appropriate) to address the specific operational effects of the proposed transport corridor. In this regard, it is noted that the primary means of mitigating effects is through design responses to be illustrated in an ULDMP.

- Through planting design frame key views, as appropriate, of vegetated areas and the wider rural landscape outside the RUB for transport corridor users.

With the above recommended measures, anticipated that operational effects within, and adjacent to, the proposed designation will be:

- Landscape character: '**Low-Moderate**'
- Natural character: '**Low-Moderate**'

17.8 Summary and Conclusions

The proposed designation will introduce a new transport corridor into the southwest area of Warkworth, which has the potential to result in large areas of fill, disruption to waterways and natural wetlands (as depicted in the currently proposed Project drawings), and vegetation removal. However, the proposed designation also provides the opportunity to extend areas of indigenous vegetation and provide new views over the natural environment, as well as views over the rural landscape within the wider area beyond the RUB.

It is expected that natural character will be specifically affected by the construction of a new bridge and areas of fill over waterways and natural wetlands. It is likely that these effects can be reduced through avoiding piers in the riverbed, minimising piers on the riverbank, and revegetating existing wetlands. These issues will be addressed during the future regional consenting stages of the Warkworth Package and the proposed outline plan process (Condition 1), with the primary means of mitigating effects being through design responses to be illustrated in an ULDMP (Condition 9).

With the implementation and establishment of the recommended measures, construction effects are anticipated to be '**Moderate**' and operational effects are anticipated to be '**Low-Moderate**'. Proposed conditions at the future regional resource consent stage will provide specific mitigation for future transport projects within each designation.

Table 16. Summary of Assessment of Effects and Recommendations – NOR 8 Wider Western Link (Northern Section)

Residual effect after recommendations	Assessment	Recommendation
Effects during construction		
Landscape Character: 'Moderate'	Work within waterbodies.	Refer to overall network recommendations.
Natural Character: 'Moderate'	Potential effects on existing residential areas.	As appropriate, provide temporary screening for #346 Woodcocks Road (at on the northern extent of the designation) until earthworks are remediated.
Operational effects		
Landscape Character: 'Low-Moderate'	Opportunity to integrate transport corridor into the surrounding landscape, including increasing planted areas.	Refer to overall network recommendations.
Natural Character: 'Low-Moderate'	Opportunity to provide visual connections with the wider rural landscape.	Through planting design frame key views, as appropriate, of vegetated areas and the wider rural landscape outside the RUB for transport corridor users.

18 Statutory Considerations

The RMA and AUP:OP have been considered as part of this report to assess the consistency of the Warkworth Package with the requirements, outcomes, or limits in the relevant statutory plan provisions.

The NPS:UD has been addressed in 'Volume 2: Assessment of Environment Effects'. The National Policy Statement on Freshwater Management (NPS:FM) contains several provisions relevant to the Warkworth Package, including:

- *Policy 6: There is no further loss of extent of natural inland wetlands, their values are protected, and their restoration is promoted.*
- *Policy 7: The loss of river extent and values is avoided to the extent practicable.*

The NPS:FM has been considered in detail as part of the 'Assessment of Ecological Effects'.

Resource Management Act 1991

The preservation of the natural character of wetlands and rivers and their margins and the protection of them from inappropriate subdivision, use and development is directed as a matter of national importance under Section 6(a) of the RMA. Taking into consideration recommended measures, there will be 'Low-Moderate' construction and 'Low' operational effects on natural character at the broader scale of Warkworth, while natural character effects on the localised scale of the Northern Project Area and Southern Project Area will be also be 'Low-Moderate' for construction and 'Low' for operational. Natural character effects at the site scale of the proposed designations will vary between 'Low' and 'Moderate-High' for construction and between 'Very Low' and 'Low-Moderate' for operational.

While the natural character of the Warkworth Package area is likely to experience some adverse effects, appropriate measures have been recommended to ensure the natural character of waterways and natural wetlands will be preserved and protected.

The protection of ONFLs from inappropriate subdivision, use and development is also directed as a matter of national importance under Section 6(b) of the RMA. The AUP:OP identifies an ONF to the south-east of the proposed Sandspit Road designation (NOR 5 Project). The AUP:OP also identifies an ONL to the south of Sandspit Road (NOR 5 Project), as well as the south and southeast of the proposed SH1 designation (NOR 3 Project). The Warkworth Package will avoid adverse effects on ONFLs, as discussed in the sections below.

The maintenance and enhancement of amenity values are outlined in Section 7(c) of the RMA and the maintenance and enhancement of the quality of the environment in Section 7(f) of the RMA. It is anticipated that the existing amenity and quality of the environment will be maintained for the following reasons:

- Following recommended measures, effects on landscape character will be 'Moderate-High' at most for construction effects and 'Moderate' at most for operational effects.
- The Warkworth Package provides the opportunity to create an attractive transport corridor through careful design, including amenity planting.
- The Warkworth Package has scope to provide separate active transport routes to enhance transport corridor user experience, with the potential for these routes to be incorporated within, or adjacent to, vegetated areas and waterways.

- The Warkworth Package provides opportunities for new views of the wider surrounding rural and natural landscape.
- The Warkworth Package will be consistent with the expected future urban character of the area.
- There is scope to provide some areas of screening and buffers for residential areas, including during construction.
- The Warkworth Package is located away from prominent ridgelines.
- Where existing vegetation is affected, measures have been recommended to appropriately replace removed vegetation.
- Ongoing consultation with mana whenua.

I consider the Warkworth Package to be consistent with sections of the RMA which are relevant to landscape and natural character.

Auckland Unitary Plan: Operative in Part

The AUP:OP contains objectives and policies relating to specific precincts and zones within Warkworth. These have been considered as part of this assessment.

Although Warkworth currently has strong aspects of rural character on the periphery, it is expected that the area will be incrementally urbanised in the future through the development of urban zoned land. The Warkworth Package provides opportunities to retain rural landscape characteristics which are anticipated to remain post urbanisation by enhancing indigenous planting and providing views of the wider rural landscape beyond the RUB.

Several measures have been recommended to address potential adverse effects on ecological values of streams, natural wetlands, and indigenous vegetation. This includes proposed measures to revegetate wetlands and road edges with indigenous species, and stage earthworks. It is noted that detailed responses to waterway and natural wetland treatment will be detailed in the future regional resource consenting stages of the Warkworth Package.

Pedestrian and cycleway connectivity has also been considered, with all proposed designations providing the opportunity to include active transport routes. This is reflected in the ULDM. In places, there is scope for these routes to travel through, or be adjacent to, vegetated areas and waterways.

In addition, proposed designation widths provide scope for amenity planting to increase the attractiveness of proposed transport corridors, which has the potential to positively contribute to the amenity values of future urban neighborhoods. Proposed ULDM conditions also include direction on adherence to CPTED principles, including passive surveillance.

There are opportunities to address the potential visual dominance of transport corridor structures through planting, feathering of earthworks into the surrounding natural contours, use of appropriate materials, and the avoidance of proposed designations across prominent ridgelines.

Together the above measures assist the potential of the Warkworth Package in positively contributing towards the planned urban form of Warkworth, providing opportunities for a quality and safe transport network which adds to Warkworth's sense of place.

ONF

The AUP:OP identifies the Mahurangi North Parnell Grits as an ONF. The nearest proposed designation (NOR 5 Project) is at least 1km from this ONF and is separated from the feature by the

Mahurangi River and its steep northern escarpment. It is assessed that the Warkworth Package will avoid adverse effects on ONFs.

ONL

The AUP:OP identifies the West Mahurangi Harbour as an ONL (to the south of the NOR 3 Project and south and southeast of the NOR 5 Project). The Warkworth Package does not overlap with this ONL. To the north the NOR 5 Project is approximately 220m from the ONL and is separated from the ONL by intervening topography. The southern extent of the NOR 3 Project is 60m north of the ONL, however, SH1 already extends through the ONL to the south of the proposed designation. While there is no physical connectivity between the proposed designations and the ONL, there is the opportunity for indigenous planting to be undertaken within the Warkworth Package, which could positively contribute to the remnant native forest within the ONL by reducing habitat fragmentation. The Warkworth Package will not affect any landforms or vegetation within the ONL and as both the NOR 3 Project and NOR 5 Project are roading upgrades, rather than proposed new roads, the proposed designations will be consistent with the current landscape character of the area, as well as being consistent with the planned urbanisation of Warkworth. It is assessed that the Warkworth Package will avoid adverse effects on ONLs.

HNC

The AUP:OP identifies the Mahurangi River southern escarpment as having HNC (approximately 140m to the south of the NOR 5 Project). The HNC area is separated from the NOR 5 Project by intervening topography. The Warkworth Package will not affect vegetation associated with the HNC area and there is the opportunity for planting to be undertaken within the designation boundary which could enhance the HNC's forested area by providing an adjacent habitat corridor. The NOR 5 Project also involves the upgrading of an existing road, rather than the implementation of a new road, and is therefore an expected element within the setting. It is assessed that the Warkworth Package will avoid significant adverse effects on areas of HNC.

I consider the Warkworth Package to be consistent with the AUP:OP district policies and objectives that are relevant to landscape and natural character.

Warkworth Structure Plan (2019)

While the Warkworth Structure Plan is a non-statutory document, it is relevant to the Warkworth Package and has been considered as part of this assessment. Key considerations include:

- Protection of views towards the bush-clad northern escarpment of the Mahurangi River and of rural views from within the FUZ towards the outside of the RUB that contribute to rural landscape characteristics associated with Warkworth's character.
- Protection and enhancement of existing bush and natural areas.
- Enabling possible public access for a network of walking and cycling trails through ecological corridors.
- Prioritising active transport through a walking and cycling network.
- Opportunities to improve ecological values in the area.
- Protecting and enhancing the urban forest.
- Treating tributaries as being vital to the health of the Mahurangi River.
- Retaining and buffering natural watercourses.

- Celebrating and protecting Warkworth’s heritage, both Māori and European, and its relationship with mana whenua.
- High-quality and integrated urban development that reinforces Warkworth’s identity.
- Use of urban trees (such as street trees) and vegetation to enhance the amenity of the built environment.

19 Conclusions

This LNCVA has assessed the potential effects of eight NORs as part of the Warkworth Package. Potential effects took into consideration the existing environment and the likely future environment of Warkworth.

Several key issues were raised throughout the LNCVA, including potential effects on, or opportunities regarding:

- Amenity
- Landform
- Vegetation
- Waterbodies (waterways and natural wetlands)
- Rural landscape characteristics
- Heritage values
- Cultural values

Recommendations were made throughout the LNCVA to address potential effects by directing outcomes to be achieved and recognising opportunities. Landscape and natural character recommendations for the overall Warkworth Package are provided in the table below (Table 17). The recommendations made throughout the LNCVA are also reflected in the ‘urban design outcomes and opportunities’ figures within the ‘Urban Design Evaluation’.

The below tables illustrate the assessed construction and operational effects on landscape character and natural character with and without the recommended measures outlined in the LNCVA.

As noted in Section 5 ‘Methodology’, access to areas of the Warkworth Package site were limited due to private property access constraints. It is recommended that at the future regional resource consenting phase evaluations made throughout this report are ground-truthed, as appropriate, to re-validate the landscape and natural character values identified in the LNCVA before conceptual design commences. This will assist in establishing more refined mitigation measures to address effects more effectively.

Table 17 Summary of assessment of effects of recommendations – Warkworth Package overall network

Residual effect after recommendations	Assessment	Recommendation
Effects during construction		
Landscape Character: 'Very Low' Natural Character: 'Very Low'	Larger construction area, than operational footprint. This may result in some additional vegetation removal.	Appropriately integrate Project with existing landscape features (including natural wetlands) and the wider natural landscape. Consider opportunities for suitable felled tree species for re-use as landscape features.
	Work to be undertaken in or near waterbodies.	Minimise sedimentation of waterbodies using appropriate erosion controls, by limiting the extent of exposed earthworks at any one time and revegetate earthworks, as appropriate. Consider opportunities for topsoil stripping and stockpiling for re-use, ensuring that topsoil is suitable for landscape purposes. Where practicable, undertake bridge construction from dry land, avoid piers in the beds of waterways and wetlands, minimise piers on riverbanks, and minimise fill over waterbodies.

Residual effect after recommendations	Assessment	Recommendation
<p>Landscape Character (cont'):</p> <p>'Very Low'</p> <p>Natural Character (cont'):</p> <p>'Very Low'</p>	<p>Visual effects from the clutter of materials, machinery, and construction yards.</p>	<p>Where appropriate, select visually discrete locations for the placement of construction yards and material storage. Consider screening of construction yards as mitigation for temporary visual effects.</p> <p>Ensure the reinstatement of construction yards is undertaken in a manner appropriate for the anticipated future use of the land.</p> <p>Take into account the potential visual impacts of structures and look to adopt appropriate architectural and landscape treatment to manage these effects.</p>
	<p>Effects on existing residential areas.</p>	<p>Identify opportunities for the survey, collection, and propagation of heritage amenity plants in private gardens that will be demolished to enable construction to occur (subject to the agreement with the landowner), so that as appropriate these may be re-established as part of the planting programme during finishing works.</p>
<p>Operational effects</p>		

Residual effect after recommendations	Assessment	Recommendation
<p>Landscape Character: 'Low-Moderate'</p> <p>Natural Character: 'Low-Moderate'</p>	<p>Opportunity to integrate the Warkworth Package with the wider landscape.</p>	<p>Consider how the Project (including roadside elements such as lighting, signage and the landscape treatment of structures) can:</p> <ul style="list-style-type: none"> • Enable integration of the Project's permanent works into the surrounding landscape and urban context; and • Ensure that the Project manages potential adverse landscape and visual effects and contributes to a quality urban environment. <p>Take into account the potential visual impacts of structures and look to adopt appropriate architectural and landscape treatment to manage these effects.</p> <p>How the Project can enable integration of street trees into the transport corridor design.</p>
<p>Landscape Character (cont'): 'Low-Moderate'</p> <p>Natural Character (cont'): 'Low-Moderate'</p>	<p>Potential for effects on landscape features, including indigenous vegetation and waterbodies.</p>	<p>Integrate the Project with existing landscape features (including natural wetlands) and the wider natural landscape.</p>

Residual effect after recommendations	Assessment	Recommendation
	Opportunity to integrate stormwater management.	<p>Consider further refinement of stormwater treatment wetland design to appear 'natural' with a variety of habitats, e.g. irregular shape with curved boundaries, varying depths and islands.</p> <p>Consider water sensitive urban design principles.</p> <p>Recommendation to prioritise the use of soft engineering strategies for stormwater management.</p> <p>It is noted that detailed responses to waterway and natural wetland treatment will be detailed in the future regional resource consenting stages of the Warkworth Package.</p>
	Anticipated likely future environment based on assumptions.	Re-validate the landscape and natural character values identified in the LNCVA prior to the commencement of conceptual design.

Summary tables illustrating construction and operational construction landscape character and natural character effects without recommended measures and following recommended measures are provided below.

Scale	Warkworth	Northern Project Area	Southern Project Area	NOR							
				1	2	3	4	5	6	7	8
Landscape character construction effects	M	M-H	M	L-M	L-M	L-M	H	H	M-H	H	M-H

Scale	Warkworth	Northern Project Area	Southern Project Area	NOR							
				1	2	3	4	5	6	7	8
Natural character construction effects	M	M-H	M	M	M-H	L-M	L	H	M	H	M-H

NOR	Construction (Temporary) Effects without Recommended Measures		Construction (Temporary) Effects following Recommended Measures	
	Landscape Character	Natural Character	Landscape Character	Natural Character
Warkworth	M	M	L-M	L-M
Northern Project Area	M-H	M-H	L-M	L-M
Southern Project Area	M	M	L-M	L-M
1	L-M	M	L	L
2	L-M	M-H	L	L-M
3	L-M	L-M	L	L
4	H	L	M-H	L
5	H	H	M-H	M-H
6	M-H	M	M	L-M
7	H	H	L-M	L-M
8	M-H	M-H	M	M

Figure 19-1 Summary table illustrating the construction landscape character and natural character effects without recommended measures and following recommended measures

Key: V-L ('Very Low'), L ('Low'), L-M ('Low Moderate'), M ('Moderate'), M-H ('Moderate High'), H ('High') and V-H (Very High).

19-2NOR	Operational (Permanent) Effects without Recommended Measures		Operational (Permanent) Effects following Recommended Measures	
	Landscape Character	Natural Character	Landscape Character	Natural Character
Warkworth	M-H	M-H	L	L
Northern Project Area	M-H	M-H	L	L
Southern Project Area	M	M	L	L
1	L	L-M	V-L	L
2	L	M	V-L	L-M
3	L-M	L	L	V-L
4	H	L	M	L
5	M-H	M-H	M	M
6	H	M-H	L-M	L
7	H	H	L-M	L-M
8	H	H	L-M	L-M

Figure 19-2 Summary table illustrating the operational landscape character and natural character effects without recommended measures and following recommended measures

Key: V-L ('Very Low'), L ('Low'), L-M ('Low Moderate'), M ('Moderate'), M-H ('Moderate High'), H ('High') and V-H (Very High).

20 References

Auckland Council, Warkworth Structure Plan, June 2019, <https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/place-based-plans/structure-plans/A%20copy%20of%20the%20Warkworth%20Structure%20Plan/warkworth-structure-plan.pdf>

R. Basseby and M. Walker (2018). Historic Heritage Assessment Report: Draft Warkworth Structure Plan. Prepared by Plans and Places Department for Auckland Council.

1 Appendix A: Graphic Attachment

Warkworth

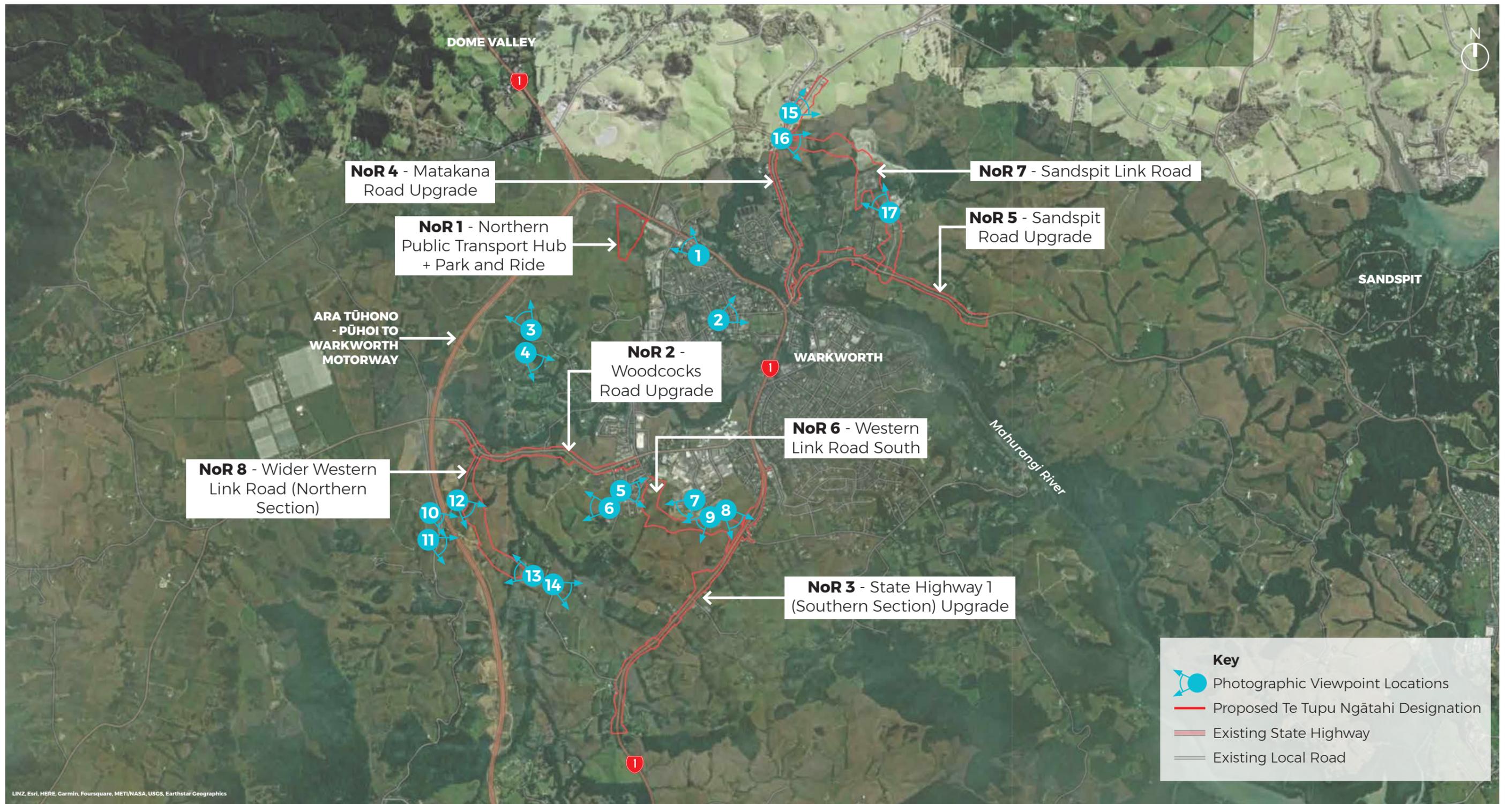
Landscape and Natural Character and Visual Assessment

Appendix A: Photo Essay

4 May 2023

Final for Lodgement

Rev 3



Viewpoint Reference Plan - Project Extents

Project Name: Te Tupu Ngātahi Supporting Growth Alliance | Warkworth Network | Landscape and Natural Character and Visual Assessment

Date: 4 May 2023

Scale: 1:30,000

Status: Final for Lodgement

Revision: 3

Sheet Number: LA001

Author: Melinda Drysdale

Reviewed By: Chantal Whitby



PREPARED BY WSP NZ FOR
TE TUPU NGĀTAHI SUPPORTING
GROWTH ALLIANCE

VP 1: View from Wikitoria Lane looking northwest towards NoR 1 - Northern Public Transport Hub + Park and Ride

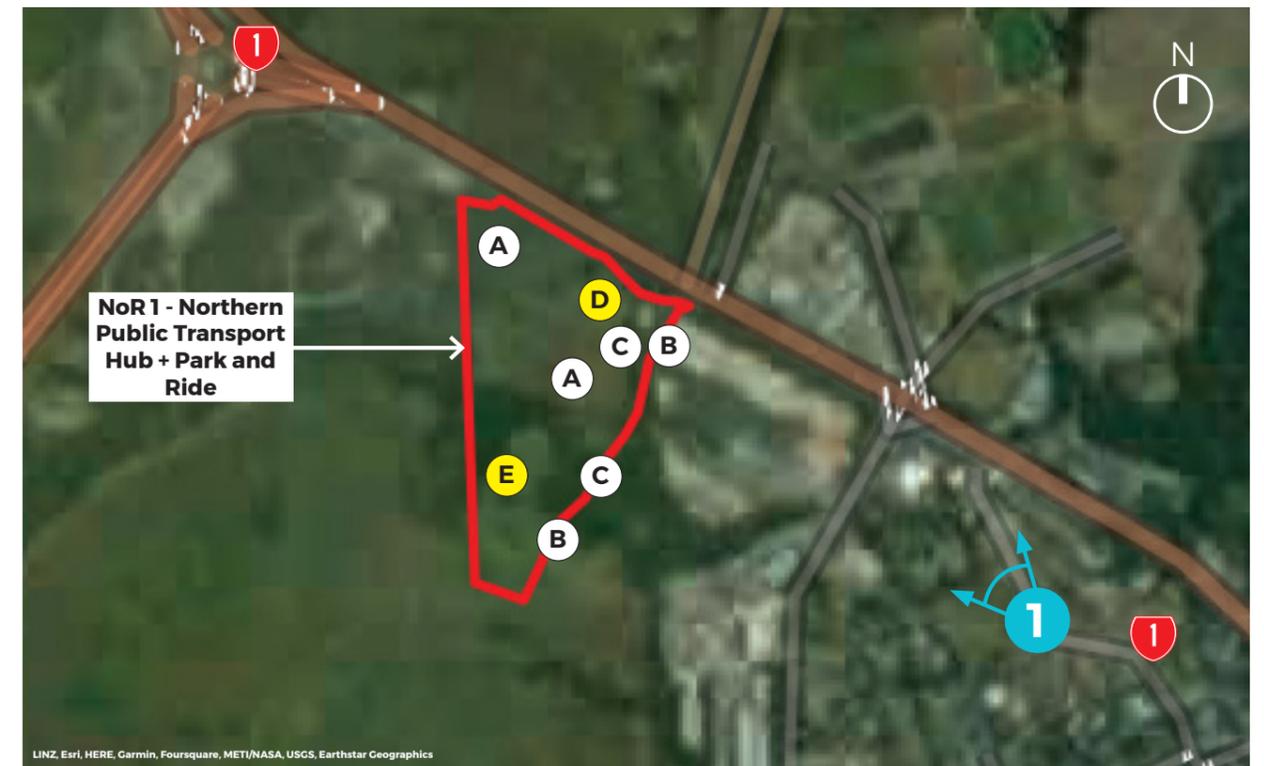
NORTHERN PUBLIC TRANSPORT HUB + PARK AND RIDE AND WESTERN LINK ROAD - NORTH SECTION

ISSUES

- A** Potential large area of impervious surface
- B** Potential removal of riparian vegetation
- C** Potential loss of, and alterations to, natural wetlands and waterways

OPPORTUNITIES

- D** Potential for large area of amenity planting
- E** Opportunity to extend riparian planting



Location of NoRs and viewpoint



Viewpoint 1

VP 2: View from Hill Street looking east towards State Highway 1 and Sandspit Road Intersection

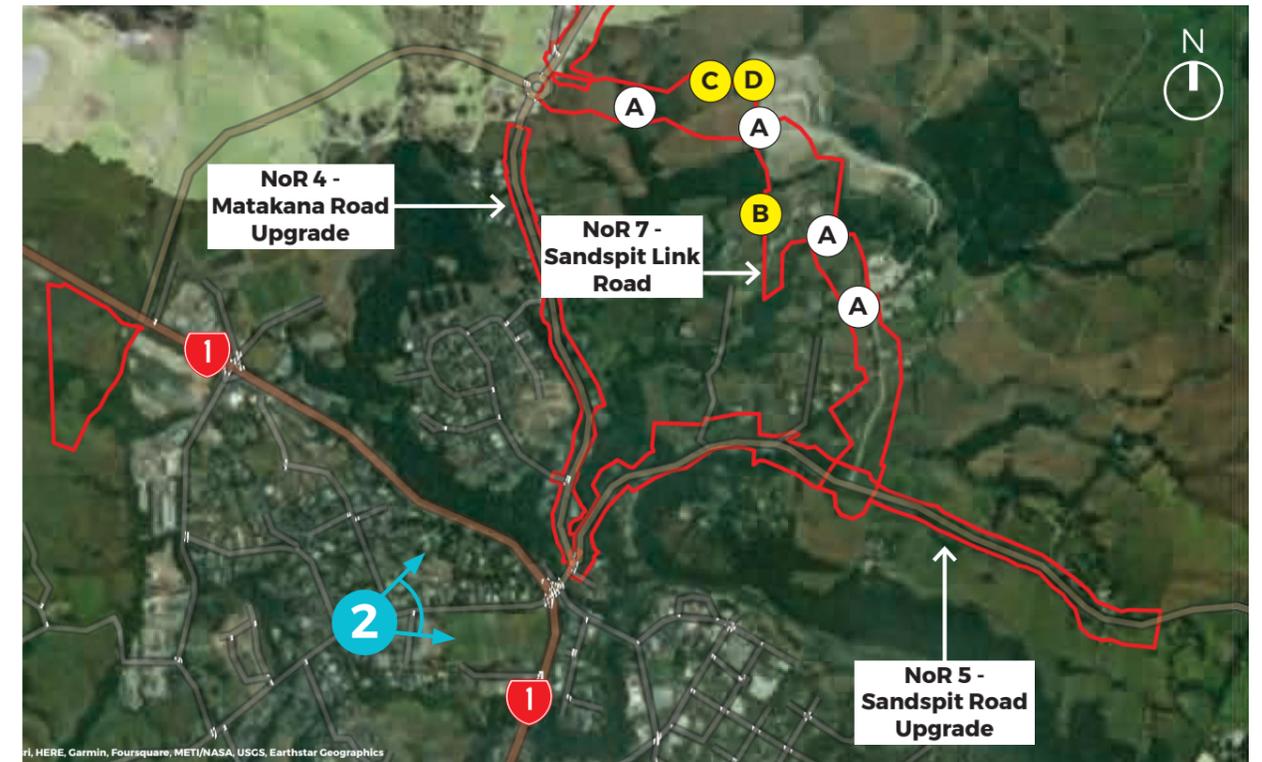
SANDSPIT LINK ROAD

ISSUES

- A Potential loss of riparian vegetation

OPPORTUNITIES

- B Potential opportunity to provide elevated views towards the surrounding landscape
- C Potential to enhance indigenous vegetation, including riparian planting
- D Opportunity to integrate areas of cut and fill. Condition 9 of the ULDMP directs the integration of the proposed transport corridor with the surrounding future environment



Location of NoRs and viewpoint



Viewpoint 2

VP 3: View from Viv Davie-Martin Drive looking northwest towards Ara Tūhono - Pūhoi to Warkworth Motorway

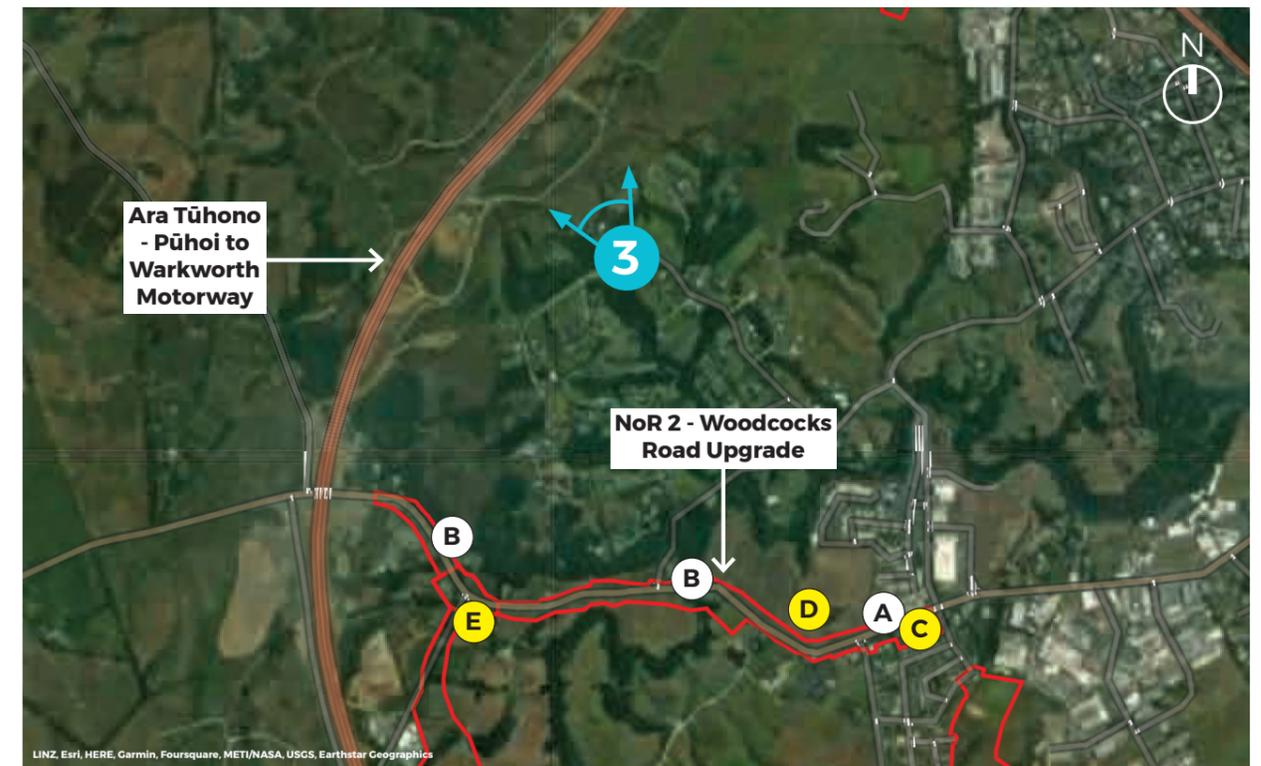
WOODCOCKS ROAD DESIGNATION

ISSUES

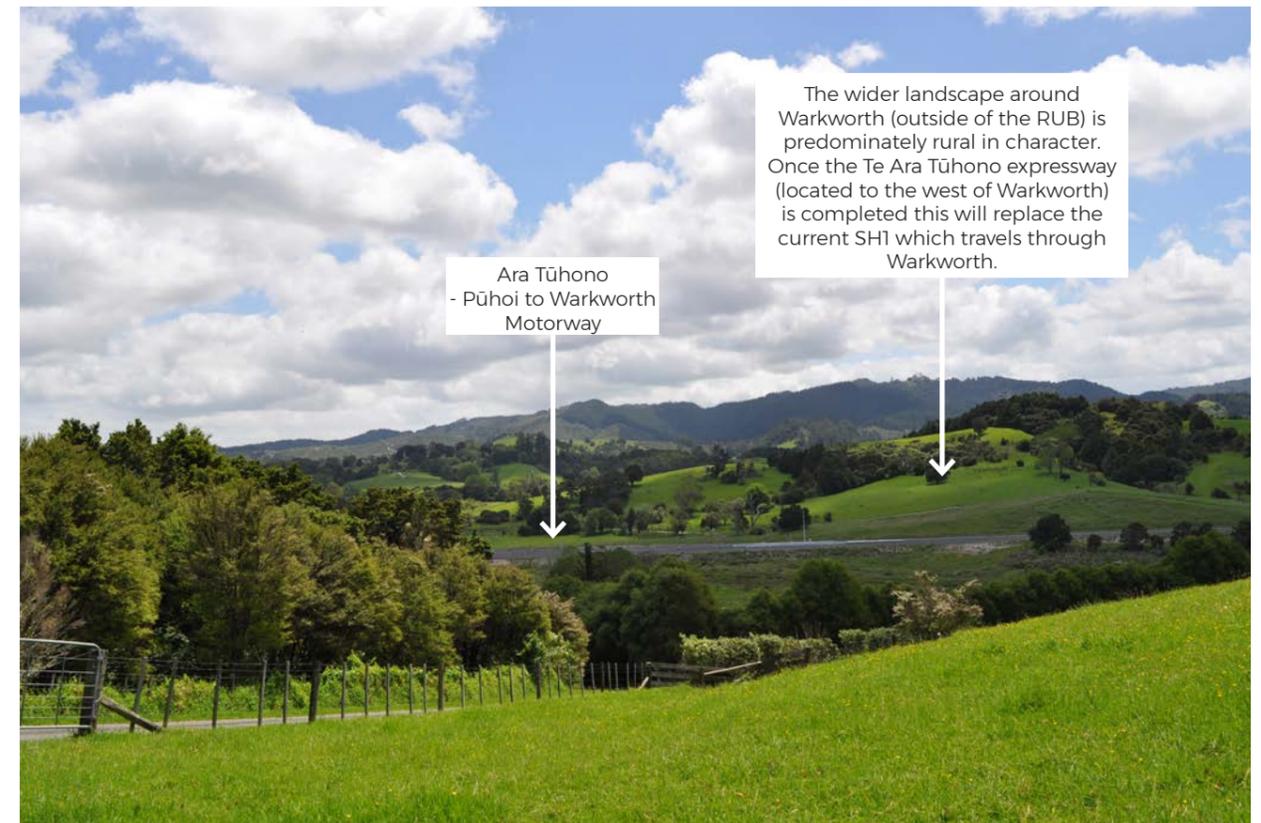
- A** Potential effects on existing residential areas
- B** Potential effects on SEAs, including removal of riparian vegetation

OPPORTUNITIES

- C** Opportunity to create attractive planted area which is incorporated with active transport routes, adjacent to existing residential areas.
- D** Opportunity to revegetate natural wetland area
- E** Opportunity to highlight historical sites with cultural markers and interpretation panels



Location of NoRs and viewpoint



Viewpoint 3

VP 4: View from Viv Davie-Martin Drive looking southeast towards NoR 2 - Woodcocks Road Upgrade

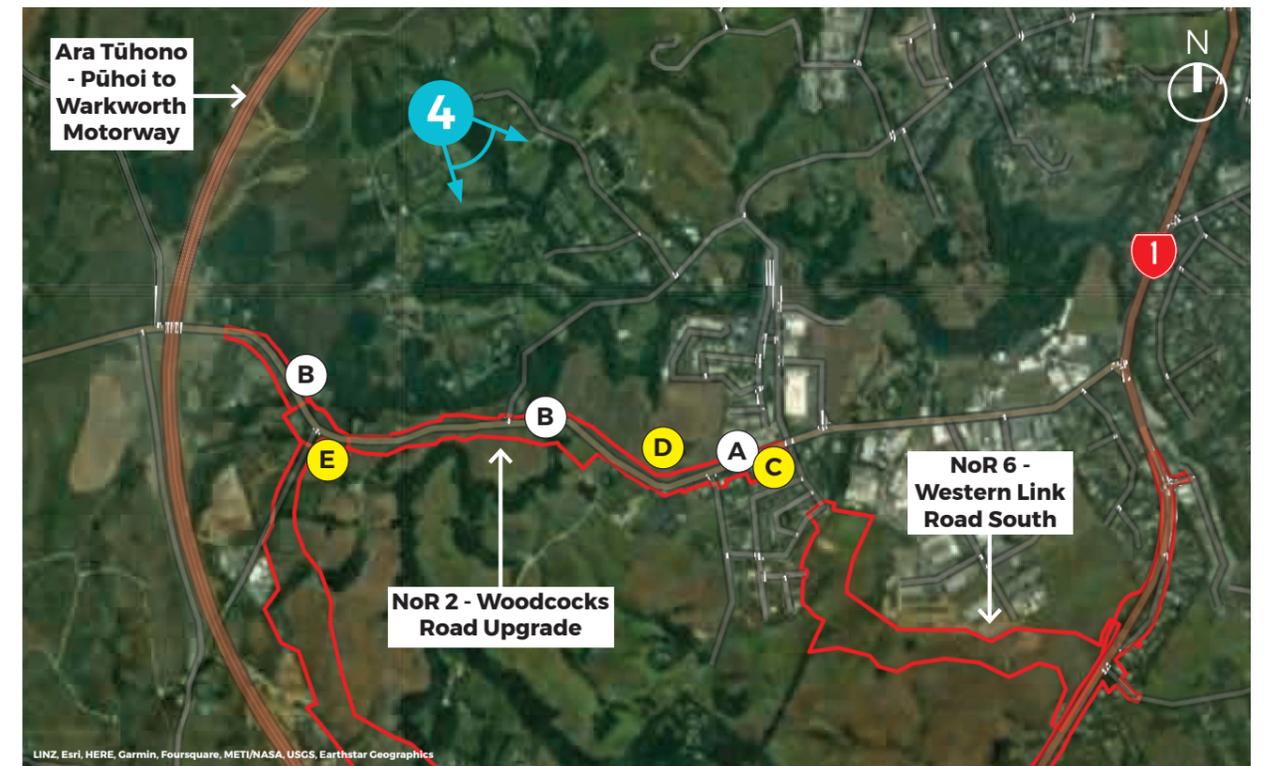
WOODCOCKS ROAD DESIGNATION

ISSUES

- A** Potential effects on existing residential areas
- B** Potential effects on SEAs, including removal of riparian vegetation

OPPORTUNITIES

- C** Opportunity to create attractive planted area which is incorporated with active transport routes, adjacent to existing residential areas.
- D** Opportunity to revegetate natural wetland area
- E** Opportunity to highlight historical sites with cultural markers and interpretation panels



Location of NoRs and viewpoint



Viewpoint 4

VP 5: View from Mason Heights looking east towards NoR 6 - Western Link Road South

WESTERN LINK ROAD SOUTH DESIGNATION

ISSUES

- A** Potential substantial earthworks and changes to the landform across large extent of designation corridor
- B** Potentially limited visual mitigation possible during construction

OPPORTUNITIES

- C** Opportunity to revegetate natural wetlands and extend indigenous vegetation
- D** Opportunity to provide for new vistas towards bush and ridgelines to the north
- E** Opportunity to integrate areas of cut and fill. Condition 9 of the ULDMP directs the integration of the proposed transport corridor with the surrounding future environment



Location of NoRs and viewpoint



Viewpoint 5

VP 6: View from Mason Heights looking west towards NoR 8 - Wider Western Link Road Northern Section

WIDER WESTERN LINK ROAD (NORTHERN SECTION) DESIGNATION

ISSUES

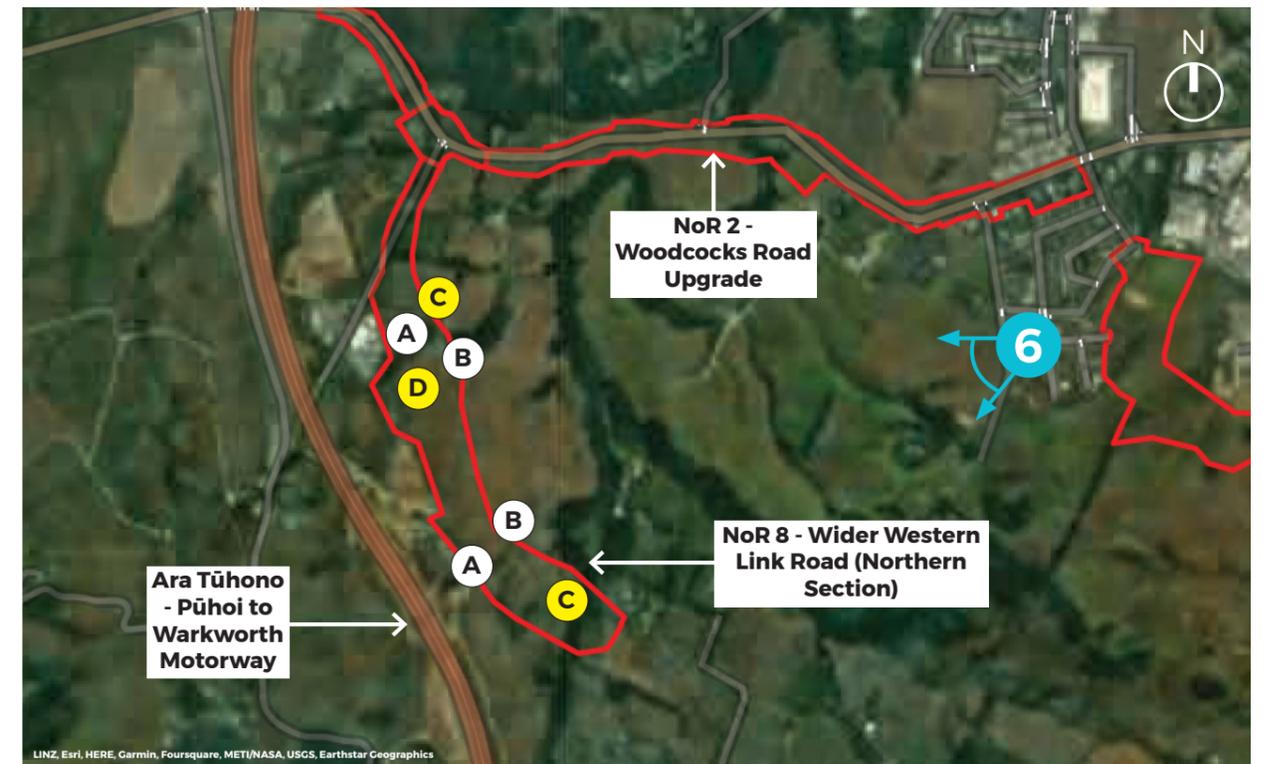
A Potential large areas of fill, including over natural wetlands and waterways

B Potential loss of riparian vegetation

OPPORTUNITIES

C Opportunity to enhance existing vegetation, including natural wetland revegetation

D Opportunity to attain views towards the Mahurangi River and wider rural landscape outside the RUB



Location of NoRs and viewpoint



Viewpoint 6

VP 7: View from Morrison Drive looking southwest towards NoR 6 - Western Link Road South

WESTERN LINK ROAD SOUTH DESIGNATION

ISSUES

- A** Potential substantial earthworks and changes to the landform across large extent of designation corridor
- B** Potentially limited visual mitigation possible during construction

OPPORTUNITIES

- C** Opportunity to revegetate natural wetlands and extend indigenous vegetation
- D** Opportunity to provide for new vistas towards bush and ridgelines to the north
- E** Opportunity to integrate areas of cut and fill. Condition 9 of the ULDMP directs the integration of the proposed transport corridor with the surrounding future environment



Location of NoRs and viewpoint



Viewpoint 7

VP 8: View from Morrison Drive looking southeast towards NoR 6 - Western Link Road South

WESTERN LINK ROAD SOUTH DESIGNATION

ISSUES

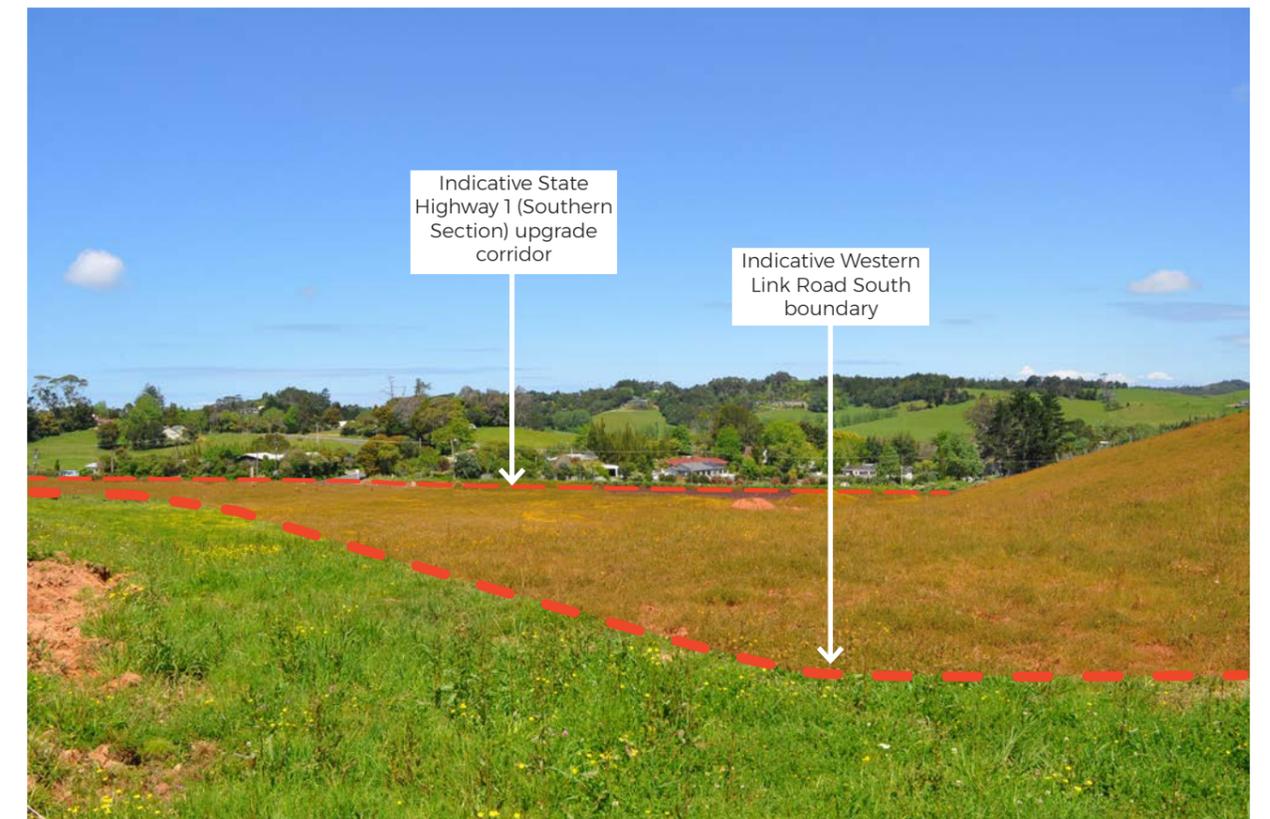
- A** Potential substantial earthworks and changes to the landform across large extent of designation corridor
- B** Potentially limited visual mitigation possible during construction

OPPORTUNITIES

- C** Opportunity to revegetate natural wetlands and extend indigenous vegetation
- D** Opportunity to provide for new vistas towards bush and ridgelines to the north



Location of NoRs and viewpoint



Viewpoint 8

VP 9: View from Morrison Drive looking west towards NoR 6 - Western Link Road South

WESTERN LINK ROAD SOUTH DESIGNATION

ISSUES

- A** Potential substantial earthworks and changes to the landform across large extent of designation corridor
- B** Potentially limited visual mitigation possible during construction

OPPORTUNITIES

- C** Opportunity to revegetate natural wetlands and extend indigenous vegetation
- D** Opportunity to provide for new vistas towards bush and ridgelines to the north



Location of NoRs and viewpoint



Viewpoint 11

VP 10: View from Wyllie Road looking southeast towards Ara Tūhono - Pūhoi to Warkworth Motorway and NoR 8 - Wider Western Link Road Northern Section

WIDER WESTERN LINK ROAD (NORTHERN SECTION) DESIGNATION

ISSUES

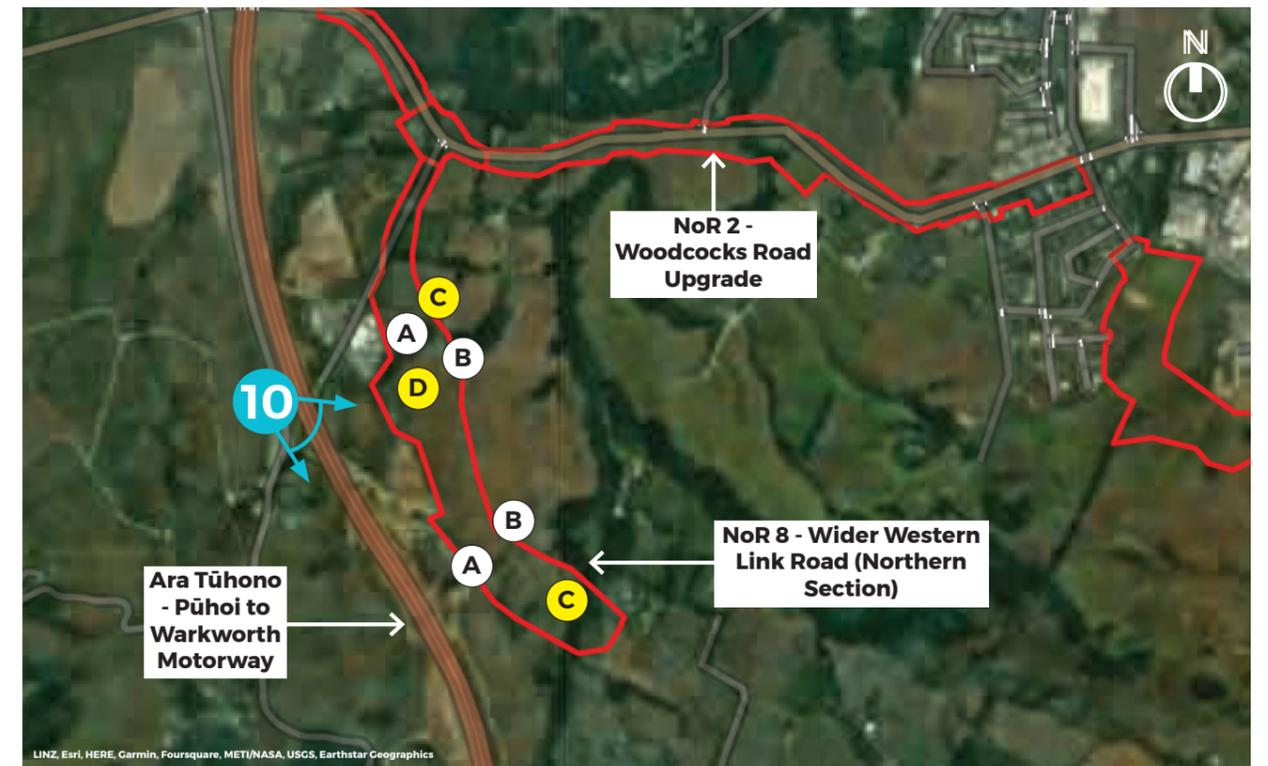
A Potential large areas of fill, including over natural wetlands and waterways

B Potential loss of riparian vegetation

OPPORTUNITIES

C Opportunity to enhance existing vegetation, including natural wetland revegetation

D Opportunity to attain views towards the Mahurangi River and wider rural landscape outside the RUB



Location of NoRs and viewpoint



Viewpoint 10

VP 11: View from Wyllie Road looking southeast towards Ara Tūhono - Pūhoi to Warkworth Motorway and NoR 8 - Wider Western Link Road Northern Section

WIDER WESTERN LINK ROAD (NORTHERN SECTION) DESIGNATION

ISSUES

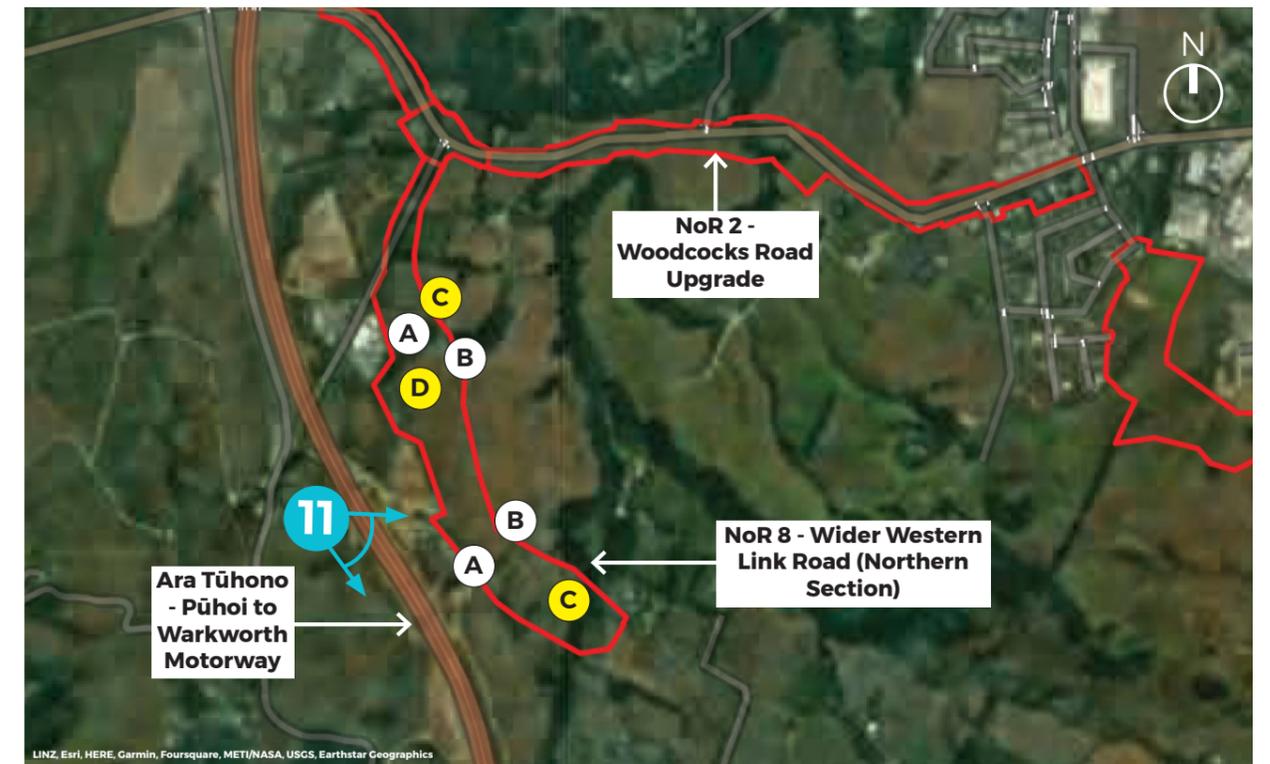
A Potential large areas of fill, including over natural wetlands and waterways

B Potential loss of riparian vegetation

OPPORTUNITIES

C Opportunity to enhance existing vegetation, including natural wetland revegetation

D Opportunity to attain views towards the Mahurangi River and wider rural landscape outside the RUB



Location of NoRs and viewpoint



Viewpoint 11

VP 12: View from Wyllie Road looking southeast towards NoR 8 - Wider Western Link Road Northern Section

WIDER WESTERN LINK ROAD (NORTHERN SECTION) DESIGNATION

ISSUES

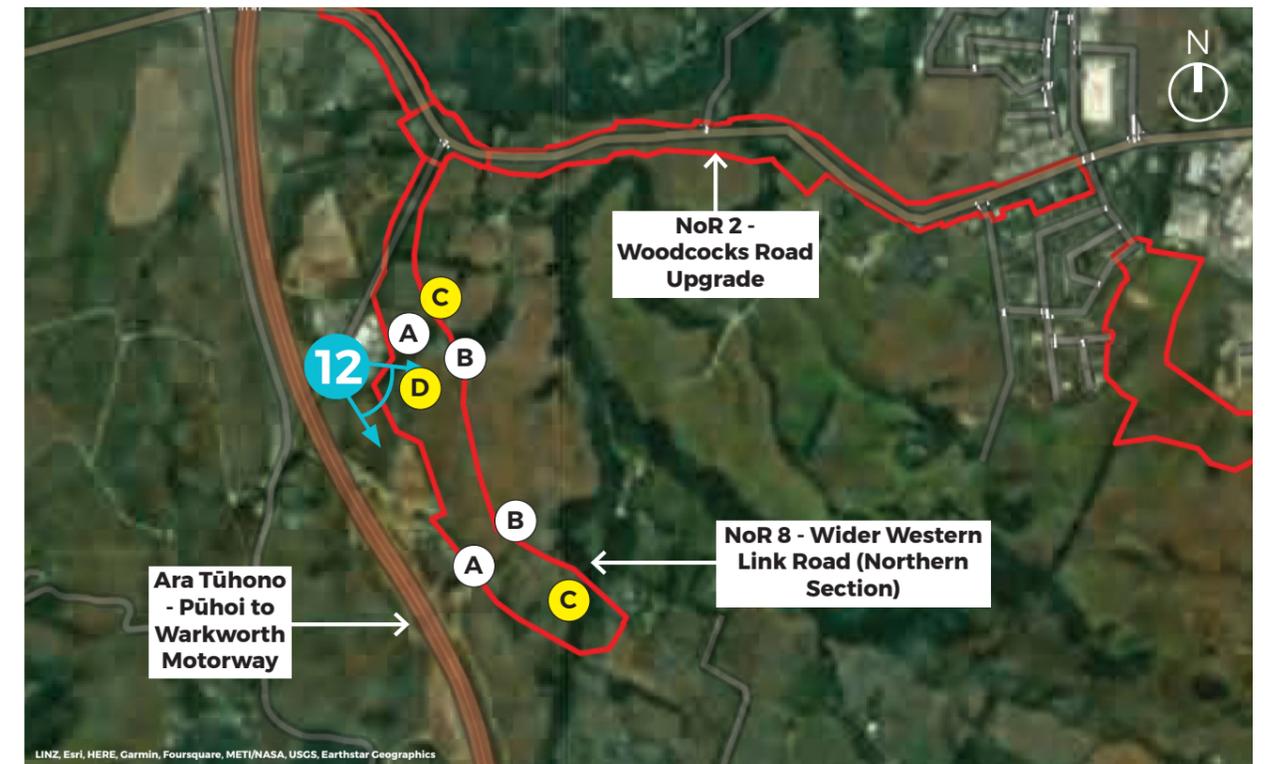
A Potential large areas of fill, including over natural wetlands and waterways

B Potential loss of riparian vegetation

OPPORTUNITIES

C Opportunity to enhance existing vegetation, including natural wetland revegetation

D Opportunity to attain views towards the Mahurangi River and wider rural landscape outside the RUB



Location of NoRs and viewpoint



Viewpoint 12

VP 13: View from Valerie Close looking northwest towards NoR 8 - Wider Western Link Road Northern Section

WIDER WESTERN LINK ROAD (NORTHERN SECTION) DESIGNATION

ISSUES

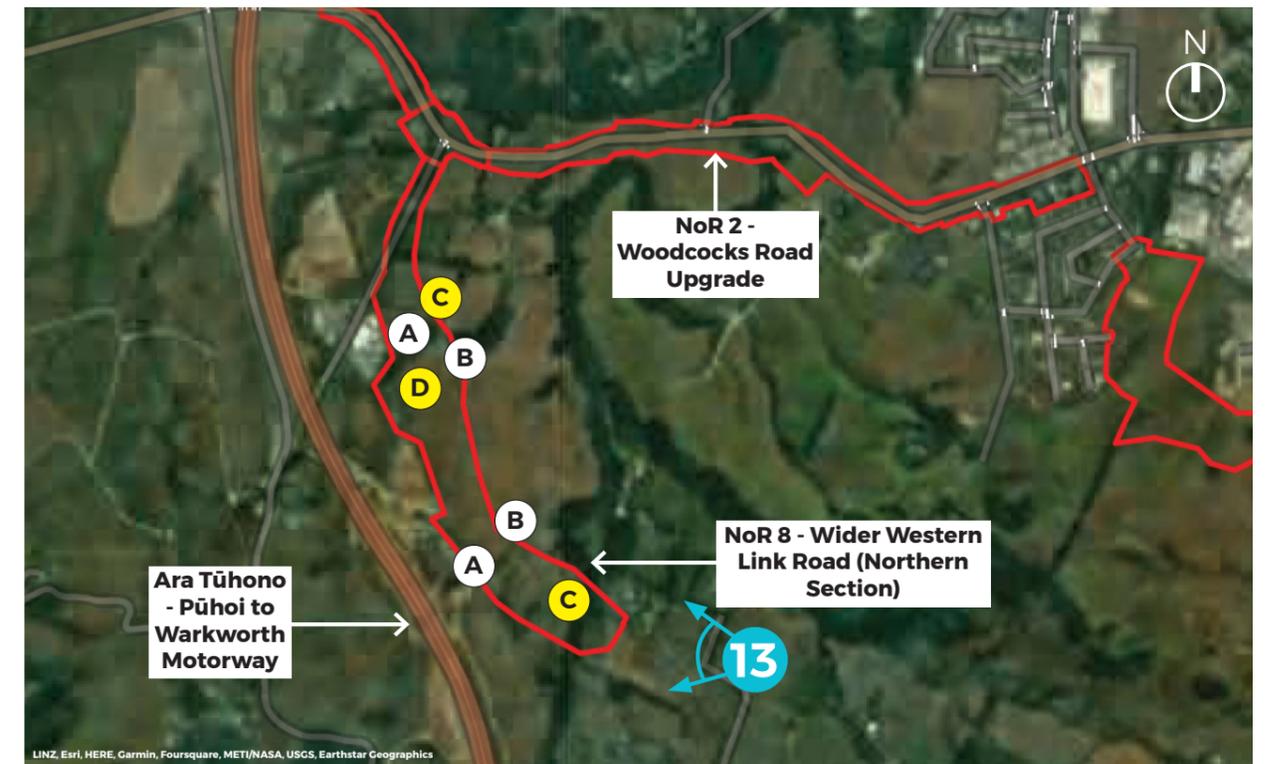
A Potential large areas of fill, including over natural wetlands and waterways

B Potential loss of riparian vegetation

OPPORTUNITIES

C Opportunity to enhance existing vegetation, including natural wetland revegetation

D Opportunity to attain views towards the Mahurangi River and wider rural landscape outside the RUB



Location of NoRs and viewpoint



Viewpoint 13

VP 14: View from Valerie Close looking southeast towards NoR 3 - State Highway 1 Southern Section Upgrade

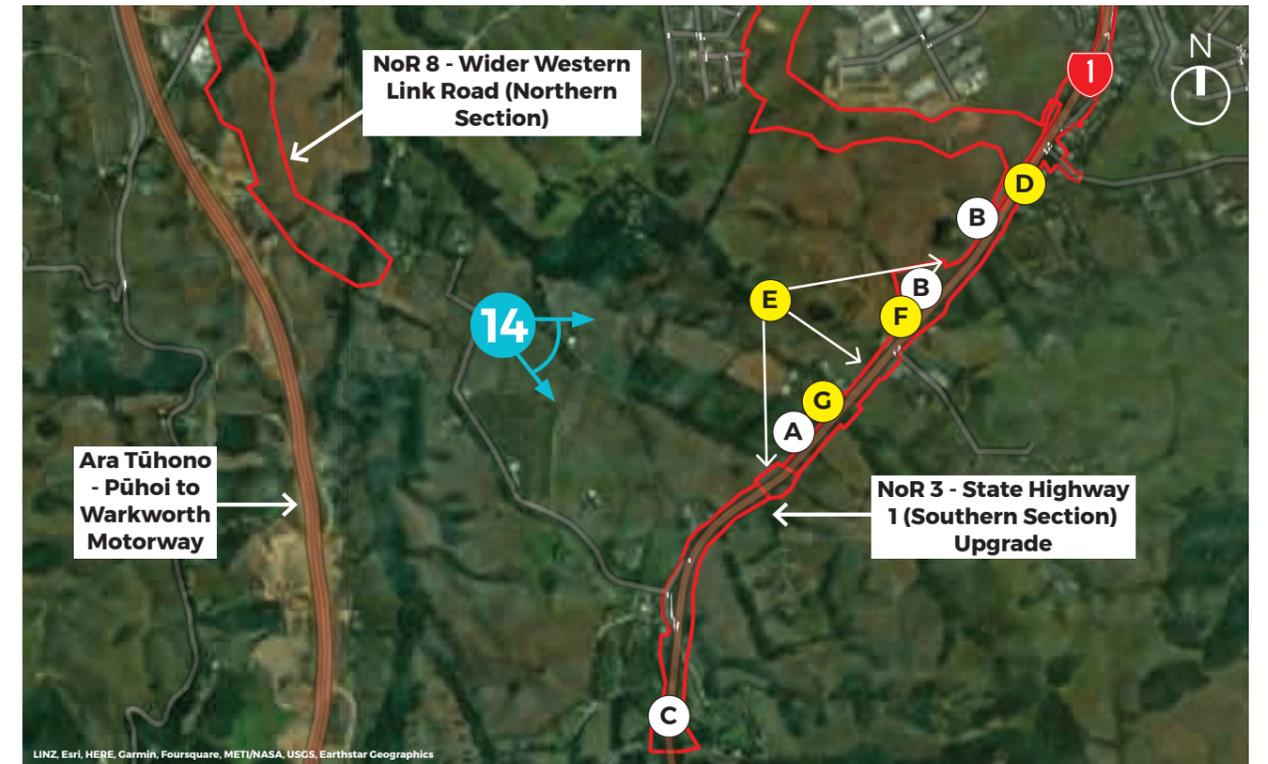
STATE HIGHWAY 1 (SOUTHERN SECTION) DESIGNATION

ISSUES

- A** Potential effects on Morrison's Heritage Orchard
- B** Potential fill over natural wetlands
- C** Potential area of cut 60m north of ONL but outside ONL overlay

OPPORTUNITIES

- D** Opportunity to enhance the southern 'gateway' through street design, including amenity planting
- E** Opportunity for indigenous roadside planting to enhance biodiversity and amenity
- F** Opportunity to revegetate natural wetland area
- G** Opportunity to improve entrance to Morrison's Heritage Orchard through road design



Location of NoRs and viewpoint



Viewpoint 14

VP 15: View from Clayden Road and Matakana Road Intersection looking northeast towards NoR 4 - Matakana Road Upgrade

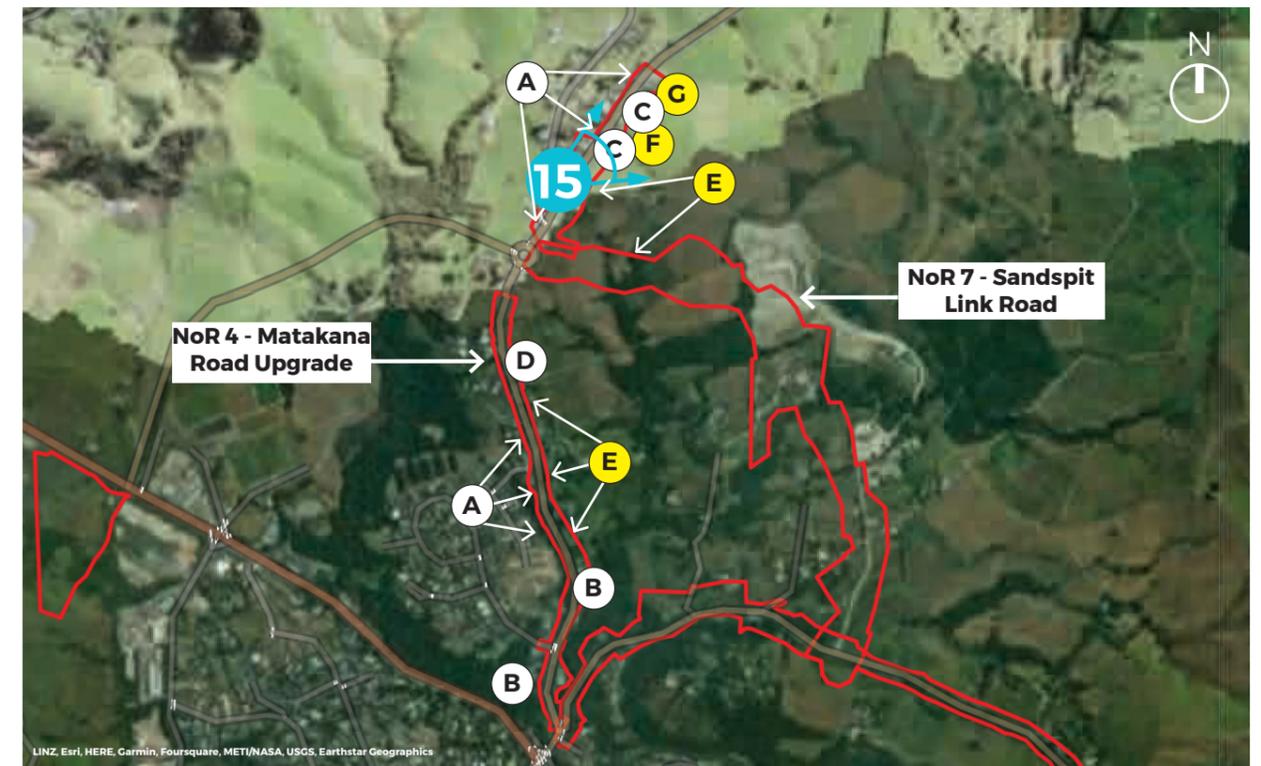
MATAKANA ROAD DESIGNATION

ISSUES

- A** A large extent of the designation corridor is highly constrained between steep topography and existing residential properties. The designation cuts across several properties and is located close to several existing dwellings. This limits the ability for potential mitigation measures.
- B** Potential adverse effects on vegetation in SEA
- C** Potential fill over natural wetlands
- D** Potential for historic house site to be partially damaged by works

OPPORTUNITIES

- E** Opportunity to extend indigenous roadside planting along extent of designation corridor
- F** Opportunity to revegetate natural wetlands
- G** Opportunity to retain views to east of the rural landscape outside the RUB



Location of NoRs and viewpoint



Viewpoint 15

VP 16: View from Matakana Road looking southeast towards NoR 7 - Sandspit Link Road

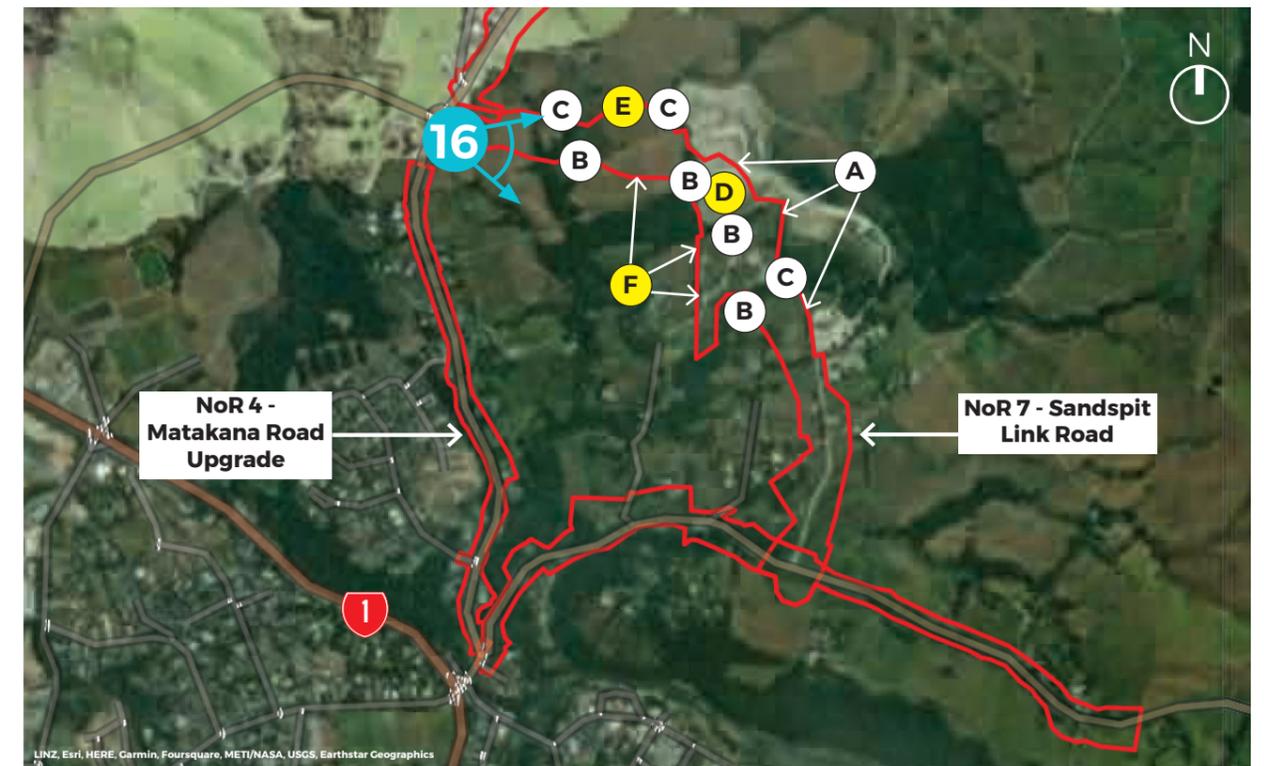
SANDSPIT LINK ROAD DESIGNATION

ISSUES

- A** Substantial changes to landform due to large areas of cut and fill across large extent of designation corridor
- B** Loss of riparian vegetation
- C** Effects on waterways and wetlands

OPPORTUNITIES

- D** Provide for new public views south towards Warkworth town centre and the wider rural landscape
- E** Potential to enhance existing vegetation, including wetland revegetation
- F** Opportunity to integrate areas of cut and fill. Condition 9 of the ULDMP directs the integration of the proposed transport corridor with the surrounding future environment



Location of NoRs and viewpoint



Viewpoint 16

VP 17: View from Warkwork Resource Recovery Park Paper Road looking northwest towards NoR 7 - Sandspit Link Road

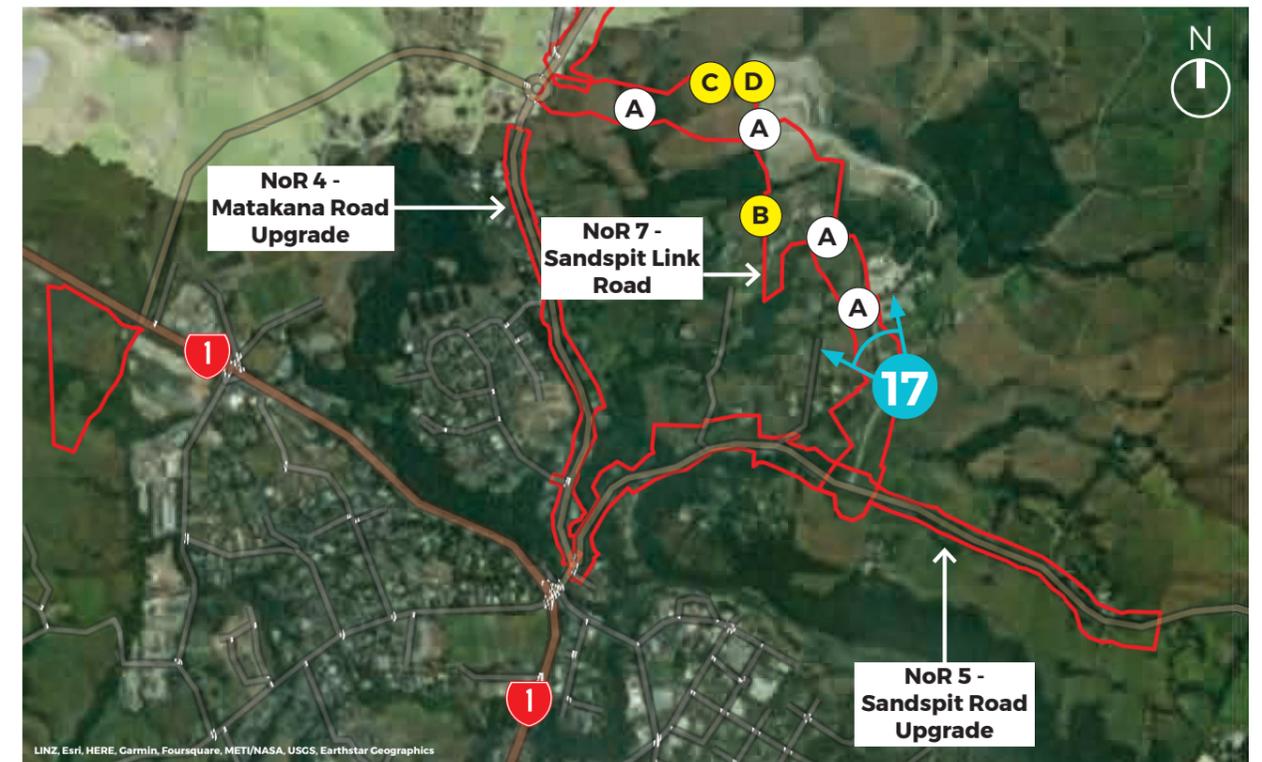
SANDSPIT LINK ROAD

ISSUES

- A** Potential loss of riparian vegetation

OPPORTUNITIES

- B** Opportunity to provide new vistas over the surrounding landscape
- C** Potential to enhance indigenous vegetation, including riparian planting
- D** Potential change to the landform from cut and fill



Location of NoRs and viewpoint



Viewpoint 17

Warkworth

Landscape and Natural Character and Visual Assessment

Maps

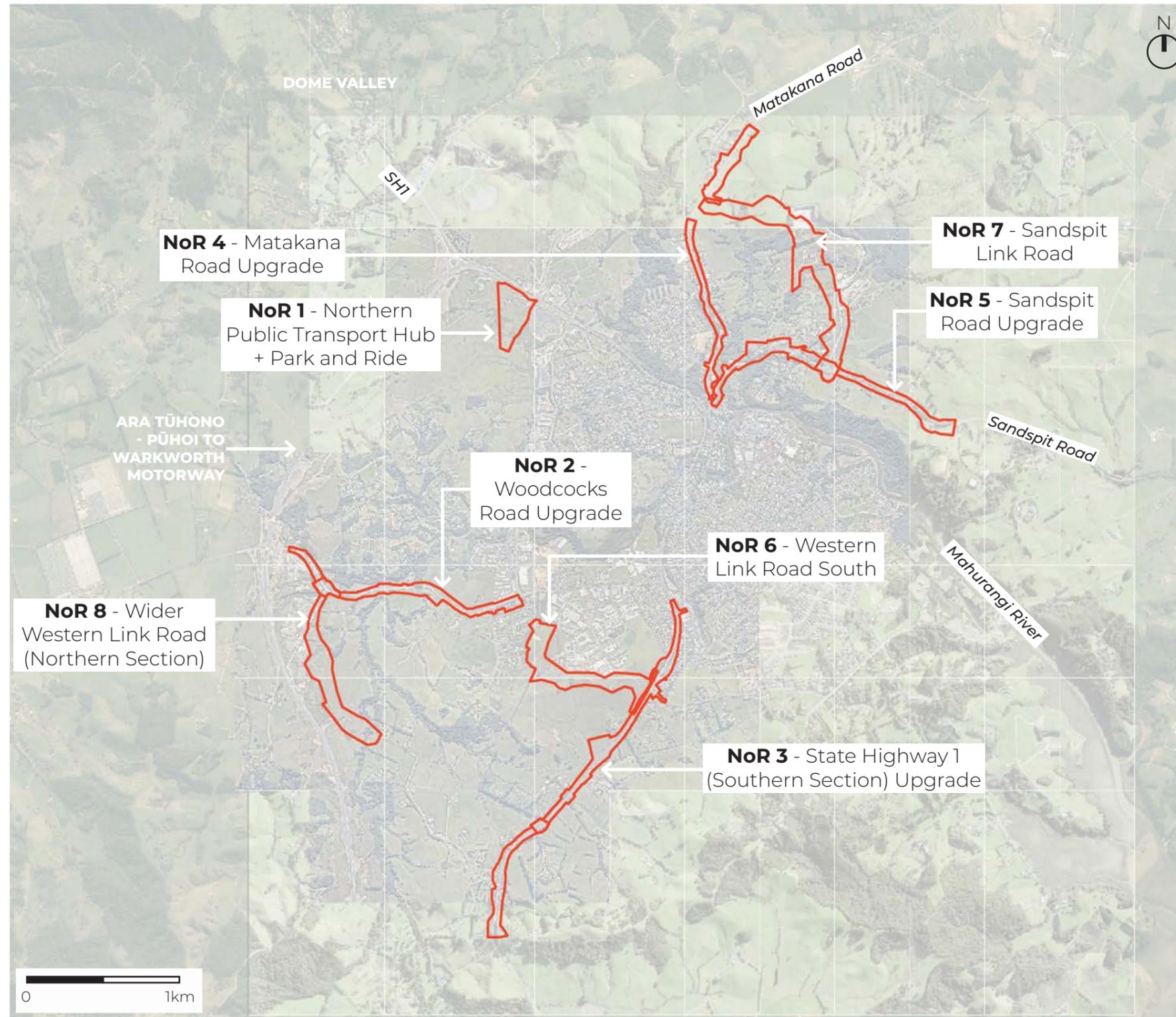
4 May 2023

Final for Lodgement

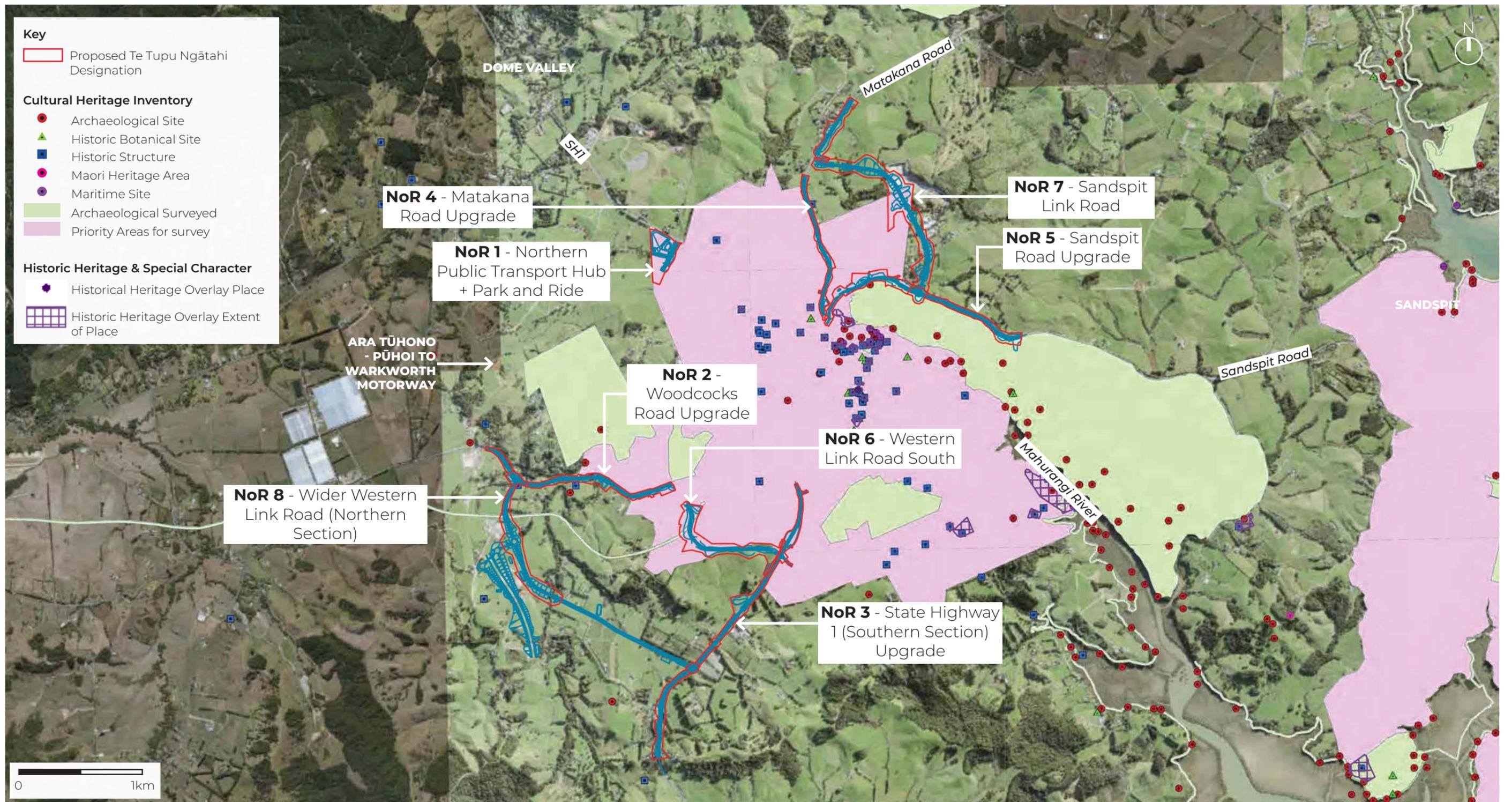
Rev 3

Key

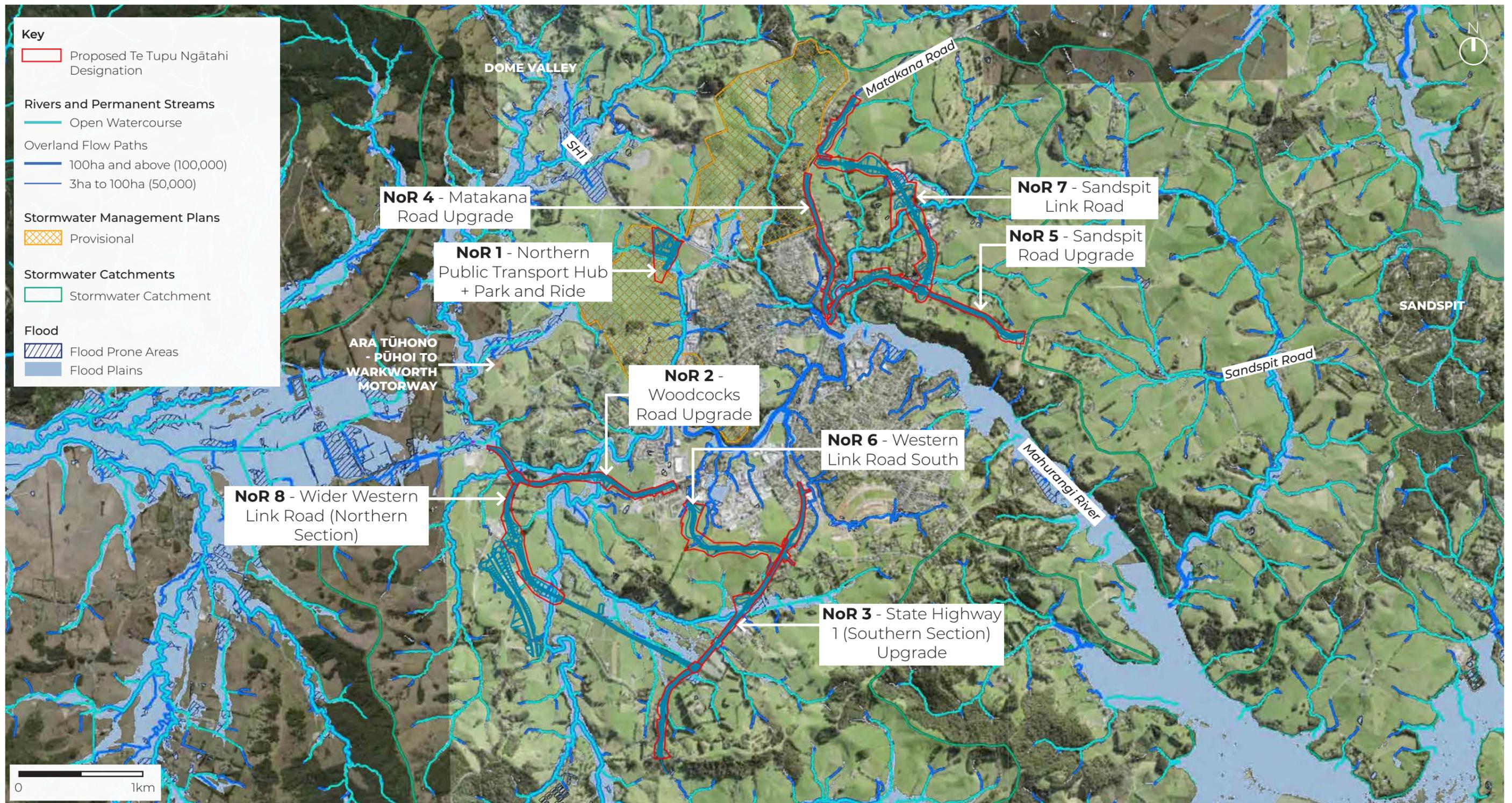
Proposed Te Tupu Ngātahi Designation



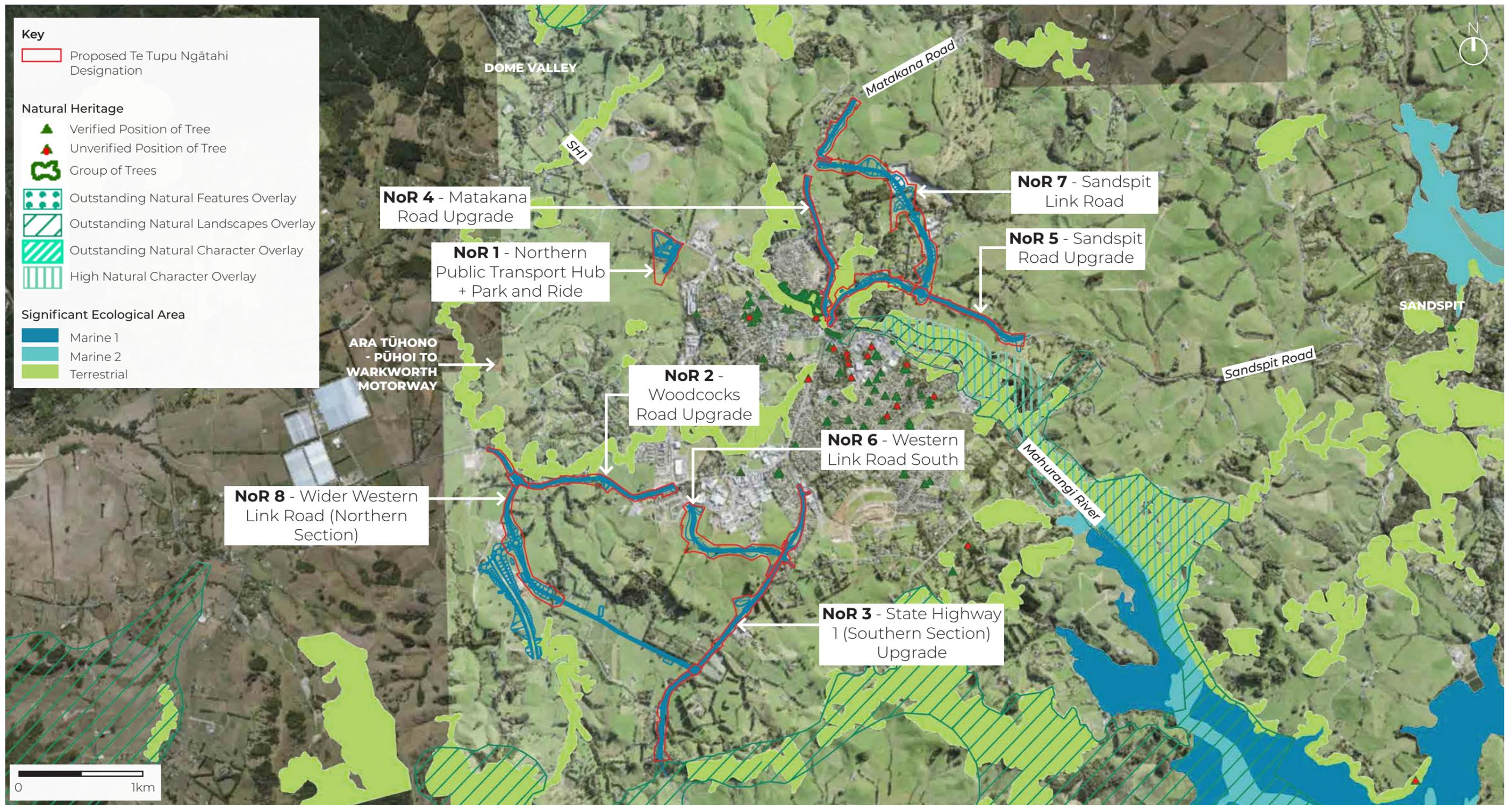
Map 01: NoR Extents



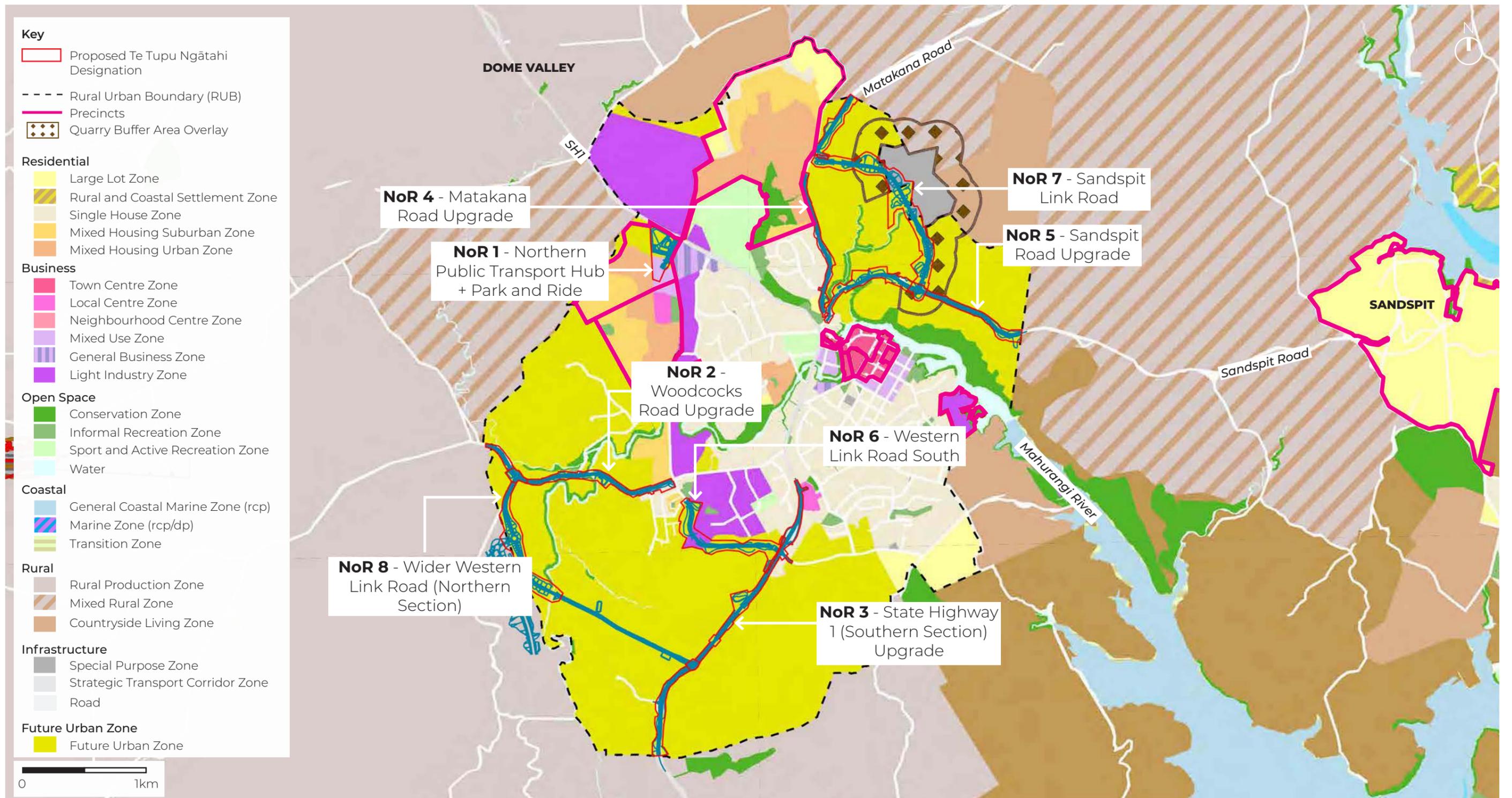
Map 02: Cultural and Historic Heritage



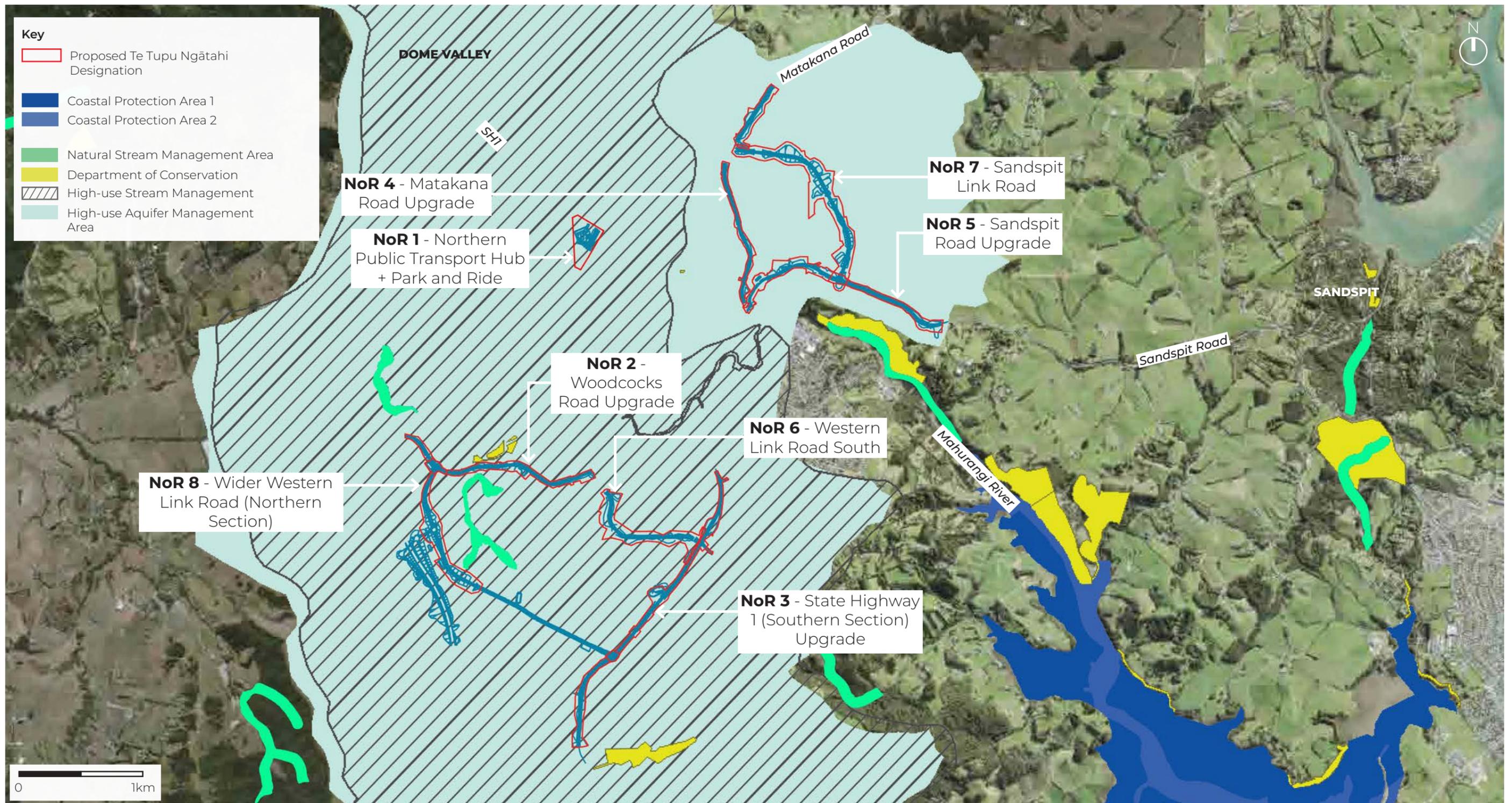
Map 03: Water Catchment and Hydrology



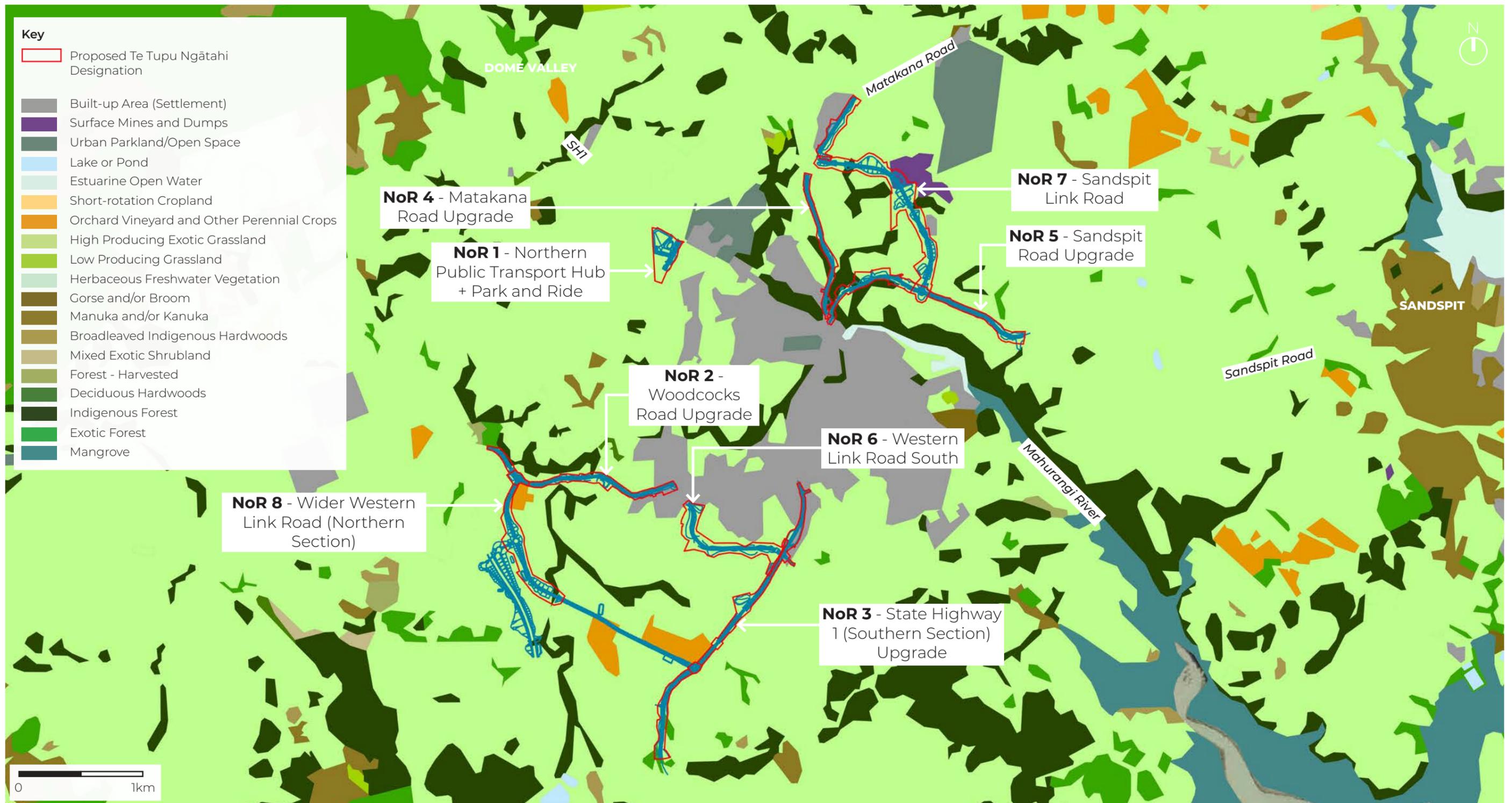
Map 04: Natural Heritage, Significant Ecological Area and Outstanding Overlays



Map 05: Unitary Plan Zones and Infrastructure



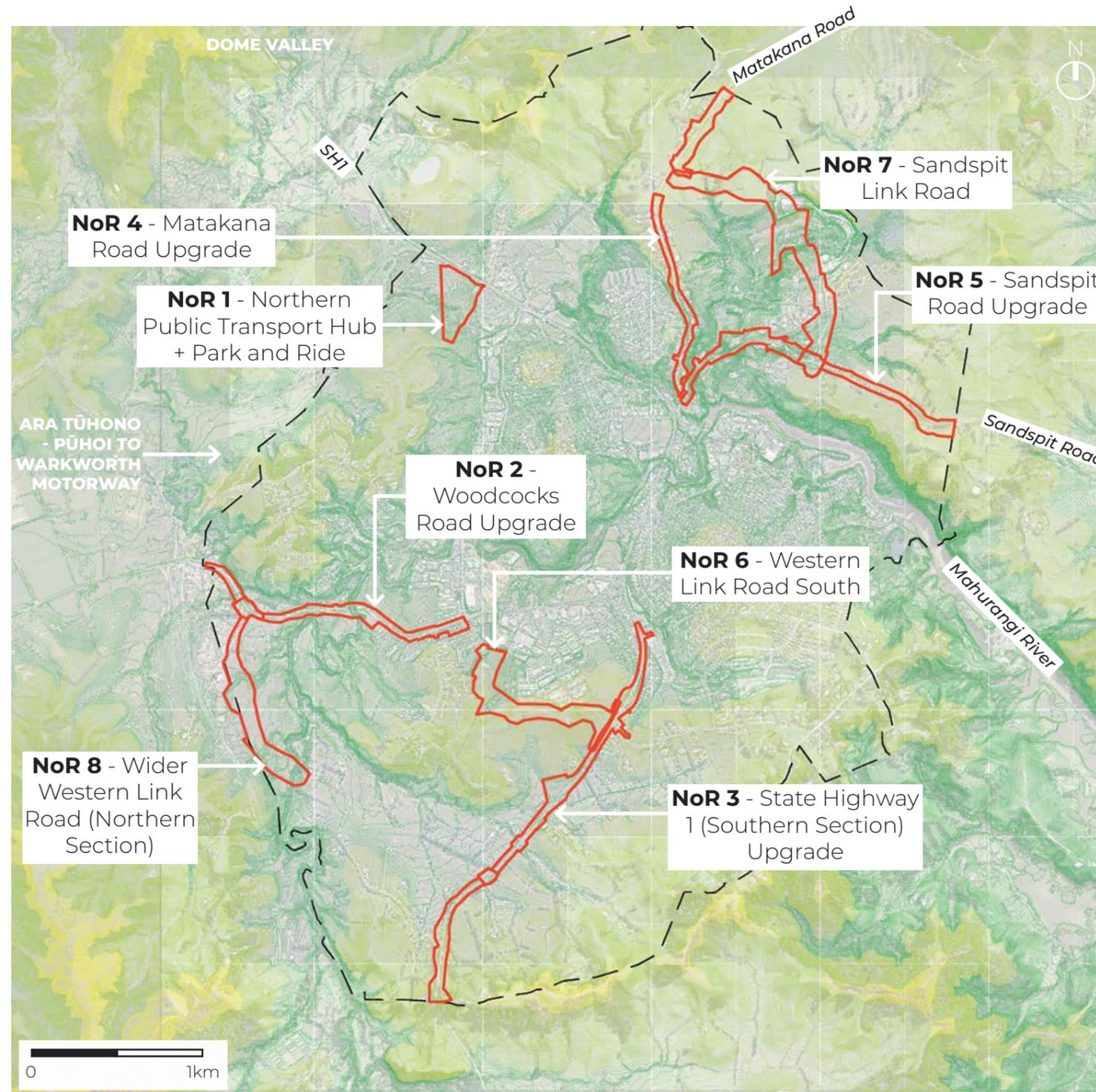
Map 06: Coastal Protection Areas and Natural Stream Management Areas



Map 07: Land Cover Map

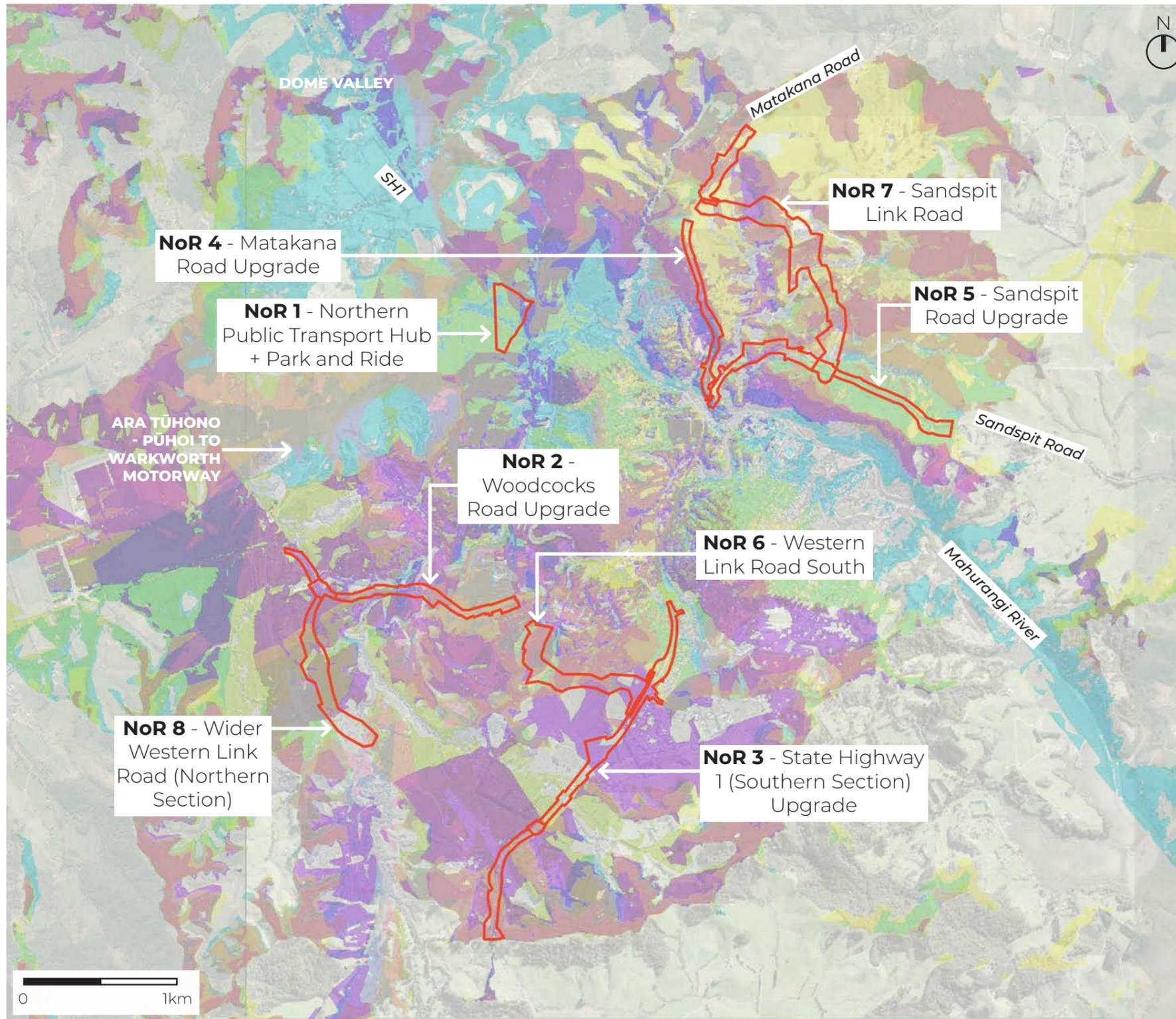
Key

- Proposed Te Tupu Ngātahi Designation
- Roads
- 0 - 50m Contours
- 50.5 - 100m Contours
- 100.5 - 150m Contours
- 150.5 - 200m Contours
- Rural Urban Boundary



Map 08: Topographical Map

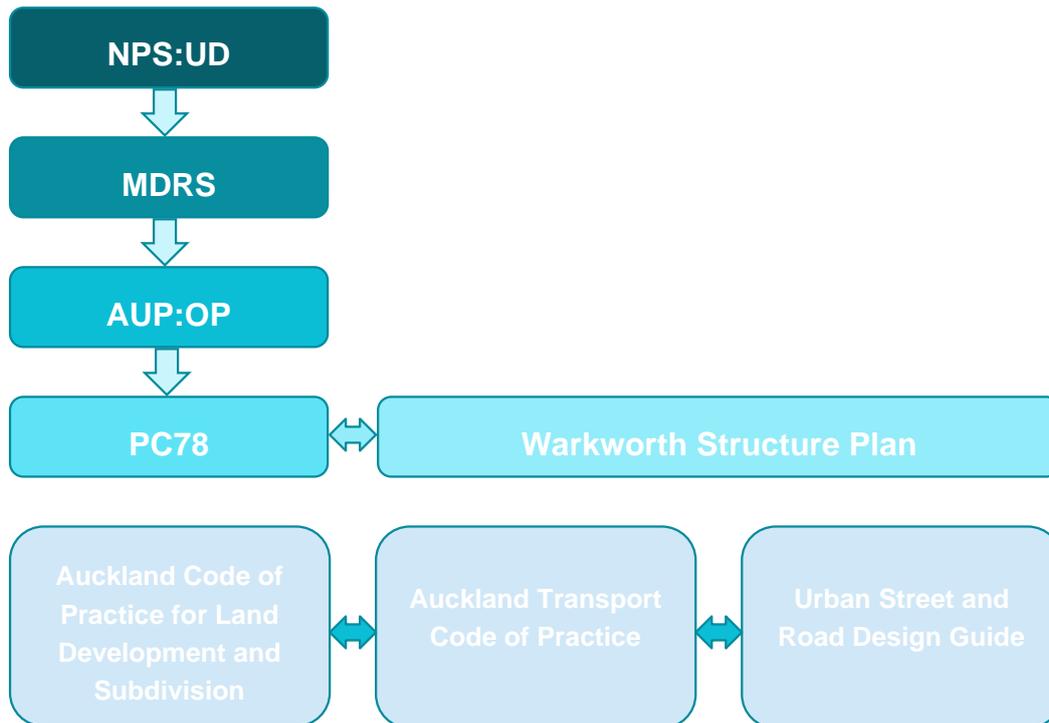
- Key**
- Proposed Te Tupu Ngātahi Designation
 - NOR 1&5 Viewshed
 - NOR 1&6 Viewshed
 - NOR 5 Viewshed
 - NOR 7 Viewshed
 - NOR 8 Viewshed



Map 09: Viewshed Map Overall

2 Appendix B: NPS:UD, MDRS, PC78 and Warkworth Structure Plan

Highlighted below are key aspects of the NPS:UD, MDRS, PC78 and Warkworth Structure Plan which are relevant to establishing the likely future environment for the Warkworth Package. The below figure illustrates the interrelationship of these documents, along with the AUP:OP, Auckland Code of Practice for Land Development and Subdivision, Auckland Transport Code of Practice, and Urban Street and Road Design Guide, discussed in Section 5.1.5 of the methodology.



NPS:UD and MDRS

A territorial authority may make the MDRS (and the relevant building height or density requirements under policy 3 of the NPS:UD) less enabling of development in a relevant residential zone only to the extent necessary to accommodate one or more qualifying matters. A qualifying matter makes higher density inappropriate in an area. Qualifying matters include RMA section 6 matters of national importance, including the preservation and protection of natural character from inappropriate subdivision, use and development.

PC78

Objectives and policies in PC78 relevant to establishing the likely future environment:

E38. Subdivision – Urban

E38.2. Objectives

- (8) Subdivision maintains or enhances the natural features and landscapes that contribute to the character and amenity values of the areas.
- (9) Subdivision to protect indigenous vegetation or wetlands is provided for in the residential zones.
- (10) Subdivision:
 - (c) maintains the function of flood plains and overland flow paths to safely convey flood waters, while taking into account the likely long term effects of climate change.

E38.3. Policies

- (3) Require subdivision design to respond to the natural landscapes by: (f) avoiding building platforms and, where practicable, infrastructure, on identified or dominant ridgelines on sites zoned Residential – Large Lot Zone or Residential – Rural and Coastal Settlement Zone;
- (g) locating and designing roads, access and infrastructure in a manner which minimises earthworks; and
- (h) locating roads and development to follow land contours.
- (14) Encourage the design of subdivision to incorporate and enhance land forms, natural features, and indigenous trees and vegetation.
- (22) Require subdivision to be designed to manage stormwater:
 - (d) to protect natural streams and maintain the conveyance function of overland flow paths;
 - (e) to maintain, or progressively improve, water quality;
- (24) Require esplanade reserves or strips when subdividing land adjoining the coast and other qualifying water-bodies.

H3. Residential – Single House Zone

H5.2. Objectives

- (5) Development does not adversely affect the environmental values of adjoining water bodies including riparian, lakeside and coastal protection areas and does not increase the impact from natural hazard risks.
- (6) Development contributes to a high-quality built environment that is resilient to the effects of climate change.
- (6A) Require development to achieve a built form that contributes to high-quality built environment outcomes by:
 - (f) minimising adverse effects on the natural environment, including restricting maximum impervious area on a site to reduce the amount of stormwater runoff generated by a development and ensure that adverse effects on water quality, quantity and amenity values are avoided or mitigated;
- (11) Require buildings to be setback from water bodies to maintain and protect environmental, open space, amenity values of riparian margins of lakes, streams and coastal areas and water quality and to provide protection from natural hazards.

(15) Require buildings on sites subject to significant ecological areas to be of a scale that protects and maintains the significant ecological values of those areas.

Warkworth Structure Plan

The Warkworth Structure Plan is outlined as:

Warkworth is a Satellite Town that retains its rural, natural, and cultural character. It is centred around the Mahurangi River and has easy walking and cycling access around the town. There are a variety of high-quality residential neighbourhoods. Warkworth is largely self-sufficient with plenty of employment, education, shopping and recreation opportunities. Transport and other infrastructure are sequenced to support Warkworth's planned growth.

The Warkworth Structure Plan planning principles are grouped under seven headings:

- The Mahurangi River is Warkworth's taonga
- Character and identity
- A place to live and work
- Sustainability and natural heritage
- A well-connected town
- Quality urban environment
- Infrastructure

Within these planning principles protection of the Mahurangi River from the effects of urbanisation is highlighted as a matter of paramount importance in the development of the FUZ, with the development of the FUZ used to improve the health and quality of the Mahurangi River wherever possible. As well as to treat all the tributaries in the FUZ as being vital to the health of the Mahurangi River.

The planning principles also direct the celebration and protection of Warkworth's heritage and its relationship with mana whenua, and the protection of views from the current town centre to the bush clad northern escarpment of the Mahurangi River and the rural views out from the FUZ that contribute to Warkworth's rural character. There is also direction to apply lower density residential zones to areas valued for their landscape, character, or heritage significance.

Sustainability and natural heritage are incorporated into the planning principles, including designing the FUZ to be able to adapt to the effects of climate change, and protecting and enhancing existing bush and natural areas and to create ecological corridors which link FUZ to other ecological areas.

The planning principles include principles regarding quality built urban environment which reinforces the Warkworth's identity, including a green network of walking and cycling trails along streams.

One of the key high-level features of the Warkworth Structure Plan includes:

Important areas for ecology, stormwater, heritage, or cultural values are set aside from any built urban development. This will help to improve water quality for the Mahurangi River, recover ecological linkages, create visual amenity, and enable possible public access for a network of walking/cycling trails.

3.3.1.1 of the Warkworth Structure Plan notes that:

The Warkworth Structure Plan is built on the foundation of setting aside areas that are important for ecology, stormwater, heritage, and cultural values from any built urban development. These areas have been excluded from the development yield (they are assumed to have no dwellings or businesses on them... Auckland's natural environment is our primary infrastructure... The notion of protecting Warkworth's environment (particularly the Mahurangi River) as the town grows was a clear theme from public consultation on the structure plan in April 2018... Feedback from mana whenua has highlighted that the Green Network areas also have cultural value.

The 'protection areas' include the following elements:

- *Flood plains*
- *Streams with a 10m buffer*
- *Wetlands*
- *Significant Ecological Areas*
- *Covenanted bush*
- *Historic heritage extent of place area*

The Warkworth Structure Plan also discusses the treatment of existing landform, particularly under section 3.3.10.4 Landscape and 3.3.10.5 Urban Design. The Warkworth Structure Plan proposes the retention of significant landforms through the application of Large Lot zoning. It recommends the concentration of development in general being within the lower lying areas of the catchment, with larger lot types of development on elevated ridges, hills and knolls, such as around Sandspit Link. The Warkworth Structure Plan also recommends that new development is sympathetic to the character of the existing settlement and landscape context.

The Warkworth Structure Plan provides an indication of potential future zonings (illustrated in the graphic below) with actual zonings and land use to be confirmed through future statutory processes such as a plan change.

Warkworth Structure Plan - June 2019

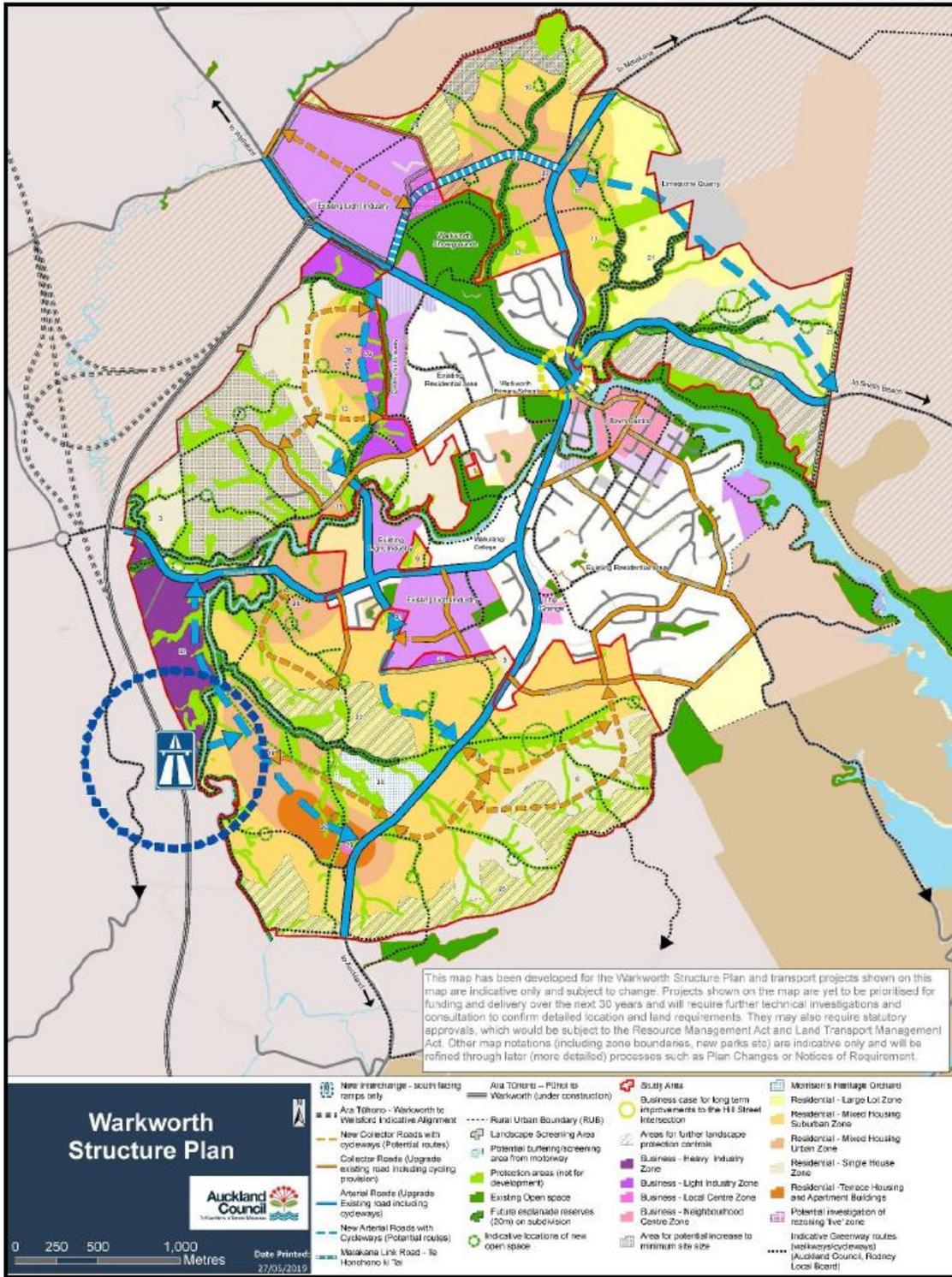


Figure 1: Warkworth Structure Plan – Land use plan

3 Appendix C: Effects ratings and RMA Terminology

Te Tangi a te Manu provide some guidance on how the seven-point rating scale relates to RMA terminology (illustrated in the table below):

“the terms can be described as follows:

- *‘More than minor’ can be characterised as ‘moderate’ or above.*
- *‘Minor’ adverse effects means some real effect but of less than moderate magnitude and significance. It means the lesser part of the ‘minor-moderate-major’ scale. ‘Minor’ can be characterised as ‘low’ and ‘mod-low’ on the 7-point scale.*
- *‘Less than minor’ means insignificant. It can be characterised as ‘very low’ and overlapping with ‘low’ on the 7-point scale.*

However, avoid an overly mechanical approach: “One is dealing with degrees of smallness. Where the line might be drawn between the three categories might not be easily determined.” There are different interpretations within the profession as to where the boundaries of such categories precisely fall. The key is to be transparent and explain the reasons to justify a professional judgement. The 7-point scale is a rating of magnitude, whereas an assessment of whether effects are minor (or less than or more than) is a reasoned consideration of the magnitude and importance (significance) of such effects in context. Assess the individual effects first using the 7-point scale in the normal manner. Following that, consider whether the adverse effects are minor (or less than or more than) in the context of the relevant test.”⁴¹

	Effects rating scale	RMA terminology
	Very low	Less than minor effects
	Low	Minor effects
	Low-moderate	Minor effects
	Moderate	More than minor effects
	Moderate-high	More than minor effects
	High	Significant effects
	Very high	Significant effects

⁴¹ Te Tangi a te Manu: Aotearoa New Zealand Landscape Architects Guidelines (page 150 - 151).