# 27. Planning assessment

## 27.1 Introduction

There are a number of objectives and policies relevant to the Project. For assistance, the relevant objectives and policies from all documents considered are contained in **Appendix G** to this AEE. The following assessment demonstrates that the Project will generally be consistent with the relevant planning documents and not contrary to them.

## 27.2 New Zealand Coastal Policy Statement 2010 (NZCPS)

The Project activities are associated within the coastal environment, so I have given regard to the NZCPS**.** The NZCPS identifies a number of issues facing New Zealand's coastline and coastal environment. Potentially relevant to the Project, are the following issues:

- continuing decline in species, habitats and ecosystems in the coastal environment under pressures from subdivision and use, vegetation clearance, loss of intertidal areas, plant and animal pests, poor water quality, and sedimentation in estuaries and the coastal marine area;
- demand for coastal sites for infrastructure uses (including energy generation) and for aquaculture to meet the economic, social and cultural needs of people and communities;
- poor and declining coastal water quality in many areas as a consequence of point and diffuse sources of contamination, including stormwater and wastewater discharges;
- adverse effects of poor water quality on aquatic life and opportunities for aquaculture, mahinga kai gathering and recreational uses such as swimming and kayaking.

There are seven overarching objectives in the NZCPS as follows:

Objective 1 - To safeguard the integrity, form, functioning and resilience of the coastal environment and sustain its ecosystems, including marine and intertidal areas, estuaries, dunes and land

Objective 2 - To preserve the natural character of the coastal environment and protect natural features and landscape values

Objective 3 - To take account of the principles of the Treaty of Waitangi, recognise the role of tangata whenua as kaitiaki and provide for tangata whenua involvement in management of the coastal environment

Objective 4 - To maintain and enhance the public open space qualities and recreation opportunities of the coastal environment

Objective 5 - To ensure that coastal hazard risks taking account of climate change, are managed

Objective 6 - To enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety, through subdivision, use, and development

Objective 7 - To ensure that management of the coastal environment recognises and provides for New Zealand's international obligations regarding the coastal environment, including the coastal marine area

I consider Objectives 1, 2 and 3 to be most relevant to the Project. The specific policies of relevance to the Project, with reference to their guiding objective are discussed below.

The Project has a single point of contact with the CMA on the Pūhoi River at the Okahu Inlet. However, the NZCPS addresses issues of the land and water interface and addresses the broader "coastal environment". The Project's ultimate discharges are to the Mahurangi Harbour in the north and to the Pūhoi River in the south. As such, my assessment of the NZCPS has considered the Project's relationship to the coastal environment overall.

### 27.2.1 Objective 1 and Policy 1

Objective 1 and Policy 1 address the extent and characteristics of the coastal environment. I consider the Project achieves Objective 1 as the piers in the CMA will not affect the coastal processes within Okahu Inlet and the Marine Ecology Assessment Report concluded that the effects of the bridge structure will have only a minor effect on the environment.

### 27.2.2 Objective 3 and Policy 2

Objective 3 and Policy 2 consider the Treaty of Waitangi, tangata whenua and Maori heritage. Objective 3 is in part achieved through the relationship of NZTA with Hōkai Nuku. The Cultural Effects Assessment provided with this AEE identifies opportunities for further active engagement of Hōkai Nuku as the Project progresses, and includes recommendations with respect to the acknowledgement of culturally significant areas, including inputs into the design of significant structures and at the gateway to Warkworth, access to Ngā Pā o Te Hēmara Tauhia, a proactive approach to identification of unrecorded sites, involvement during construction and operation, including through identification of key cultural indicators and monitoring, inputs from Hōkai Nuku in vegetation plans, and wider relationship opportunities including knowledge sharing and economic development potential with NZTA.

Objective 3 is achieved otherwise through opportunities for mitigation of potential adverse effects such as providing access for iwi to previously inaccessible heritage sites and through planting of indigenous species of vegetation. The indicative alignment was deliberately amended to avoid a recently rediscovered pā site during the investigations that informed the development of the Assessment Reports.

### 27.2.3 Policy 6

Policy 6 recognises that the provision of infrastructure in the coastal environment is important to social, economic and cultural wellbeing of people and communities (6.1(a)). The importance of the Project is demonstrated in Section 2 of this AEE. Neither Section 5 nor Section 6 of the Landscape and Visual Assessment Report identified any specific adverse effects of the Project in relation to the coastal environment (6.1(h)). The Project may facilitate better access to public open space along Pūhoi River, where current traffic conditions discourage pedestrian use of the marginal strips (6.2(b)). The viaduct structure across Okahu Inlet will occupy a very small percentage of the

coastal marine area and is not considered to result in any significant adverse effects on the marine ecology of that area (refer Sections 4 and 5 of the Marine Ecology Assessment Report) (Policy 6.2.(e)).

### 27.2.4 Policy 11

Policy 11 covers indigenous biological diversity. Section 3 of the Marine Ecology Assessment Report and Section 4 of the Terrestrial Ecology Assessment Report have considered indigenous biodiversity in the descriptions of the environment. At risk species are identified, including coastal bird species and the species along the coastal margins and inland wetland areas.

To fully recognise and give effect to Policy 11, the Terrestrial Ecology Assessment Report has identified suitable species for replanting and methods to ensure terrestrial fauna is protected during construction and operation. The Marine Ecology Assessment Report identifies similar protective recommendations for marine species, including the collection and movement of mud snails to outside the construction footprint and scheduling of certain activities outside bird breeding season. The Landscape and Visual Assessment Report has included recommended principles for replanting, including (for a complete list recommended refer to Section 7 of that report):

- planting should be site specific and appropriate to the existing soil and environmental conditions;
- planting should respond to the natural vegetation patterns by fragmenting and feathering the edges of planting to reflect naturally occurring gradations;
- planting should evoke a 'sense of place' and emphasise the contrasting character areas along the route;
- a more structured or designed approach to planting may be appropriate in some areas, such as interchanges, to provide visual interest and strengthen local identity.

Given the assessments undertaken and mitigation recommended, it is my opinion that the Project will protect the indigenous biodiversity of the Pūhoi Estuary and Mahurangi Harbour and will enhance that biodiversity in the long-term.

### 27.2.5 Objective 2, Policy 13 and Policy 15

Objective 2 seeks to preserve the natural character of the coastal environment and protect natural features and landscapes. Policies 13 and 15 identify the mechanisms to achieve Objective 2. These Policies are mostly relevant to the southern extent of the Project, as beyond Pūhoi the alignment has a lesser influence on the natural character of the coastal environment. The first concept of these Policies is to preserve the natural character of the coastal environment from *inappropriate* use and development. The existing coastal environment is significantly influenced by the existing SH1. The Project is located in close proximity to the existing SH1 in this area, and positioning the indicative alignment next to SH1 will result in a minor reduction in the natural character of the wider coastal area. The preservation of natural character is assisted by the limited interface of the Project with the coastal environment. The design of the Project at this location is also driven by a functional necessity to tie into the Johnstone's Hill Tunnel portals. I therefore do not consider that the use (ie the Project) is inappropriate when viewed against these Policies.

### 27.2.6 Objective 4 and Policy 18

Objective 4 and Policy 18 cover public open space. The Project will assist with reducing traffic on the current SH1 and thus assist with enhancing access to public open space along the Pūhoi River margins. These areas will be more accessible to the public through the reduction in traffic on the existing SH1, improving safety for pedestrians wishing to access these areas.

### 27.2.7 Objective 1, Policy 21, Policy 22 and Policy 23

These components of the NZCPS cover water quality sedimentation and the discharge of contaminants. I am of the opinion that, as demonstrated by the assessments of the Operational Water and Construction Water Assessment Reports, the Project achieves Objective 1 and these Policies. The Project has identified a range of best practice techniques to manage sediment control during construction so that the overall effect on the marine environment is minor. During operation all stormwater will be treated in wetlands prior to discharge to ensure that contaminants from the roading network entering the coastal environment are within acceptable limits.

The effects of sediment deposition that would occur in the Mahurangi Harbour in the event of an extreme rainfall event (50 year ARI event over a 24 hour period) would potentially be significant. However, the probability of such an event occurring at the peak open area, within the earthworks season and during the construction period is low. I recommend a condition to appropriately mitigate this potential effect.

With respect to contaminated sites, preliminary investigations have indicated that there are site specific issues to be managed under the Soil NES and the NZTA will seek consents prior to construction. These potentially contaminated sites are well removed from the coastal environment and do not pose a risk to it.

### 27.2.8 Conclusions - regarding NZCPS

Having had regard to the provisions of the NZCPS, I am of the opinion that the Project will contribute to achieving the objectives of the NZCPS.

## 27.3 Hauraki Gulf Marine Park Act

The HGMPA integrates management across land and sea so that land use effects on the Gulf are given due attention. For the coastal environment of the Hauraki Gulf, sections 7 and 8 of the HGMPA must be treated as a NZCPS.

The Project has ensured, through the NZTA relationship with Hōkai Nuku and recommended mitigation, that it will facilitate the protection of the relationship of iwi with the historic, cultural and spiritual elements of the Hauraki Gulf. The assessment of environmental effects in Sections 10 to 26 of this AEE (notably the Operational Water, Marine Ecology, and Construction Water Assessment Reports) demonstrate that the Project will not compromise the life supporting capacity of the Gulf. Accordingly, I consider the Project is consistent with the HGMPA.

## 27.4 Auckland Regional Policy Statement

The ARPS sets out the broad resource management issues, objectives and policies for the Auckland Region to achieve the integrated management of the Region's natural and physical resources. The assessment that follows identifies those sections of the ARPS that I consider are of particular relevance to the Project (refer to Appendix G, page 9).My analysis demonstrates that the Project is consistent with the relevant objectives and policies in the ARPS overall.

### 27.4.1 Chapter 2 – Regional Overview and Strategic Direction

Chapter 2 (Regional Overview and Strategic Direction) of the ARPS provides objectives and policies relating to the strategic framework for managing the significant environmental issues of the Region.

In my opinion, the Project supports the strategic objectives of the ARPS, particularly Objective 2.6.1.6. ("to achieve a high level of mobility and accessibility within the region that provides for an integrated, responsive, sustainable, safe, affordable and efficient movement of goods and people."). The Project provides for improved accessibility within the Project area and provides a safer transport corridor. The Project will provide for a more efficient movement of goods through improved reliability and travel time. Objective 2.6.1.6 is supported by Objective 2.6.1.14 "to enable the redevelopment, operation, and maintenance of existing and provision of new regionally significant infrastructure".

The Project is consistent with the policy direction of the ARPS in relation to regionally significant infrastructure (Strategic Policy 2.6.14.1). The Project demonstrates that new or upgraded regionally significant infrastructure can be provided in a way that:

- supports the strategic outcomes of the Auckland Plan (which essentially replaced the Auckland Regional Growth Strategy through the Local Government (Auckland Council) Amendment Act 2010);
- can generally avoid, remedy or mitigate adverse effects on the environment, as demonstrated in Sections 10 to 26 of this AEE; and
- enables the safe and efficient operation, maintenance and development of the State highway network (as demonstrated by the Transportation and Traffic Assessment Report), which is a necessary component of the social and economic wellbeing of the people of the Region.

I consider the Project is consistent with the Objectives and Policies of Chapter 2 of the ARPS.

### 27.4.2 Chapter 3 – Matters of Significance to Iwi

Chapter 3 of the ARPS contains objectives and policies regarding matters of significance to iwi.

NZTA has engaged with Hōkai Nuku throughout the design and assessment process and Hōkai Nuku representatives have assisted in the Project development during the assessment phase by assessing the Project form a cultural perspective, providing comments on other technical reports and sharing cultural information with the NZTA. This collaborative process began during the

scheme assessment phase and has culminated in the provision of a Cultural Effects Assessment by Hōkai Nuku, which has informed this AEE.

The ARPS Objectives (3.3), including the Objective seeking to prioritise the relationship of tangata whenua and their culture, traditions and taonga (Objective 3.3.2), are achieved through the established relationship between Hōkai Nuku and the NZTA. Hōkai Nuku fully involves its members in the process of preparing the Cultural Effects Assessment to accompany the resource consent applications and NORs (Objective 3.3.3).

In my opinion, the Project is consistent with the Objectives of Chapter 3 of the ARPS. The methods to achieve the Policies and Objectives of Chapter 3 relate to the relationship of local government with tangata whenua, and I do not discuss these further.

### 27.4.3 Chapter 4 - Transport

Chapter 4 of the ARPS contains objectives and policies regarding transport matters. Issue 4.2.4 of the ARPS recognises that:

> *"The transport system is a significant regional resource providing for the movement of people, goods, services and resources. The existence of deficiencies in the transport network leads to poor access between some parts of the Region and congestion in some parts of the transport network, inhibiting the ability of the community to provide for its social, economic and cultural wellbeing."*

The Project is consistent with the Objectives of the ARPS in relation to transport The Project will:

- manage the adverse effects of the Project on the environment through the provision of integrated stormwater treatment and discharge systems (Objective 4.3.2 (i));
- avoid as far as reasonably practicable adverse effects, for example by avoiding a pā site and by the treatment of stormwater through wetlands prior to discharge (Objective 4.3.2 (i));
- manage the effects of the Project on community wellbeing and amenity through providing an offline Project and rigorous construction environmental and traffic management plans (Objective 4.3.3); and
- provide transport choices that are efficient and practical through a design that enhances accessibility in the northern part of the Region and provides a significant safety improvement on the existing SH1 component of the network (Objective 4.3.4).

The Project design is consistent with Policy 4.4.1 and Policy 4.4.7 in recognising that the northern part of the Region will continue to have transport choices that are dominated by private vehicle based trips. The Project is an integral component of a State highway network that promotes the efficient movement of people, goods and services throughout the Region. As such, it is required to be protected in the District Plan. Policy 4.4.7.1 specifically addresses the efficient movement of people, goods and services throughout the Region.

While several of the Policies of Chapter 4 are designed to address more urban-oriented traffic and transport issues, the Environmental Results Anticipated (4.5) within Chapter 4 include "*ensuring the regionally significant parts of the transport network are able to function effectively and*

*efficiently*". Accordingly I consider that the Project is consistent with the relevant objectives and policies of Chapter 4.

### 27.4.4 Chapter 6 – Heritage

Chapter 6 of the ARPS recognises that "*the heritage of the Auckland Region has been depleted and continues to be under threat*" (Issue 6.2.1). Chapter 6 contains objectives and policies regarding the protection of the Region's natural and physical heritage resources.

Proposed Change 8 to the ARPS (PC8) was notified in 2005. It introduced amendments to the Heritage chapter of the ARPS (Chapter 6) to replace the existing "Outstanding and Natural Features" with "Outstanding Natural Landscapes". Decisions were released by the Auckland Regional Council (now Auckland Council) in October 2010. There are outstanding appeals on this Change, which have to be resolved. Given the advanced state of PC8 it should be accorded some weight in the consideration of the Project.

The following assessment includes reference to parts of Chapter 6 that are still subject to appeal. I consider Objectives 6.3.1, 6.3.4, 6.3.6 and 6.3.9 (refer to Appendix G, page 11) to be relevant to consideration of the Project.

The Project has been designed to avoid the Ngā Pā o Te Hēmara Tauhia to the extent possible given the other constraints in the immediate area. The Project avoids ONLs as much as possible, skirting ONL 44 at the south end of the Project area, and passing through ONL 43 on its outer periphery. I do not consider the Project to be "inappropriate" in the context of the Chapter 6 Objectives, on the basis of its status as a RoNS project and being an infrastructure project having intra-regional benefits. The additional constraints at the southern end of the alignment in the vicinity of the ONLs and pa sites further reinforce my opinion that the Project is not "inappropriate" in the context of these objectives and policies.

With respect to the policies and methods, the Project avoids significant adverse effects on sites of cultural heritage and ONLs. Through early and ongoing discussions with Hōkai Nuku, tangata whenua has participated in and contributed to the comprehensive assessment of the potential effects of the Project.

In my opinion the Project has been developed in a manner that ensures it is consistent with the Heritage Chapter Objectives and Policies.

### 27.4.5 Chapter 7 – Coastal Environment

Chapter 7 identifies the significant coastal management issues of the Auckland Region's coastal environment and considers the policies of the NZCPS.

The southern end of the Project has the only direct locational relationship with the coastal environment. As identified in Section 5.1 of the Landscape and Visual Assessment Report, the coastal environment has already been modified by the existing SH1, Johnstone's Hill Tunnels and Hibiscus Coast Highway tie-ins. The tunnel portals have had a direct influence on the design of the Project; the short length of the alignment that passes over the coastal marine area cannot be

avoided. The part of the CMA that is affected by the Project is not within an ONL, and has minor effects on coastal ecology (refer to the Marine Ecology Assessment Report).

The Project does not compromise public access to the coastal environment, as most of the Project is within private land. There is no adverse effect on recreational activities, such as kayaking, given the structures have sufficient height above mean high tide to maintain passage and there are no piers in the Pūhoi River. Any potential adverse effect on amenity will be mitigated through the ULDF, which will include consideration of the design of the underside of the Pūhoi Viaduct. The piers that will support the viaduct over Okahu Inlet and the intertidal area will have only a minor effect on marine ecology (refer Marine Ecology Assessment Report). There are no recreational values that have been identified in consultation with stakeholders or interest groups that would be compromised. None of the Assessment Reports have identified potential significant effects on areas of protection, including the ASV and CPA1 classification.

Policy 7.4.10 (Subdivision, use and development) identifies several relevant matters to give effect to the Objectives of Chapter 7. The methods subsequently identified to achieve these Objectives entail the development of regional and district plan policies and rules. I have had regard to regional and district planning documents, as discussed below in Sections 28.5 to 28.8 below.

I consider the Project is consistent with Chapter 7 of the ARPS.

### 27.4.6 Chapter 8 – Water Quality

Chapter 8 of the ARPS provides for the maintenance and enhancement of water quality in the Auckland Region through a comprehensive and integrated management approach. Objectives and policies relevant to the Project include Objective 8.3.1 and Policies 8.4.7.3 (stormwater and sediment discharges), 8.4.21.3 and 8.4.21.4 (areas that are either susceptible to water quality degradation, already degraded or have significant values). I also consider Policy 8.4.10 to be relevant as it is specifically related to the industrial trade premise proposed for the production of precast concrete components for the Project (refer to Appendix G, page 13).

The Objectives of 8.3.1 seek to ensure that water quality is maintained for purposes relating to ecosystem protection, and recreational and cultural purposes (among other reasons). Two general Policies and a number of activity-specific Policies are identified as being the means to achieve the Objectives. The two general Policies relate to the management of the discharge of contaminants and the application of minimum water quality standards.

Operational and construction stormwater treatment is an integral part of the design of the Project. The Construction Water team has assessed the Project to determine the maximum open area of earthworks during construction to ensure that fresh and coastal water quality is not compromised. I consider there is sufficient evidence in the Assessment Reports to confirm that the Project will achieve the Objectives and Policies relating to water quality.

With respect to the area identified in RPS Plan Map Series 5 and the identification of the Mahurangi River Right Branch as "Surface waters used for potable water supply", the Operation and Construction Water Assessment Reports have addressed the potential effects on the surface water quality as discussed in Section 7.10 of the Operational Water Assessment Report. Some areas of existing riparian vegetation will be removed as part of the construction of the Project. I

recommend conditions of consent and designation require planting, including along riparian edges, to mitigate for the loss of riparian vegetation, to restore instream habitat and to mitigate adverse visual effects thus providing an overall improvement in the longer term to sediment management and water quality.

The Project will not have a significant effect on water flows or quantity within watercourses. The diversions and culverts will generally maintain flows with only minor variations to the existing flow regime. The Project's stormwater system will be designed to ensure that the potential effects from increased flood risk are minimised, that outfalls are installed with energy dissipation to protect stream banks from erosion, and treatment is to acceptable standards (Policy 9.4.1). The Project will incorporate diversions and culverts to pass the existing base flow (with a minimum design to pass the 10 year ARI) to ensure that downstream users of the surface water resource are not subject to changes to natural flow rates that would compromise their ability to take water (Policy 9.4.4).

The Hydrogeology Assessment Report (Section 5) has confirmed that the diversions that are anticipated to occur as a result of cuts during Project construction will not have any adverse effects on groundwater and will not compromise any groundwater takes (Policy 9.4.7).

It is my opinion that the Project is consistent with the ARPS Objectives and Policies in relation to Water Quality, allocation and conservation.

### 27.4.7 Chapter 10 – Air Discharges

Chapter 10 provides for the maintenance and enhancement of air quality in the Auckland Region. From this chapter, Objective 10.3.2 and Policy 10.4.1 are most relevant to the Project.

The Project will generate potential effects on air quality during construction. Objective 10.3.2 seeks to avoid, remedy or mitigate the adverse effects that arise from the discharge of contaminants to air. The Project will generate dust from earthworks and rock crushing. These effects, along with dust generated by general construction activities from the Project will be managed through a CAQMP to comply with relevant air quality criteria.

The operational effects of the Project have been assessed to be within the National Environmental Standards for Air Quality, 2004, the New Zealand Ambient Air Quality Guidelines, 2002, the Ministry for the Environment, Good Practice Guide for Assessing and Managing the Environmental Effects of Dust Emissions, 2001, the ARP:ALW standards and the NZTA Draft Guide to assessing air quality effects for state highway projects 2012. The Project is found to have only minor effects at most.

I consider the Project will be consistent with the Chapter 10 Air Discharges Objectives and Policies.

### 27.4.8 Chapter 11 – Natural Hazards

Chapter 11 of the ARPS includes Objectives and Policies to deal with the risks posed by natural hazards, aiming at avoidance and mitigation, and remediation if required. The most frequently occurring natural hazards in the Auckland Region are flooding and erosion/land stability.

The Project is affected by flooding risk at:

- The Mahurangi River Left Branch in the vicinity of Woodcocks Road; and
- A secondary flow path from the Mahurangi River Left Branch up the flat valley to the north following the indicative Project alignment.

The design of the Project adopted a BPO approach to minimise the effects of flooding in these areas by changing the alignment of the motorway to avoid the floodplain, and by using bridges to cross the floodplain. This BPO approach is consistent with Policies 11.4.1.6 and 11.4.1.7.

At Okahu Inlet, the introduction of the bridge over the Inlet and the similar structure over the Pūhoi River are consistent with Policy 11.4.1.9, which requires development to be located so that the need for flood hazard protection measures is avoided.

I consider the Project will be consistent with the Natural Hazard Objectives and Policies of the ARPS.

### 27.4.9 Chapter 12 – Soil Conservation

Chapter 12 seeks to control the use and development of land from natural and induced degradation for the purpose of soil conservation. Objective 12.3.3 seeks to avoid, remedy or mitigate adverse effects of activities on soil degradation, and to minimise the effects of soil degradation on the water quality of receiving environments.

Soil degradation includes the natural process of soil erosion. The RPS recognises that sediment is the "single largest pollutant of Auckland's waterways". However, in recognition of the potential effects of the Project, especially during construction, I regard the Objectives and Policies of Chapter 12 to be relevant considerations.

The Construction Water Assessment Report addresses erosion and sediment control, water quality and construction management, and has assessed the potential causes of sediment entering the streams, rivers and ultimately Mahurangi and Pūhoi Estuary. The Report identifies a range of structural and non-structural management techniques that have been demonstrated to work in similar conditions to those that will be encountered through the Project area. Based on both the conclusions of that Report and on the Marine and Freshwater Ecology Assessment Reports, I consider the Project will be consistent with the Soil Conservation Objectives and Policies.

### 27.4.10 Conclusion – ARPS

Overall, the Project can reasonably fall to being considered as regionally significant infrastructure. The Project design and proposed mitigation will ensure that the overall effects of the Project are minor. In my opinion, the Project is consistent with the provisions of the ARPS, given the established and ongoing relationship with Hōkai Nuku and the assessments of environmental effects, as demonstrated in the supporting Assessment Reports.

## 27.5 Auckland Regional Plan: Coastal

The ARP:C is structured to identify values, management areas and activities. The relevant Objectives and Policies identified below relate to the structure, occupation and use of the Project's proposed viaduct across Okahu Inlet and the stormwater discharge during operation into the same location Refer to Appendix G for the full text of relevant Objectives and Policies**.** Okahu Inlet and the estuarine area to the west of the existing SH1 form part of a wider scheduled area of upper Pūhoi River. The schedule specifies this area as Coastal Protection Area 1 (CPA1) (75g) and an Area of Significant Conservation Value (115) (ASCV) as noted on the Coastal Plan maps (sheet 35). Okahu Inlet and the upper Pūhoi River are identified as being a Regionally Significant Landscape (Rating 5) (being lower than "outstanding"). With respect to the assessment below I have referred to the whole CPA1 area west of SH1 as "Okahu Inlet".

### 27.5.1 Values – Natural Character, Landscape, Natural Features and Ecosystems – Chapters 3, 4 and 5

My assessment against the Objectives of 3.3 (refer to Appendix G, page 17) of the ARP:C relating to preservation of the natural character of the coastal environment is the same as for the NZCPS and ARPS, from which the ARP:C has been derived. The Policies all relate to subdivision, use and development of the coastal environment and the effect on natural character. Therefore, I consider that all Policies (3.4.1 – 3.4.4) are relevant. The functional necessity to locate the Project within the CMA and the regional significance of the Project, coupled with the design constraints relating to the pā and the location of the Johnstone's Hill Tunnel portals, leads me to the opinion that the Project is not inappropriate. Neither the Landscape and Visual Assessment Report nor the Marine Ecology Assessment Report identifies any significant adverse effects from the piles and viaduct structure located in Okahu Inlet.

Objective 4.3.1 of the ARP:C seeks to protect the key elements, features and patterns of Regionally Significant landscapes from inappropriate use and development. I consider Policy 4.4.2(a) and (b) to be relevant to the Project.

Section 5 of the Landscape and Visual Assessment Report does not identify any significant adverse effects of the Project on the coastal landscape character. The Project is located to the west of the current State highway and, in that respect; the wider coastal landscape will be unaffected. While the Project is located within a Regionally Significant Landscape, the effects on the landscape as a whole are minor, as assessed in the Landscape and Visual Assessment Report. I have relied on that assessment, and on the limited occupation of the Project within the coastal landscape to come to the opinion that the Project will not compromise the Objectives of Chapter 4 as a whole. The Project is separated from the main Pūhoi River by the existing SH1, which enables the broader coastal character to be maintained.

Chapter 5 relates to natural features and ecosystems. The piers within Okahu Inlet have been located to minimise disruption to the flow of coastal water and the Project does not compromise the dynamic functioning of physical coastal processes (Objective 5.3.1).

There are no significant environmental effects identified in Sections 4 or 5 of the Marine Ecology Assessment Report that might suggest that the location of the Okahu Viaduct is inappropriate,

even with its scheduling as a CPA1 and ASCV. The design of the wetland and the landscaping will ensure that appropriate species are planted to support the wildlife that visit Okahu Inlet for food and/or roosting. The recommendations of the Marine Ecology Assessment Report with respect to the removal of adult mud snails prior to construction starting will ensure that the existing populations of the mud snails can be maintained. I have had regard to the relevant Objectives and Policies of Chapter 4 and I consider the Project is consistent with them.

### 27.5.2 Nga Take Takutai Mo Tangata Whenua – Coastal Matters of Significance to Tangata Whenua – Chapter 6

Chapter 6 addresses the coastal area's special significance to Maori culture, traditions and wellbeing. The management of the coastal area takes into account the Treaty of Waitangi and the effects on claims and/or customary rights.

It is my opinion that in relation to the Objectives in Section 6.3 (refer to Appendix G, page 18) of the ARP:C, the Project would give recognition to special spiritual, historical and cultural sites in the Project area – especially those in relation to Ngā Pā o Te Hēmara Tauhia. Various methods to give Hōkai Nuku the ability to better express their relationship to this site and the surrounding area, including the immediate coastal environment, have been identified in the Cultural Assessment Report and, in my opinion, some of these are appropriate to attach to the designation as conditions. The Project, in my opinion, ensures that the relationship of Tangata Whenua to the coastal environment can be maintained and enhanced and that the Project is consistent with the Objectives and Policies of section 6 of the ARP:C.

### 27.5.3 Public Access – Chapter 7

Chapter 7 of the ARP:C addresses the responsibility of Council to maintain and enhance access to the coast as a matter of national importance.

Public access to the coastal environment in the southern extent of the Project area is largely controlled by the limited access to coastal margins due to SH1 and private land ownership. There are three marginal strips in the immediate vicinity of the existing SH1 and the Project. The Okahu Creek Scenic Reserve is located on the western side of SH1 north of Billings Road, and to the south of the manual toll payment booth. It falls partly within the existing designation of SH1. The site is described in the Auckland Conservancy Land Inventory (page 189) as a "small part of the roadside vegetation which borders State Highway 1 along the visually attractive Pūhoi River estuary." The Project seeks to confirm a designation over the remainder of the site, although the indicative alignment affects only the north eastern corner of the reserve, and could possibly be subject to some redesign to avoid it all together.

The Pūhoi River Conservation Area abuts the Pūhoi River to the east of the existing SH1 and outside of the proposed designation boundary. This Conservation Area adjoins to the Hikauae Creek Marginal Strip, which forms the esplanade margin on the true right bank of the Pūhoi River from the SH1 crossing of the Pūhoi River toward the Pūhoi Village. The Pūhoi Viaduct will pass over the Hikauae Creek Marginal Strip with some 20m of clearance. The viaduct, coupled with reduced traffic on the existing SH1, will offer better opportunities of access to the eastern side of the current SH1 and the Pūhoi River conservation area.

Any further public access along the foreshore is restricted by the existing SH1, public safety considerations and/or private land ownership. I consider the Project is consistent with the Objectives and Policies relating to Public Access in the ARP:C.

### 27.5.4 Cultural Heritage – Chapter 8

The Cultural Assessment Report did not identify any specific sites of "Maritime" significance. Accordingly, I do not regard Chapter 8 as being particularly relevant. Both the Objectives and the resultant Policies of Chapter 8 are premised on such sites existing.

### 27.5.5 Subdivision, Use and Development – Chapter 9

I consider Objective 9.3.2 (refer to Appendix G, page 18) to be relevant to the Project as it seeks to recognise the national and regional importance of activities, including regional infrastructure that may be located within the coastal environment. The Project is regional infrastructure.

The Project does not align well with the Policies supporting Objective 9.3.2. Policy 9.4.1 considers use and development in the CMA appropriate where it is dependent on the natural and physical resources, and Policy 9.4.2 references specific activity areas that are not related to the Project. Overall it would appear that while the Project aligns with Objective 9.3.4, the Policies are silent with respect to a wider application of "regional infrastructure". Using the "anticipated environmental outcomes" to assist with the intent of Chapter 9, it appears the Project would be "appropriate" given the points made in the assessment of the Objectives within sections 3.3, 4.3 and 5.3 in the ARP:C as outlined above, and that the effects will be adequately avoided, remedied or mitigated (refer to Section 12 of this AEE). With those points in mind it is my opinion that the apparent inconsistency of the Project with the Policies of Chapter 9 does not result in a significant departure from the intent of Chapter 9 overall.

### 27.5.6 General – Chapter 10

The Objectives of Chapter 10 (refer to Appendix G, page 18) recognise that for appropriate use of the CMA (Objective 10.3.1), it is necessary to use the CMA efficiently (Objective 10.3.2) and to maintain the open space nature of the coastal environment (Objective 10.3.3). I consider all of these Objectives to be relevant, as are all of the Policies that follow.

As acknowledged above (Public Access – Chapter 7), the Project provides for the opportunity to improve the pedestrian environment linking the two marginal strips in the location of the SH1 intersection with Pūhoi Road alongside the Pūhoi River, through the removal of some traffic from the current State highway to the new alignment. Public access south of this point is restricted by private property and by the existing SH1 and is outside the influence of the Project (Policy 10.4.1). The recreational use of the CMA will not be inhibited by the Project, as the area where the viaduct is located is accessed entirely by private property (Policy 10.4.2). The location of the viaduct structure immediately adjacent to the existing SH1 is both necessary (given the location of the northern portals of the Johnstone's Hill Tunnels) and ensures that the consolidation of the network in this area does not affect the wider Pūhoi River coastal environment and avoids Ngā Pā o Te Hēmara Tauhia (Policy 10.4.3). The Project's wider benefits beyond the immediate context of the CMA have been identified in Section 2.5 of this AEE (Policy 10.4.4). The Pūhoi Viaduct will be located in the part of the CMA most removed from Pūhoi River, due the location of the existing

SH1, and has been assessed in Sections 4 and 5 (being the Assessment of Effects for construction activities and operational phase respectively) of the Marine Ecology Assessment Report and Sections 5 and 6 (being the assessment of landscape and visual effects and construction effects respectively) of the Landscape and Visual Assessment Report as having minor effects ecologically and visually (Policy 10.4.5). The effects of the viaduct will not result in a loss of feeding or roosting habitat (refer Sections 4 and 5 of the Marine Ecology Assessment Report) and will not result in any irreparable damage to the CMA beyond the location of the piles (Policy 10.4.6), given the limited area to be occupied and the construction process. Given the limited extent of occupation of the CMA and the assessments finding no significant adverse effects on Okahu Inlet (primarily in Marine Ecology and Landscape and Visual Assessment Reports) none of the elements for an "inappropriate" development are triggered (Policy 10.4.7).

Policy 10.4.8 seeks to avoid, remedy or mitigate cumulative adverse effects on the CMA. I am of the opinion that the Project will consolidate the existing sense of modification, but that the effect is local to SH1 and westward, with the wider Pūhoi River and coastal environment remaining free of structures and modification associated with either the Project or the existing SH1. By selecting a westward alignment, the Project avoids further expansion into the more obvious and more valued CMA area. The effects of the Project have been assessed as being minor (also relevant to 10.4.9), as noted above.

The Project has a functional necessity to locate in the CMA given the location of the tunnel portals and the width of CMA in the immediate vicinity of the portals (Policy 10.4.10).

### 27.5.7 Activities – Chapter 11

The Objectives in Chapter 11 (refer to Appendix G, page 21) provide for a range of activities to locate in the CMA, and to ensure efficient use is made of the CMA. Policy 11.4.1 outlines a series of tests to determine whether an activity is "appropriate" in the CMA.

I note that the indicative alignment passes through the CMA given the proximity to the Johnstone's Hill Tunnel portals, which determines the starting point for the Project. There are no practical alternatives beyond the CMA. This design constraint is demonstrated in the options analysis for the alignment outlined in Section 7 of this AEE (Policy 11.4.1a i and iii). Furthermore, as demonstrated by the Assessment Reports that accompany this AEE, the Project's potential adverse effects can be adequately avoided, remedied or mitigated (Policy 11.4.1c). The relevant provisions of Chapters 3 to 9 have been considered as outlined above (Policy 11.4.3).

I consider that the Project is consistent with the Objectives and Policies of Chapter 11.

### 27.5.8 Structures – Chapter 12

Chapter 12 (refer to Appendix G, page 21-22) has a single objective – to provide for appropriate structures in the CMA while avoiding, remedying or mitigating the adverse effects on the environment (Objective 12.3.1). I consider Policies 12.4.1-12.4.4, 12.4.6-12.4.7, 12.4.9 and 12.4.12 to be relevant.

I consider that the Project structure within the CMA is appropriate given the design, topographical and existing infrastructure constraints that result from the location of the Johnstone's Hill Tunnel

portals. These portals are the chief constraint on any design, and avoidance of the CMA in its entirety is not an option for the Project, especially given the extent of the CMA to the east of SH1. The Okahu Viaduct is part of an alignment that benefits the regional community (Policy 12.4.7(d)). The structure has been designed to take into account the coastal processes, and sea level rise is not an issue, given the structure's elevation above sea level.

I consider that the Project is consistent with the Objectives and Policies of Chapter 12.

### 27.5.9 Disturbance – Chapter 16

Chapter 16 has a single Objective 16.3.1 "to provide for appropriate activities … which involve disturbance of the foreshore and seabed while avoiding, remedying or mitigating the adverse effects on the coastal environment".

This Objective is directly relevant to the construction phase of the Project, and the Okahu Inlet Viaduct, which is anticipated to take two years to construct. The construction methodology has identified several techniques to minimise the disturbance to the seabed during construction of that viaduct. The disturbance is, in my opinion, appropriate as it seeks to facilitate the provision of a roading structure where no practical alternative outside the CMA exists (Policy 16.4.1 (a)(vi)) (refer to Appendix G, page 22). Section 3.3 of the Marine Ecology Assessment Report identified the overall marine ecological values of the Pūhoi Estuary to be moderate. Okahu Inlet is considered to have moderate values given the prevalence of adult breeding populations of mud snail. The area involved is negligible in the wider context of the Pūhoi Estuary, and the Marine team assessed the effects of the structure, including construction, as being very low (Policy 16.4.3(a)). The only specific mitigation recommended by the Marine Ecologist is the physical relocation of the mud snails immediately prior to the construction of the access track across the inlet for the pier construction.

I consider that the Project is consistent with the Objectives and Policies of Chapter 16 as the potential adverse effects can be appropriately mitigated.

### 27.5.10 Conclusion – Auckland Regional Plan: Coastal

Overall the Objectives and Policies of the ARP:C places an emphasis on the "appropriate location of structures" and the avoidance, remedying or mitigation of potential adverse effects. The Project is demonstrably "appropriate" and the Assessment Reports (especially Marine Ecology, Landscape and Visual and Operational Water) provide evidence that the effects are minor to moderate at worst, that the Ohaku Inlet has moderate environmental values and that the Project has a necessity to locate there. I am of the opinion that overall the Project is consistent with the ARP:C.

## 27.6 Auckland Regional Plan: Air, Land and Water

The ARP:ALW provides a framework to promote the integrated and sustainable management of Auckland's air, land and water resources (excluding the CMA). Some discrete sections of Chapter 5 – Discharges to land and water and land management are still subject to appeal, and as noted above, none of the outstanding appeals are material to this assessment. Transitional provisions of the Freshwater National Policy Statement are included in the ARP:ALW, and I have assessed the Project against Policies A4 and B7 of that Policy Statement below.

### 27.6.1 Freshwater National Policy Statement – Policies A4 and B7

The Freshwater NPS has two transitional policies that must be considered in relation to resource consents for discharge in relation to water quality and water quantity (refer Appendix G).

Policy A4 relates to water quality (refer to Appendix G, page 24). The Freshwater Ecology, Operational Water and Construction Water Assessment Reports address the issue of water quality on the life supporting capacity of freshwater including any ecosystems. These Reports have not identified any adverse effects on the life supporting capacity of freshwater including any ecosystems. The Construction Water Assessment Report has identified that sediment will deposit in the watercourses downstream of Project construction. Anticipated sediment levels are within the tolerances of the receiving environment as identified by the Freshwater Ecology Assessment Report. The post-construction management of the Project area will ensure that water quality will be maintained with the treatment of stormwater runoff from the Project and with the potential to retire remnant land within the designation from grazing or forestry. Although the Marine Ecology Assessment Report identifies a potential significant effect from sediment discharge during a 50 year ARI rainfall event, the probability of such an event occurring during the construction period is low and the ability through adaptive management to secure the site prior to such a rain event will assist to mitigate the potential effects. Overall, the Project's effects during construction and operation on the life supporting capacity of freshwater are minor.

Policy B7 relates to allocation of freshwater resources. Water allocation is not an issue relevant to the Project as no water take has been applied for. The Mahurangi River is at maximum allocation and no water would be available. Any water required during construction will be sourced from existing authorised water takes or from the public reticulated system or trucked in using tankers.

### 27.6.2 Chapter 2 – Values

Chapter 2.1 of the ARP:ALW provides management direction for the protection and management of the Region's natural values. Relevant provisions include Objectives 2.1.3.1 to 2.1.3.4, and Policies 2.1.4.1 through to 2.1.4.9 (refer to Appendix G, page 25).

The Project is, in my opinion, appropriate, as has been demonstrated by the discussion above and through the validation of the Project by strategic policy considerations set out in Section 3 of this AEE. Therefore, I consider that the Project is consistent with the high level Chapter 2 Objectives (2.1.3.1 – 2.1.3.4) relevant to the Project. Route selection has avoided, to the greatest extent possible, areas of high environmental quality. The route passes through the periphery of ONLs thereby leaving the bulk of the ONL intact. The Project will, where practicable, enhance the permanent river margins post construction through riparian planting where such areas are currently open pasture.

I consider all of the Chapter 2 Policies relating to Natural Character to be relevant to the Project. The effects of the Project on the natural character of the watercourses is in part mitigated through the route selection, which avoids or minimises the intrusion into valued areas such as the Natural Stream Management Areas, ONLs and Significant Natural Areas (noted in the Auckland District Plan: Operative Rodney Section). Policy 2.1.4.2 requires the assessment of the Project against the policy direction to maintain the high levels of natural character. Neither, the Terrestrial Ecology, Freshwater Ecology nor the Landscape and Visual Assessment Reports identify any significant

effects on natural character. Elements of natural character will be retained as much as possible through the bridging of watercourses where appropriate, and through careful restoration of diverted watercourses and riparian planting as mitigation.

Fish passage has been an integral part of the design of the Project and will be incorporated in culvert designs where it is required to maintain or enhance the ability of fish to access habitat upstream of the Project.

At Section 5.1.3, the Terrestrial Ecology Assessment Report considers the effects on one significant area of vegetation where the design of the Project has been modified to accommodate concerns about the effects on this area. The area is west of Perry Road, where a significant stand of kauri is located within a block of indigenous vegetation of approximately 23ha. The eastern extent of this stand is located on an unformed part of Perry Road and immediately west of the Genesis Aquaculture fish farm. The vegetation extends northwards along the banks of the Mahurangi River Right Branch. The alignment was originally moved westward to overcome concerns from the Perry Road community and it has subsequently been shifted to avoid the stand of kauri. The consequence of the latest design amendment was to bridge a section of the Right Branch, which was previously to be reclaimed and culverted. The design geometrics, coupled with the Perry Road residents' concerns require some removal of vegetation. The effect is to ensure that the bulk of the site where the kauri is located remains intact and that the effects on the Right Branch are minimised. Overall, the design avoids any significant adverse effects on the remainder of the vegetation within Site 15. The loss of 0.4ha of kauri is considered significant in the Terrestrial Ecology Assessment Report and mitigation is recommended in Section 6 of that Report.

Objectives relating to the use of natural and physical resources are outlined in Chapter 2.2.3 of the ARP:ALW. These objectives provide for sustainable use of the natural resources in line with the ARPS and the ARGS. Notably provision is made in Objective 2.2.3.4 for the "ongoing operation, maintenance, development and upgrading of physical infrastructure. Objective 2.2.3.5 seeks to protect network utility infrastructure from inappropriate use and development. Policies 2.2.4.2, 2.2.4.3 and 2.2.4.6 – 2.2.4.11 are relevant in the context of Objective 2.2.3.4. The Project is consistent with the ARPS, as outlined in Section 28.4 of this Report, and it will mitigate significant adverse effects on the environment. With respect to being undertaken in an "efficient and cost effective manner that recognises the community's ability to pay" I am of the opinion that Policy 2.2.4.4(d) is more relevant to Council's own services rather than the NZTA's.

Policy 2.2.4.7 recognises that network utility activities and infrastructure is appropriate in rural areas where the use of air, land and/or water resources is necessary. To the extent practical, the Project avoids significant natural areas and mitigates significant adverse effects, where they cannot be avoided (Policy 2.2.4.7). The Project has social and economic benefits in removing a significant traffic issue that divides Warkworth, with essential community facilities (the schools) on the western side of the State highway and the bulk of the community to the east. The Project's key objective is to advance an improved transport network to Northland.

The Assessment Reports have assessed effects and do not identify any significant cumulative effects that cannot be mitigated. The quantity of sediment that might deposit into the Mahurangi Harbour is considered to have minor effects. The exception to this would be an extreme rain event (1:50 year over a 24 hour period), which would likely result in significant adverse effects on marine

ecological values and moderate effects on freshwater ecological values. However this rainfall would have to occur during the earthworks season and at the peak open area and the coincidence of these three occurrences is considered to be of low probability. However, a condition is recommended to address appropriate mitigation in the Marine Ecology Assessment Report.

One of the anticipated environmental results of Chapter 2 is that "network utility infrastructure develops and operates in an efficient and cost effective manner while avoiding, remedying or mitigating adverse effects on the environment." The Project will achieve this result, qualified by the comment above regarding "cost effective".

Objective 2.3 – Nga Take Tuturu Mo Tangata Whenua (Matters of Significance to Tangata Whenua) identifies three key objectives to govern the consideration of the use of air, land and water with respect to Tangata Whenua. These objectives are the same as those in the ARPS, which have been discussed in Section 28.4.2 above. Policy 2.3.4.4 is the only policy of relevance to the Project. The extensive consultation and integral involvement of Hōkai Nuku in the Project development have provided an immediate platform for iwi to exercise their cultural traditions and kaitiaki over the area and to ensure that adverse effects on their taonga are avoided to the greatest extent possible.

Overall, I consider the Project will be consistent with Chapter 2 of the ARP:ALW.

### 27.6.3 Chapter 4 – Air Quality

Chapter 4 of the ARP:ALW addresses air quality. The objectives and policies relevant to the Project are Objectives 4.3.1 through to 4.3.6 and Policies 4.4.1 through to 4.4.4, 4.4.6, 4.4.7, 4.4.9, and 4.4.15 through to 4.4.17 (refer to Appendix G, page 28).

Objective 4.3.1 seeks to maintain the excellent air quality currently experienced throughout the Project area. Section 8 of the Air Quality Assessment Report confirms that the predicted concentrations of potential pollutants that might be generated by the operation of the road are negligible ("less than minor" in the Report). There are no significant adverse effects that cannot be managed. During construction when potential dust effects may be identified, these effects will be managed using proven techniques to ensure that the effects of dust will be contained within the Project area. The Air team have recommended specific measures to protect the Genesis Aquaculture fish farm. These measures would entail the erection of a wind fence along the common boundary with the designation and extend to a distance sufficient to ensure that the dust does not adversely affect the fish farm operation.

We have considered Policies of Chapter 2 – Values (refer above) and, given the proximity to the coastal marine area, the ARP:C (4.4.1 and 4.4.2). The Project does not result in any significant adverse effects with respect to air quality during construction or operation of the Project (4.4.3). The Project does not result in any discharge to air that would significantly compromise the ability of the Region to meet National Environmental Standards for Ambient Air Quality (4.4.4). Section 7 of the Air Quality Assessment Report considers the appropriate mechanism to manage dust is through implementation of standard measures, to be identified in a Construction Dust Management Plan. Mitigation measures proposed are listed in Section 8 of that Report. Provided this is implemented throughout the period of earthworks during construction, I consider that the discharge of contaminants (mostly dust) would be appropriate (Policy 4.4.5).

Overall, I consider the Project will be consistent with Chapter 4 of the ARP:ALW.

### 27.6.4 Chapter 5 – Discharges to Land and Water

Chapter 5 of the ARP:ALW addresses discharges to land or water, and acknowledges that vehicle use is a major cause of stormwater contamination. The Objectives and Policies of Chapter 5 provide for the appropriate management of adverse effects of stormwater discharges. Particularly relevant to the Project are Objectives 5.3.1, 5.3.3 and 5.3.5, and Policies 5.4.1 through to 5.4.4A and 5.4.13 (refer to Appendix G, page 28-32).

I consider the Objectives and Policies of Chapter 5 that relate to stormwater discharges from networks and industrial or trade activities to be particularly relevant. As these Objectives and Policies are consistent with the general Objectives of Chapter 5. I do not consider the more general objectives in any detail.

Objectives 5.3.5 to 5.3.7 address discharges from stormwater networks. The Project has integrated erosion and sediment control and operational stormwater measures into the design of the Project. The potential adverse effects that might be generated are minimised through design and the adoption of the best practicable option to treat both construction and operational stormwater prior to discharge (Objectives 5.3.5 and 5.3.6). The extent of the designation is sufficient to ensure that the ongoing operational maintenance and management of stormwater can be undertaken ensuring the longevity of the systems being used. The NZTA is seeking integrated discharge consents to ensure that the network can be managed efficiently (Policy 5.3.6). The integration of stormwater treatment with the wider Project design will ensure that the Project will provide adequate safeguards to the health and safety and social and cultural wellbeing of the community through appropriate levels of treatment. Additionally good design will ensure that the stormwater system copes during rain events so as to not adversely affect motorists.

The single objective (Objective 5.3.9) relating to industrial or trade activities is relevant to the precast yard at Woodcocks Road. The yard will be designed to ensure that any discharges from the site are managed to ensure the effects on the receiving environment are minor. The Construction Water Assessment Report notes that all potentially contaminated water will be treated before discharge through onsite means or by trucking the contaminated water off site for treatment elsewhere. The Industrial Trade premises discharge consent will only be necessary for the duration of the construction activity and will then be surrendered. Accordingly the effects of the stormwater discharges from the precast yard can either be avoided or mitigated to a point where the effects are minor.

There are Objectives in Chapter 5 relating to instream and riparian habitat management in relation to stock access to watercourses. The Project will lead to some watercourses that form part of the designated area and are currently accessible to stock being retired from grazing. The motorway will be fenced in accordance with NZTA standard practice to avoid stock access to the motorway. The watercourses will benefit from the removal of stock access to watercourses within the designation (Objectives 5.3.17 and 5.3.18).

The ARP:ALW has extensive Policies relating to stormwater diversions and discharges. The following are considered particularly relevant to this assessment. The approach taken in the Operational Water Assessment Report reflects the BPO for the Project, and that Report has

extensive commentary in Section 7 in support of Policy 5.4.4(a). The Project is part of the State highway network (5.4.4(b)). The mitigation proposed in Section 28 of the AEE specifically addresses the quality of the discharge having considered water quality as an integral part of both the Construction and Operational Water Assessment Reports and taking into consideration the findings contained in the Freshwater and Marine Ecology Assessment Reports (Policies 5.4.4(c) (i) and (ii)). The Operational Water Assessment Report includes specific consideration of the potential effect of the Project on the existing flood issues in the Carran Road Sector (refer 7.9 of the Operational Water Assessment Report) (Policy 5.4.4(c)(iii)). The Operational Stormwater Assessment Report did not identify any existing stormwater treatment devices along SH1 in the vicinity of the Project. The existing drainage systems under SH1 will be increased in size and three of the outfalls and associated erosion protection will be broadened, but these will not result in any new locations for discharges and therefore, there will be no significant cumulative effects (Policy 5.4.4(d)).

Policy 5.4.4A requires the strategic importance of the stormwater system operated as part of any regionally significant infrastructure to be considered in the processing of resource consent applications. It is not disputed that the Project is regionally and nationally significant given its status as a RoNS, and the stormwater system is an integral part of the Project.

I do not consider Policy 5.4.4B to be relevant to the Project as it relates to non-network stormwater diversion and discharges, and the NZTA applications are on the basis of a network based consent.

Irrespective of Policy 5.4.4C, a full AEE has been prepared to support the Project consent applications and the design of the stormwater management devices is in accordance with TP10.

Policy 5.4.8 requires the adoption of the BPO to minimise the potential effects of discharges from stormwater networks controlled by a network utility operator. The Operational Stormwater Assessment Report has addressed the BPO for stormwater discharges and with respect to this Policy I note the following points. The treatment devices have been identified and form part of the indicative design. This work was heavily informed by the Assessment Reports that identify the characteristics, including sensitivity, of the receiving environments (refer Freshwater and Marine Ecology Assessment Reports). The wetland treatment option that will be employed on the Project is the most effective option for stormwater that runs off roads and collects heavy metals and oils. No significant unavoidable effects are identified in the Operational Water Assessment Report. Wetland treatment devices are used on the Northern Gateway Toll Road with good results. Wetlands are, at this stage, identified as the most successful option for treatment of stormwater from the motorway . NZTA will be wholly responsible for managing the stormwater discharging from the Project and there is no need to transfer this responsibility to another operator.

I have considered the policies relating to industrial and trade processes. Policy 5.4.16(j) requires an Environmental Management Plan to be prepared to manage the potential effects of discharges from the precast yard. Given that the detail of the location, layout and the controls for managing the operational detail of the precast activity will be provided at a later date, I recommend that there be a condition of consent that the Environmental Management Plan be prepared and provided to Auckland Council for approval prior to the precast yard being commissioned. This Environmental Management Plan will take the form of a Construction Erosion Sediment Control

Plan and will address the management of discharges, including any specific treatment required to ensure that the quality of the discharge will not have an adverse effect on the receiving environment. Given the short-term life of the precast yard, the regular review of the implementation of the Environmental Management Plan is likely to be self-assessing with the agreement of the Auckland Council (Policy 5.4.17).

Overall, I consider the Project is consistent with Chapter 5 of the ARP:ALW.

### 27.6.5 Chapter 6 – Water Allocation

Chapter 6 of the ARP:ALW addresses water allocation. The Objectives and Policies provide for the appropriate management of adverse effects from the taking and use of water. Objectives 6.3.2 and 6.3.3, and Policies 6.4.35 and 6.4.50 are relevant to the Project (refer to Appendix G, page 32).

Objective 6.3.3 seeks to maintain the quantity and levels of water in the Region's aquifers in the long-term for maintenance of spring and stream base flows, water quality and amenity reasons (among others). Objective 6.3.8 enables the diversion of groundwater where adverse effects are managed accordingly, including effects on groundwater regimes, surface water, structures and people and communities. These two Objectives are particularly relevant to the Project.

The groundwater issues relate to the interception and diversion of groundwater in the area of significant cuts required for construction of the Project. These are located largely in the isolated sections of the Project within forestry areas. The Hydrogeology Assessment Report has not identified the presence of any significant aquifers. Relying on this Report, I consider the quantity of groundwater that will be diverted will not give rise to adverse effects on the broader area's groundwater resource. Any groundwater diverted by Project construction will be collected and discharged into the surface water network along with treated stormwater runoff during construction and operation. These diversions will be primarily higher up in the catchments in the vicinity of Moirs Hill Road. Therefore there will be no adverse effect on surface water flows.

The single Policy specifically relevant to the diversion of groundwater is 6.4.50. This Policy provides guidance for proposals to divert groundwater. With reference to the Hydrogeology Assessment Report, the most likely locations along the Project where groundwater will be encountered is in the areas of the deepest cuts, being areas isolated from existing groundwater usage, which is predominantly around the northern two Sectors. The Hydrogeology Assessment Report confirms that the groundwater quantities will be relatively minor, but given the depth of the cuts will most likely change the water level regime, the Project cannot meet the permitted activity criteria of Rule 6.5.76. However, as noted above, the water diverted will remain in the general area of origin and flow into the same freshwater systems. Given the distance between the larger cuts and the existing groundwater users, it is not expected that there will be any effects on existing takes (refer Section 5 of the Hydrogeology Assessment Report). Similarly, given the cuts are isolated from existing development, there are no buildings that would likely be affected by settlement caused by a lowering of groundwater. The diverted groundwater will be diverted into the stormwater system, which is designed to discharge at rates that will not exacerbate any flooding risk. The discharges will be treated prior to discharge in accordance with the standards in TP10, as noted in the Operational Stormwater Assessment Report. The SEV methodology as outlined in the Freshwater Ecology Assessment Report (Section 3.3) includes hydraulic function as one of the assessment

criteria, including base rates and connectivity to groundwater. In using the SEV to consider values of streams, the Freshwater Ecology Assessment Report has considered the potential adverse effects of the groundwater diversions and discharges and confirms that due to the proposed management of discharge standards and rates of discharge the potential effects are minor.

Overall, I consider the Project to be consistent with the relevant Objectives and Policy of Chapter 6 of the ARP:ALW.

### 27.6.6 Chapter 7 – Beds of Lakes and Rivers and diversion of surface water

Chapter 7 of the ARP:ALW addresses works that require occupation of the beds of lakes and rivers and the diversion of surface water. The relevant Objectives and Policies of this Chapter are Objectives 7.3.1, 7.3.2 and 7.3.3, and Policies 7.4.1 through to 7.4.7 and 7.4.9 through to 7.4.17 (refer to Appendix G, page 32-34).

The Project includes resource consents for works in and on the beds of the streams that the Project crosses. While the potential effects of works in intermittent watercourses are relevant to the assessment of environmental effects in a broad sense, the works are a permitted activity under Chapter 7. Therefore, the following analysis is more relevant to the works within the beds of permanent watercourses.

There are four Objectives for the management of the beds of rivers (and lakes, but not relevant in this instance) and the diversion of surface water. Objective 7.3.1 seeks to maintain and, where practical, enhance the natural character of streams and rivers. Relevant to this Project is the intention to avoid or mitigate the effects of modification from structures and diversions. Objective 7.3.2 recognises and provides for structures in and over streams for regionally significant infrastructure, where such infrastructure is the BPO and provides for the protection of the environment, while enabling people and communities to provide for their needs as required by section 5 of the RMA. The Operational Water and Freshwater Ecology Assessment Reports have specifically addressed the issues around managing the effects of the Project to ensure that natural character of the watercourses is enhanced and that the number of culverts is minimised as far as practicable.

Policy 7.4.1 requires regard to be had to the Objectives and Policies of 2.1, 2.2 and 2.3. This consideration is outlined above at Section 28.6.2.

Policy 7.4.3 states that resource consent for works in or on a bed of a stream (as is the case with this Project) shall be considered appropriate subject to certain criteria. With reference back to these criteria, the following are relevant:

- Irrespective of the route; some stream crossings are inevitable given the topography (7.4.3(a)). Alternative methods would include bridging all watercourses, which would be impractical given the number of crossings and the costs associated with bridging all watercourses (7.4.3(b)). During preparation of the AEE, the design was changed to avoid an extensive culvert in the Mahurangi River Right Branch, and replaced with a bridge structure (7.4.3(c));
- Efficient use of stream beds will be made, with the culvert design length being determined by the alignment and any necessary embankment. The extent of culverting does not result

in any cumulative effect along a single tributary (refer Policy 7.4.3(e)) with multiple tributaries being crossed by the alignment and very little other modification of the natural watercourses in the catchment, given low density land uses and isolated development.

Policy 7.4.9 addresses issues relevant to the Project associated with flood hazard. As noted previously, the northern extent of the Project passes through an area identified in the Operational Water Assessment Report as being influenced during the 100 year return rain fall event (1% AEP). That Report has identified the hydrological conditions that will need to be managed as a result of the Project to ensure that additional flood risk does not lead to adverse effects on private land beyond that which would be experienced without the Project. The Carran Road Flood Relief Bridge has been designed to maintain the 100 year flood flow. Neither the Freshwater Ecology Assessment Report nor the Terrestrial Ecology Assessment Report has identified any rare or endangered species, nor will the design of culverts cause any permanent long-term effect from deposition of sediment. Erosion protection will be an integral component of the Project design.

In consideration of Policy 7.4.10, the proposed permanent diversions offer a better opportunity to maintain open watercourses, which will be subject to remedial works to reflect their current natural state. The inclusion of diversions is in preference to longer culverts being installed. These diversions will be designed to accommodate the appropriate flows, will be planted and secured to avoid erosion, and plantings will be consistent with establishing healthy riparian margins to encourage and protect instream habitat.

With respect to Policy 7.4.14, in relation to the modification and loss of lengths of permanent streams through culverting, I acknowledge that the Project induces a number of watercourses to be culverted to provide for the operation of the Project. As noted above, given the topography, it would be impossible to construct the Project and remain clear of all watercourses. These culverts are unavoidable, and will be mitigated through riparian restoration within the Project area, the retiring of land currently subject to forestry or farming activities, and planting to enhance both terrestrial and instream habitat.

The culvert and bridge structures and diversions are all sized to accommodate the passage of flood flows, as discussed in the Operational Stormwater Assessment Report (Policy 7.4.15).

Fish passage is provided in culverts where the Freshwater Ecology Assessment Report has identified up stream habitat should be maintained (Policy 7.4.16) with the exception of two locations in the Carran Road Sector that have drop structures immediately upstream to maintain hydraulic function.

Overall, I consider the Project to be consistent with the relevant Objectives and Policies of Chapter 7 of the ARP:ALW.

### 27.6.7 Conclusion – Auckland Regional Plan: Air, Land and Water

The ARP:ALW clearly provides for the construction and use of regionally significant infrastructure in the context of the use of air, land and water resources. I consider the Project to be appropriate within the context of the use of these resources. The Assessment Reports confirm that the Project will be consistent with the relevant Objectives and Policies and the overall intent of the ARP:ALW

to facilitate appropriate development and use of resources, whilst ensuring that the potential effects can be avoided, remedied or mitigated.

## 27.7 Auckland Regional Plan: Sediment Control

I have assessed the Project against the NPS on Freshwater Management in Section 28.6.1 of this AEE. That discussion is not repeated here but is acknowledged for completeness.

The ARP:SC has four broad objectives, which are not numbered, but appear on page 17 of the Plan (refer page 35 of Appendix G). The following assessment is against all four objectives as I consider them to be particularly relevant.

The Construction Water Assessment Report has identified the range of techniques available to the NZTA to ensure that the potential sediment lost into the watercourses will not result in a significant adverse effect. Post construction, the retirement of the wider designated area from forestry or farming activities and riparian planting will provide better protection of the watercourses within the designation and assist with maintaining water quality of the watercourses downstream.

The Hōkai Nuku Cultural Effects Assessment has considered the potential effects of the construction activities especially on the mauri of the watercourses. That Report has identified a number of potential mitigation measures to assist in sustaining the mauri of the watercourses.

The Construction Water Assessment Report has outlined a number of techniques that are recommended be adopted to reduce the risk of sediment generation and sediment discharge during construction. These techniques include proven techniques used in similar projects within similar geological and topographical conditions – drawing on NZTA's experience during the construction of the NGTR especially. Other techniques such as careful monitoring of weather forecasts, pre-storm checking of sediment control devices and post-storm water quality monitoring will be built into the conditions for inclusion in the Construction Erosion and Sediment Control Plans.

The ARP:SC has two specific objectives under section 5 – Regulation. These are:

> *5.1 Objectives*
>
> *5.1.1 To maintain or enhance the quality of water in waterbodies and coastal water.*
>
> *5.1.2 To sustain the mauri of water in waterbodies and coastal waters, ancestral lands, sites, waahi tapu and other taonga*

Both are addressed above and I consider that the Project is consistent with them.

An analysis of the Project against the Policies contained in 5.2 is provided below.

The Water team has identified a range of methods to suit the varying conditions along the designation to ensure that the generation and discharge of sediment is managed in a satisfactory manner. Some of these are well proven methods including clean water diversions, sediment retention devices, stabilisation of exposed earth, maximum limits on open work areas in each catchment. There are also methods that the NZTA will implement, including monitoring weather

forecasts, regular inspections of devices, securing devices ahead of predicted storm events and the like (Policy 5.2.1).

The degree to which the earthworks associated with the Project affect the features listed in Policy 5.2.2 (i) to (iii) has been discussed in the Terrestrial, Freshwater and Marine Ecology Assessment Reports and the Landscape and Visual Assessment Report. These Reports concluded that the earthworks would not result in any significant adverse effects on the listed features, largely though the features being kept largely intact, with the Project affecting the outer periphery of them, or through the mitigation proposed that will address potential effects, such as the visual effect of the alignment through the ONL west of Perry Road.

With respect to Policy 5.2.2 (iv) and (v), the Cultural Effects Assessment Report provided by Hōkai Nuku has identified the features through the Project area that are of value to Tangata Whenua, and the mitigation they consider appropriate. The Project passes close by Nga Pā o Te Hēmara Tauhia. The potential effects of the Project on Ngā Pā o Te Hēmara Tauhia have been addressed in the Cultural Effects Assessment Report, and protocols developed to ensure that Hōkai Nuku remain integral to the Project through construction to commissioning of the new road. A retaining wall below the recently rediscovered pa site will protect the integrity of the pa. Accordingly I consider the Project adequately avoids or mitigates the potential adverse effects of earthworks in a manner that is consistent with the intent of the Policies in 5.2 of the ARP:SC.

The ARP:SC has Objectives and Policies directly related to minimum earthwork strategies. These provisions have no rules attached to them, nor are there any clear linkages back to section 5 of the Plan. The policies are implemented through other methods. The Objectives seek first to minimise erosion, which leads to sediment generation (7.3.1), and then to minimise the discharge of sediment to the receiving environment (7.3.2). The Construction Water Assessment Report has, through a series of models and in consideration of the receiving environments (both freshwater and marine), identified the maximum area of open ground that can be accommodated within the Mahurangi and Pūhoi catchments. These maximum earthworks areas are. From that condition stems a sequence of conditions that address and reflect the range of methods available to the NZTA to further manage earthworks activities through physical management and proactive behaviours. The recommended Erosion and Sediment Control Plans will further assist with minimising surface erosion and sediment discharge into the receiving environment. In my opinion, the Project, including the suite of recommended conditions, is consistent with the ARP:SC Objectives relating to minimum earthworks strategies through the identification of the maximum open area per catchment and then subsequent management techniques to further reduce potential effects.

The extent and duration of vegetation removal and earthworks will be a consideration for the NZTA and its contractor, within the traditional control of the earthworks season and the construction programme. However, the recommended conditions will contain a suite of methodologies to minimise the loss of sediment from the site. Given the intent of section 7 of the ARP:SC appears to target industry practice rather than resource consents per se, I consider that the Project is not inconsistent with the Policies.

### 27.7.1 Conclusion – Auckland Regional Plan: Sediment Control

I have considered the Project against the Objectives and Policies of the ARP:SC and I am of the opinion that the Project is consistent with these provisions as demonstrated above.

## 27.8 Auckland Council District Plan – Operative Rodney Section 2011

Land use activities associated with the Project are within the jurisdiction of the ACDP. The ACDP contains the planning policies and rules for activities and developments in the jurisdiction of the former RDC. The relevant objectives and policies for the Project are as outlined below and contained in full in Appendix G.

### 27.8.1 Natural Hazards

Chapter 5 of the ACDP (Auckland Council, 2011) addresses Natural Hazards. Particularly relevant Objectives and Policies in this Chapter are Objectives 5.3.1 and 5.3.2, and Policies 5.4.1, 5.4.2 and 5.4.3 (refer to Appendix G, page 36).

Objectives 5.3.1 and 5.3.2 state that adverse effects on natural hazards should be avoided. The Project seeks to avoid, remedy or mitigate potential effects, including natural hazards, when developing the alternative alignments for route selection. The mapping of constraints, described in Section 7 of this AEE, allowed the selection of an indicative alignment that will avoid known natural hazards.

As noted in the Operational Water Assessment Report (specifically at Section 8.6 of that Report), the Project has been designed to avoid the flood plain to the north west of Carran Road. The three houses that would currently be affected during a 100 year flood event would be affected in a minimal way by increased flood flows with the Project in place. However the change in flood level would not be particularly discernible. The mitigation recommended includes a maximum change in increased flood levels through this area.

Policy 5.4.1 relates to areas prone to natural hazards. Works have been located to avoid the need for hazard protection. Furthermore, appropriate mitigation measures will avoid any risk of loss of life or injury and will ensure environmental damage is minimised.

Policy 5.4.2 seeks to avoid development that would exacerbate hazards. Project works will include altering wetlands, clearing vegetation and changing overland flow paths and stormwater. Effects will be mitigated to avoid exacerbation of hazards on or off-site.

A precautionary approach is sought by Policy 5.4.5 as there is often little information about natural hazards particularly associated with climate change and geological threats. I note that the Operational and Construction Water Assessment Reports have used data that is inclusive of climate change projections and that the indicative design can accommodate any changes in sea level as a consequence of climate change. The Geotechnical Team has identified all known and significant geotechnical hazards and, where there is potential for natural hazards, such as subsidence, the assessment takes a precautionary approach that in turn is taken into account by the design and designation boundaries.

I consider the Project will be consistent with the Natural Hazards Objectives and Policies of the ACDP.

### 27.8.2 Highly Valued Natural Resources

Chapter 6 of the ACDP addresses Highly Valued Natural resources, including Significant Natural Areas, Highly Valued Landscapes and Geologically Significant Sites. The provisions relevant to the Project include Objectives 6.3.2 and 6.3.3, and Policies 6.4.1 through to 6.4.4 (refer to page 37 of Appendix G).

As discussed in Section 4.3.1 of this AEE, the alignment and design of the Project have been selected cognisant of the highly valued landscapes and SNAs in the Project area. The designation boundary will skirt the edges of several SNAs classified as being of moderate or moderate to high significance. These areas are adjacent to Woodcocks Road to the west of Falls Road, adjacent to SH1 north of Moirs Hill Road, to the east and west of the existing SH1 at Schedewys Hill, adjacent to the existing SH1 south of Mahurangi West Road and north of Fowler Access Road at the exit of the Johnstone's Hill Tunnels (refer to Section 4.1.4 of this AEE for further detail on the SNAs).

The Project will extend through two Outstanding Natural Landscapes (ONL) - West Mahurangi Harbour (43) and Mahurangi – Waiwera (44). Further detail on these ONLs is provided in Section 4.1.4 of this AEE. Both areas are classified as 'Hill Country' in the Construction Water Assessment Report and all share the same Landscape Type Descriptors (in the Landscape and Visual Assessment Report), including relatively high relief/significant areas of maturing vegetation and low level of built modification.

The indicative alignment passes through the CMA where it crosses Okahu Creek and Billing Road at the upper reaches of the Pūhoi Estuary. This area is identified as CPA (75c–h) 'Pūhoi Estuary'. Further detail on the Pūhoi Estuary is provided in Section 4.3.2 of this AEE. This existing environment is significantly influenced by the existing SH1. The Project's location in this area will lead to a consolidation of infrastructure thus reducing a wider effect on the natural coastal character.

Appropriate measures such as planting and restoration will be implemented to mitigate effects on highly valued resources and significant areas. Such measures are discussed further in Section 28 and in the Landscape and Visual Assessment and Terrestrial Ecology Assessment Report. Planting will be site specific, appropriate to conditions, respond to natural vegetation patterns, and reflect contrasting character areas.

Geologically significant sites have been avoided.

I consider that the Project will be consistent with the relevant High Valued Natural Resources Objectives and Policies of the ACDP. Highly valued vegetation, wildlife habitats, landscapes and geological areas will generally be maintained and protected. Some effects will be unavoidable where the designation passes through ONLs. Policy 6.4.1 states "…Where avoidance is not possible, remedial or mitigation measures should be undertaken, including restoration, enhancement or protection." Mitigation is offered through the Landscape and Visual Assessment Report and in Section 28 of this AEE.

### 27.8.3 Rural zone

Chapter 7 of the ACDP relates to land within the Rodney area that is zoned Rural. The Objectives and Policies relevant to the Project include Objectives 7.3.1, 7.3.2, 7.3.3 7.3.9, 7.3.10 and 7.3.12, and Policies 7.4.3, 7.4.4, 7.4.8 through to 7.4.11, 7.4.13, 7.4.15, 7.4.16 and 7.4.18 (refer to Appendix G, page 37-42).

The majority of land within the Project area is zoned Rural or East Coast Rural under the ACDP. The land has been modified and a large portion is productive land associated with exotic forestry and pastoral farming. As such, the majority of land in the Project area does not exhibit a high degree of naturalness or high landscape and amenity values. However, certain areas along the alignment are identified in the Landscape and Visual Assessment Report as displaying high landscape and natural values. These areas include the Pohuehue Reserve, the Pūhoi River and the Perry Road landscape and areas of rural lifestyle settlement.

The Landscape and Visual Assessment Report concludes that the areas where the effects from the Project will be most pronounced are in locations where there are existing established rural residential settlements, usually in combination with significant landscape values. For this group, the Project will irrevocably change the existing rural character and amenity values associated with the rural environment.

However, the assessment acknowledges that temporary construction effects could be appropriately mitigated. Operational effects will reduce over time with appropriate mitigation. Although the Project will have altered the local landscape character, it will, with mitigation, 'fit' with the landscape and co-exist comfortably with natural elements, rural production and patterns of settlement.

The assessment in Sections 10 to 26 of this AEE outlines the effects of the Project in relation to vegetation clearance, earthworks, stormwater treatment and water quality. Appropriate erosion and sediment controls and stormwater treatment will be implemented during the respective construction and operation phases of the Project to minimise potential effects on water bodies in the Project area.

The Project will be consistent with Policies 7.4.8 and 7.4.18, in that the Okahu Inlet coastal environment and the main rivers within the Project area will be bridged to minimise adverse ecological effects on these waterbodies. Where watercourses will be culverted, culvert lengths will be kept as short as possible and appropriate habitat restoration and enhancement measures will be undertaken to mitigate ecological effects.

Policy 7.4.4 requires that activities occur without the generation of noise and vibration that may adversely affect neighbouring sites. Management plans will detail the specific mitigation measures to minimise potential noise and vibration effects.

Consultation is established with iwi and will be on-going for the duration of the Project (refer Objective 7.3.12).

For these reasons, I conclude that the Project will be consistent with the relevant Rural Objectives and Policies of the ACDP.

### 27.8.4 Open Space and Recreation

Chapter 10 of the ACDP addresses Open Space and Recreation zones. Relevant Objectives and Policies of this Chapter include Objective 10.3.3 and Policy 10.4.2 (refer to page 42 of Appendix G), which seek to ensure that the natural character and conservation values of areas with significant vegetation or wildlife are maintained, managed, protected and enhanced so they remain in a relatively natural unmodified state.

The route selection process for the Project had regard to avoiding, remedying or mitigating effects on open space within the Project area, in particular those areas of open space identified as ecologically sensitive environments or with significant landscape values, such as the Pohuehue Reserve. The designation has been selected to avoid potential adverse effects on the Pohuehue Reserve, which is a remnant and regenerating stand of native forest and a significant natural feature of the area.

Public access along the Okahu Inlet and the Pūhoi River and Estuary may be temporarily impacted during the construction phase of the Project. However, following completion, it is my opinion that access to the reserves will be improved through the viaduct offering a safer pedestrian connection to the Pūhoi Estuary from Pūhoi Road across the existing SH1.

Effects on open space are further discussed in Section 22 of this AEE. I consider the Project will be consistent with the relevant Open Space Objectives and Policies of the ACDP.

### 27.8.5 Inland Waters

Chapter 11 of the ACDP addresses Inland Waters, meaning beds of lakes, rivers and streams, the water column, the water surface and the air space above lakes, rivers and streams, as well as the sequence of vegetation from floating to submerged, including partially submerged vegetation at the water's edge. Relevant provisions in this Chapter include Objectives 11.3.2 and 11.3.3, and Policies 11.4.2, 11.4.3, 11.4.4 and 11.4.6 (refer to Appendix G, page 42-43).

Policy 11.4.2 refers to areas of high ecological and wetland value, wildlife and habitat significance. The route selection process for the Project sought to avoid, remedy and mitigate effects on areas identified as having high quality habitat or ecological values, including the estuarine areas and watercourses within the Project area.

Policy 11.4.3 relates to the enhancement of inland waters, Policy 11.4.4 to natural character and landscape values, and 11.4.6 to cultural values.

The indicative design uses bridges and viaducts to cross major watercourses within the Project area and the Okahu Inlet coastal environment. Where watercourses will be culverted and any temporary or permanent stream works undertaken, appropriate mitigation measures, including the restoration and enhancement of inland waters, inclusive of their riparian margins will be implemented to minimise potential environmental effects.

The Project will include appropriate erosion and sediment control measures and temporary stormwater management, in accordance with Section 10 of this AEE and the Construction Water Assessment Report, during construction to protect and maintain waterbodies within the Project

area. Permanent stormwater treatment will be implemented during the operation of the new motorway, in accordance with Section 21 of this AEE and the Operational Water Assessment Report.

I consider the Project will be consistent with the relevant Inland Water Objectives and Policies of the ACDP.

### 27.8.6 Cultural Heritage

Chapter 17 of the ACDP addresses Cultural Heritage. I consider that Objective 17.3.1 and Policies 17.4.1, 17.4.2, 17.4.3, 17.4.5 and 17.4.8 are relevant to the Project (refer to page 43 of Appendix G).

Objective 17.3.1 seeks to protect the District's cultural heritage resources. The relevant Policies address retention of heritage values while allowing sympathetic proposals, appropriate modification, and prevention of destruction of archaeological and waahi tapu sites, and discussions with iwi.

The Heritage Assessment Report has identified that the indicative alignment will potentially result in adverse effects on several heritage sites, most with low to moderate heritage significance. Potential heritage sites affected by the new motorway include two platforms and middens and several World War II military camps. The indicative alignment directly affects Titford Cottage, which is located beneath the Okahu Creek Viaduct and will be destroyed. The Schollum Villa will be affected during construction and will also suffer adverse effects due to the proximity of the motorway in the operational phase. Relocation of the villa to a location further from the indicative alignment will likely be required, if feasible. Titford House will not be directly affected by the Project.

The indicative alignment would affect Ngā Pā o Te Hēmara Tauhia, Titford Cottage and Titford House, all of which are located on the same property. The exact nature and extent of potential effects and opportunities to avoid, remedy or mitigate these effects will be determined following approval to access the property and the undertaking of detailed field investigations, to determine the extent of the pā and the quality of the heritage houses.

Though such effects are undesirable, their avoidance is not practical in the context of the Project, the constraints in the immediate location and the need to balance the national importance of the Project with a number of potential environmental effects.

As discussed in the Heritage Assessment Report, the majority of potential effects of the Project on historic heritage will be appropriately avoided, remedied or mitigated.

In order to minimise effects on sites of significance to iwi, NZTA discussion with iwi is well established and will remain ongoing for the duration of the Project.

I consider the Project will be consistent with the Cultural Heritage Objectives and Policies of the ACDP.

### 27.8.7 Hazardous Substances and Contaminated Sites

Chapter 20 of the ACDP addresses Hazardous Substances and Contaminated Sites. Provisions relevant to the Project are Objectives 20.3.1, 20.3.2 and 20.3.3 and Policies 20.4.1, 20.4.2 and 20.4.3 (refer to page 44 of Appendix G).

A preliminary assessment of potentially contaminated sites has been undertaken for the Project, to determine the possible presence of contaminated soils within the Rodney area and whether the Project may disturb any areas of contamination. Information on potentially contaminated sites within the Project area obtained from the former RDC and ARC was assessed and site investigations undertaken where access to private property was provided by landowners. The assessment concluded that the risk of ground contamination along the indicative alignment is low and could be appropriately avoided, remedied or mitigated. Individual and site specific areas of potential contamination were identified, such as historic sheep dips and an ex mechanic workshop. Consents under the NES for Assessing and Managing Contaminants in Soil to Protect Human Health will be necessary.

Site works will require the use of machinery on site and will thus involve the storage of diesel and other potentially hazardous substances, such as water treatment chemicals and heavy metals.

I consider the Project will be consistent with the Objectives and Policies for hazardous substances and contaminated sites outlined in Chapter 20 of the ACDP.

### 27.8.8 Transportation and Access

Chapter 21 of the ACDP addresses Transportation and Access. Objectives 21.3.1 through to 21.3.4, and Policies 21.4.1, 21.4.2 and 21.4.3 are relevant to the Project (refer to of Appendix G, page 44-45).

The Project will contain mitigation to minimise the effects of the Project on the natural environment, including stormwater treatment, riparian planting and wetland restoration (Objective 21.3.1) The Project will improve the health and safety of the community by the design providing a safer transport environment and a reduction of traffic on the existing SH1 through Warkworth (refer Objective 21.3.2). The Project will improve the amenity of residents within Warkworth and along the current SH1, through a reduction of noise and vehicle emissions. The amenity of residents along Pūhoi Road, Perry Road and Carran Road will be adversely affected, especially during construction and while mitigation planting is established. Overtime this change in amenity in my opinion will become a minor effect as residents adjust to the change to the environment introduced by the Project (Objective 21.3.3). The Project will have a positive effect on the safe, efficient and convenient movement of people and goods, through improved travel times, improved travel time reliability and more network resilience (Objective 21.3.4).

Effects on highly valued natural resources and landscapes, amenity values and cultural heritage are discussed in Sections 16, 22 and 25 of this AEE and the Project will be designed to minimise adverse effects on these features (Policy 21.4.1).

The Project will be designed to ensure that construction noise and vibration effects will, in general, be avoided, remedied or mitigated due to the separation distances of most dwellings from the

alignment and proposed construction activities. Where construction activities may result in adverse effects on sensitive receptors, in particular during night-time works, appropriate measures will be implemented to mitigate potential effects as described in the Construction Noise Assessment Report and Vibration Assessment Report. Such measures will also be detailed in the CNVMP.

The operation of the Project will, in general, comply with the relevant criteria of NZS 6806: 2010. The Project will potentially result in adverse noise effects on dwellings within close proximity to the new motorway, in areas with low ambient noise levels currently not affected by noise from the existing SH1. Effects will be managed and mitigated to an appropriate standard using the BPO approach as detailed in the Operational Noise Assessment Report. This approach is consistent with Policy 21.4.2.

The design of the Project will allow for the construction of the new route to be delivered as an off-line solution. As such, impacts on the existing section of the SH1 network between Pūhoi and Warkworth will be limited to the construction and implementation of the tie-in with the existing network at the Johnstone's Hill Tunnels to the south of the alignment and the tie-in to the north of Warkworth.

During construction, access and egress to construction areas will be from the local road network along the alignment. Some disruption to the function of the local road network and the existing SH1 will be unavoidable during construction. A CTMP will be implemented to minimise the effects of this disruption on traffic flow and access in the vicinity of the works.

With respect to effects on the local road network from the operation of the Project, all the local roads traversed will be maintained and will be grade separated, crossing either over or under the new motorway. Additional local roads will be provided to the west of the alignment near Mahurangi Road West and south of Wyllie Road to enable access to property in these areas that will otherwise have their current access severed.

Overall, the Project will ensure resilience of the State highway network and enable the safe, efficient and convenient movement of people and goods and I consider the Project is consistent with Policy 21.4.3.

I consider the Project will be consistent with the Transportation and Access Objectives and Policies of the ACDP.

Overall and outlined in the discussion above, I conclude that the Project is consistent with the relevant Objectives and Policies of the ACDP.