

**IN THE ENVIRONMENT COURT OF NEW ZEALAND
WELLINGTON REGISTRY**

**I MUA I TE KŌTI TAIAO O AOTEAROA
TE WHANGANUI-Ā-TARA ROHE**

ENV-2020-WLG-00014

UNDER the Resource Management Act 1991

IN THE MATTER OF a notice of motion under section 87G of the Act
seeking the grant of resource consents to Waka
Kotahi NZ Transport Agency for Te Ahu a Turanga:
Manawatū-Tararua Highway

**STATEMENT OF EVIDENCE OF DAMIEN RYAN MCGAHAN ON BEHALF OF
WAKA KOTAHI NZ TRANSPORT AGENCY**

PLANNING – STATUTORY ASSESSMENT

12 June 2020

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INTRODUCTION

1. My name is **Damien Ryan McGahan**.
2. I am the Planning Manager for Te Ahu a Turanga Alliance ("**Alliance**"), the alliance which has been engaged by Waka Kotahi NZ Transport Agency ("**Transport Agency**") to design and deliver Te Ahu a Turanga: Manawatū-Tararua Highway Project ("**Project**").

Qualifications and experience

3. I hold a Bachelor of Social Sciences (Geography) (University of Waikato, 1995) and a Masters of Resource and Environmental Planning (Massey University, 1997). I am a full member of the New Zealand Planning Institute.
4. I am a Principal with Aurecon New Zealand Limited ("**Aurecon**"), a multi-disciplinary consultancy firm which provides engineering, management and specialist technical services for public and private sector clients. I am also the Regional Service Line Leader for Environment & Planning for Aurecon in New Zealand. Prior to 2012 I held the position of Associate – Planning at Beca Group. In total, I have over 20 years' experience as a planner.
5. My experience spans statutory, policy and strategic planning, structure/master planning, the management of consultation projects, and consenting for major infrastructure, industrial and recreation developments. I have extensive experience in the area of statutory land use and infrastructure planning, and this has included preparing applications for resource consents, notices of requirements and plan changes.
6. I have provided technical direction on a number of projects during my tenure at Aurecon and in former roles, particularly focusing on major transport infrastructure projects. This has included carrying out the following roles and work:
 - (a) Resource Consents Lead for the Northern Corridor Improvements Project, a project of national significance which was lodged with the Environmental Protection Authority and considered by a Board of Inquiry. This involved obtaining regional resource consents, alterations to and new designations, along with other statutory approvals required for the construction of the project (for the Transport Agency, 2016 – 2018);
 - (b) Resource Management and Environmental Planning Manager for the City Rail Link Project, which involved obtaining staged regional

resource consents, alterations to the CRL designation and Britomart Transport Centre designation, along with other statutory approvals required for the construction of the project (for Auckland Transport, 2013 – 2017);

- (c) Planning Manager for the Northland Bridges programme, which involved obtaining resource consents and new designations for the Matakoho Bridge component and resource consents for the Taipa Bridge component (for the Transport Agency, 2015 – 2017);
 - (d) strategic planning advice and assessment for the Southern Corridor Improvements project (for the Transport Agency, 2014 – 2015);
 - (e) leading the planning and environmental work stream for the Western Ring Route SH16 St Lukes Interchange project (for the Transport Agency, 2013-2015); and
 - (f) managing the required planning approvals as a result of updated design and construction methodologies for the Victoria Park Tunnel (for the Victoria Park Tunnel Alliance, 2009 – 2011).
7. Each of the above projects has required the management and coordination of environmental assessment, planning assessment and consultation on the likely effects of transport infrastructure projects.
8. My evidence provides a statutory planning assessment of the resource consent application lodged by the Transport Agency with Manawātū-Whanganui Regional Council ("**Horizons**") on 11 March 2020 for the Project.

Code of conduct

9. I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court Practice Note 2014. This evidence has been prepared in compliance with that Code. In particular, unless I state otherwise, this evidence is within my area of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.
10. I also note that my employer, Aurecon, is a participant in the Alliance. I have explained to Aurecon and the Alliance my obligations under the Code in giving this evidence, including the overriding duty to assist the Court impartially on matters within my area of expertise.

Background and role

11. I have been working on the Project since February 2019. My role has been to:
 - (a) lead and manage the planning and consenting components for the Project during the 'RFP Tender Phase' (February 2019 to May 2019); and
 - (b) manage the team that drafted the Assessment of Environmental Effects ("**AEE**") which accompanied the application for resource consents for the Project.
12. I have read the sections of the application and technical reports relevant to my assessment and have read in draft the statements of evidence of all the applicant's witnesses.
13. I am also familiar with the designations in place for the Project and the designation conditions.
14. In preparing the AEE and my evidence I have:
 - (a) visited the Project site (corridor and general surrounding area) on several occasions throughout 2019, the start of 2020 and most recently in May and June 2020;
 - (b) walked large sections of the corridor / proposed alignment with members of the Project's construction team¹ and discussed and planned construction techniques and methodologies;
 - (c) referred to the section 92 request by Horizons for further information, and the Transport Agency's response;
 - (d) been involved in a series of ongoing meetings, workshops and hui on a range of matters with submitters and other stakeholders, including Horizons; the Director-General of Conservation; Queen Elizabeth the Second National Trust ("**QEII Trust**"); Te Āpiti Governance Group; Transpower NZ Limited ("**Transpower**"); Meridian Energy Limited ("**Meridian**"); Maritime NZ Limited; and various landowners and with Tararua District Council, Manawatū District Council and Palmerston North City Council;
 - (e) attended a number of Alliance-based design and ecology workshops and hui throughout late 2019 and early 2020 (including with Iwi

¹ Tony Adams, Construction Manager, Hardus Pieters, Enabling and Civil Construction Manager, and Clare Miller, Earthworks Manager.

Partners), Community Liaison Group meetings in October, November 2019 and April 2020 (the latter being an online hui) and one public information session on 11 March 2020 in Ashhurst; and

- (f) reviewed the condition set proposed by Horizons and been involved in updating the conditions proposed by the Transport Agency in light of Horizons' feedback (as discussed by **Ainsley McLeod**, who presents that updated set of conditions).

Purpose and scope of evidence

- 15. The purpose of my evidence is to give an assessment of the Project and associated resource consent application using the considerations contained within relevant sections of the Resource Management Act 1991 ("**RMA**").
- 16. Volume I of the AEE contains a detailed planning evaluation. In the interest of brevity, and where indicated more specifically in my evidence that follows, I rely on the information and assessment included in the AEE documentation, as supplemented by any updates to that information included in the suite of evidence filed on behalf of the Transport Agency.
- 17. I understand that the relevant sections of the RMA under which the application is required to be assessed are section 104 (for resource consent applications generally, and subject to the provisions of Part 2); section 104D (for applications for non-complying activities); and sections 105 and 107 (for applications for discharge permits).
- 18. My evidence therefore addresses the following matters:
 - (a) a brief introduction to the application for resource consents for the Project, including:
 - (i) a general description of the Project;
 - (ii) the designations already in place for the Project;
 - (iii) a description of the resource consents being applied for;
 - (iv) the bundling together of the application for resource consents as for a non-complying activity;
 - (v) a description of how this application is for the 'main works' of the Project, whilst authorisation for other 'enabling works' has been or is being sought separately through other resource consent applications; and

- (vi) the lapse date and consent duration sought for the resource consents;
 - (b) the effects on the environment of allowing the activities for which resource consents have been sought, including the proposed measures to mitigate, offset, or compensate for adverse effects (section 104(1)(a) and (ab)), noting that the evidence of **Ms McLeod** addresses the conditions proposed to apply to the resource consents;
 - (c) matters relevant to discharge permits (sections 105 and 107) including the nature of the discharges; the sensitivity of the receiving environment; the reasons for the discharges; any possible alternative methods; and the likely effects of the discharges;
 - (d) consideration of the Project against RMA policy statements, plans, national environmental standards and other regulations (section 104(1)(b));
 - (e) consideration of "*any other matters*" relevant to the Project, which includes the fit of this Project with other statutory plans, including under the Land Transport Management Act 2003 (section 104(1)(c));
 - (f) the "*gateway test*" for non-complying activities under section 104D;
 - (g) relevant provisions of Part 2 of the RMA (section 104(1)).
 - (h) submissions (section 104(1)); and
 - (i) the section 87F report.
19. My evidence should be read together with that of **Ms McLeod**, which explains the proposed conditions of consent.

EXECUTIVE SUMMARY

20. The purpose of this evidence is to provide an overview of the resource consents required to deliver the Project, assess those effects of the Project that are relevant to the activities for which resource consent is sought and provide an assessment of the relevant statutory matters. **Ms McLeod** is also appearing as an expert planning witness and she considers matters relevant to the proposed approach to manage actual and potential adverse effects of the Project, including proposed consent conditions. My assessment is based on the technical assessments provided with the application, the evidence of the other witnesses for the Transport Agency and my own planning analysis.

21. When bundled together, the overall activity status for the resource consents applied for is a non-complying activity under the provisions of the Horizons' One Plan. This is due to part of the Project activities being undertaken in a 'rare habitat' or 'threatened habitat' under Schedule F of the One Plan. There are five resource consents sought for the construction phase and eight sought for the operation of the Project.
22. The Project, for which designations were confirmed in 27 March this year, is considered to reinstate a key strategic transport link, which will provide for the needs of the local communities as well as provide an important regional and national link. Among various positive effects, the Project will improve resilience, increase capacity within the wider network, and improve safety and efficiency for general traffic and freight, including public transport and emergency services.
23. The approach to Project development has been underpinned by the purpose and principles of the RMA, in particular by maintaining focus on design development and refinement in order to avoid and reduce adverse effects. Where effects cannot be avoided through Project design and refinement, proposed mitigation measures have been implemented. I consider that construction effects (which are largely temporary in nature) and most effects associated with Project operation are able to be mitigated appropriately through the proposed measures.
24. However, while the design of the Project has sought to avoid and mitigate effects as far as practicable, a Project of this scale cannot occur without adverse effects on the environment. Further, due to the natural environment of the Project location, some effects specifically associated with terrestrial and freshwater ecology, are unable to be avoided or mitigated completely, and therefore need to be offset and compensated for.
25. Through the proposed measures to avoid, mitigate, offset and compensate I consider the Project to specifically respond to the direction of the One Plan as it relates to the provision of regionally and nationally significant infrastructure. Therefore, my assessment has concluded that this approach is consistent with the relevant provisions of the One Plan.
26. Due to the nature and scale of the Project, the level of effects cannot meet the requirements of section 104D(1)(a) of the RMA. However, I have assessed the Project against the relevant provisions of the planning instruments. Based on this assessment, I am of the opinion that the Project is

not contrary to these documents and, as such, the Project can pass the second gateway test of section 104D(1)(b).

27. Due to the measures proposed to avoid, mitigate, offset and compensate for adverse effects, and my experience with major construction projects, I am confident that the proposed resource consent conditions, together with the proposed management plans detailed in the evidence of **Ms McLeod** and the other relevant witnesses, will appropriately manage effects on the environment arising from the Project.
28. On that basis, I consider that the Project enables people and communities to provide for their social, economic and cultural wellbeing and their health and safety as well as not compromising the potential of natural and physical resources to meet the needs of future generations. Therefore, in my opinion I conclude that the Project will achieve the sustainable management purpose of the RMA and is consistent with Part 2 of the RMA.

INTRODUCTION TO THE PROJECT APPLICATION

Overview of the Project

29. The Project involves the detailed design, consenting and construction, operation, use, maintenance and improvement of approximately 11.5km of state highway connecting Ashhurst and Woodville via a route over the Ruahine Range. The purpose of the Project is to replace the indefinitely closed section of State Highway 3 ("**SH3**") through the Manawatū Gorge ("**Gorge Route**"). A comprehensive description of the Project is included in Section 3 of the AEE in Volume I and the Project is also described in the Design and Construction Report in Volume II, and the drawings and plans in Volume III of the application. In addition, the evidence of:
 - (a) **Lonnie Dalzell** describes the overarching purpose of the Project as the re-establishment of a key strategic transport and freight link that supports the needs of people in, and the economy of, the region. Manawatū and Tararua, and beyond, and the economies of central New Zealand; as well as the programme for, and approach to, delivering the Project;
 - (b) **Tim Watterson** describes key design elements of the Project; and
 - (c) **Tony Adams** describes the proposed construction approach and methodology for the Project.

Designations for the Project

30. The Transport Agency gave notices of requirement for designations ("**NoRs**") for the Project to the relevant territorial authorities (Tararua District Council, Manawatū District Council and Palmerston North City Council) in November 2018. The NoRs were confirmed by the Transport Agency in June 2019 and appeals against the NoRs have now been resolved, with the Environment Court confirming the NoRs by way of consent order on 27 March 2020. In its decision, the Environment Court also agreed with the Transport Agency's request to modify the NoR within the Tararua District to provide for a more northerly alignment of the Project, which had been developed by the Alliance and which is described in more detail below ("**Northern Alignment**").

Resource consents applied for

31. This application is for all resource consents required for the Project's main works under the Horizons' One Plan. This includes the following five resource consents, which are for the construction phase of the Project:
- (a) A land use consent is sought pursuant to Rule 13-6 of the One Plan and sections 9(2), 14 and 15 of the RMA as a restricted discretionary activity for land disturbance and vegetation clearance (and associated diversion of water and discharge of sediment) within the Hill Country Erosion Management Area, but outside of a rare, at-risk or threatened habitat and not within 10m of a watercourse.
 - (b) A land use consent is sought pursuant to Rule 13-7 of the One Plan and sections 9(2), 14 and 15 of the RMA as a discretionary activity for land disturbance and vegetation clearance (and associated diversion of water and discharge of sediment) within 10m of a watercourse, but outside of a rare, at-risk or threatened habitat.
 - (c) A land use consent is sought pursuant to Rule 13-9 of the One Plan and section 9(2) of the RMA as a non-complying activity for earthworks and vegetation clearance within a rare habitat or threatened habitat.
 - (d) A discharge permit is sought pursuant to Rule 13-9 of the One Plan and section 15 of the RMA as a non-complying activity for discharges of sediment during construction to a rare habitat or threatened habitat.
 - (e) A water permit is sought pursuant Rule 16-9 of the One Plan and section 14(2) of the RMA as a discretionary activity for the taking of water (dewatering).

32. The following eight resource consents are sought for the operational phase of the Project:
- (a) A land use consent is sought pursuant to Rule 13-9 of the One Plan and section 13 of the RMA as a non-complying activity for activities permanent existence of in the bed of any lake or river, within a rare habitat or threatened habitat.
 - (b) A water permit is sought pursuant to Rule 13-9 of the One Plan and section 14 of the RMA as a non-complying activity for the taking and diversion of water (diversion and drainage) within a rare habitat or threatened habitat.
 - (c) A discharge permit is sought pursuant to Rule 13-9 of the One Plan as a non-complying activity to section 15 of the RMA for discharges of stormwater (once operational from Wetland 03) to a rare habitat or threatened habitat.
 - (d) A discharge permit is sought pursuant Rule 14-30 of the One Plan and section 15 of the RMA as a discretionary activity for discharges of fill.
 - (e) A water permit is sought pursuant to Rule 16-13 of the One Plan and sections 14 of the RMA as a discretionary activity for the diversion of streams.
 - (f) A land use consent is sought pursuant to Rule 17-3 of the One Plan and section 13 of the RMA as a discretionary activity for the placement of a bridge and associated disturbance, diversion, deposition and discharges, over the Manawatū River which is identified as a Schedule B – Site of Significance – Cultural (this relates to the construction of the Manawatū River Bridge (BR02)).
 - (g) A land use consent is sought pursuant to Rule 17-15 of the One Plan and section 13 of the RMA as a discretionary activity for the placement of a bridge and associated disturbance, diversion, deposition and discharges, over the Mangamanaia Stream which is identified as Schedule B – Value of Flood Control and Drainage (this relates to the Mangamanaia Stream Bridge (BR07)).
 - (h) A land use consent is sought pursuant to Rule 17-23 of the One Plan and section 13 of the RMA as a discretionary activity for the proposed culverts and associated disturbance, diversion, deposition and discharges, within watercourses which do not comply with Rule 17-10.

33. The lapse date for all resource consents is proposed to be 10 years from commencement. In terms of consent duration, for the five resource consents required for the construction of the Project, a consent duration of 10 years is sought. For the eight resource consents required for the operation of the Project, the maximum consent duration of 35 years is sought (pursuant to section 123(c) and (d) of the RMA).
34. Given the extent to which the activities for which resource consents are required are interrelated and overlapping, they cannot realistically be considered separately. Therefore, it is proposed to bundle the resource consent application. With regard to the decision of *Newbury Holdings Ltd v Auckland Council*² the most restrictive activity status is applied to the entire proposal. As one of the consents sought is for a non-complying activity, the overall activity status for the resource consents sought when bundled is non-complying.

Other approvals

35. A number of other statutory approvals are required to implement the Project as follows:
- (a) resource consents for certain enabling works (described further below);
 - (b) other statutory approvals including:
 - (i) requiring authority consents under section 177 of the RMA from KiwiRail Holdings Limited ("KiwiRail") and Tararua District Council for works that may 'prevent or hinder' the rail corridor (where the designation crosses the rail corridor designation on the northern bank of the Manawatū River) and closed Woodville landfill respectively;
 - (ii) an archaeological authority sought under the Heritage New Zealand Pouhere Taonga Act 2014;3 and
 - (iii) authorisations given by the Director-General of Conservation under section 53 of the Wildlife Act 1953 in relation to protected wildlife.

Enabling works

36. In addition to the designations and the 'main works' resource consents, the Transport Agency is separately seeking RMA authorisations for a number of

² *Newbury Holdings Limited v Auckland Council* [2013] NZHC 1172.

³ I understand that the application documentation for the archaeological authority is currently being prepared.

'enabling works'. This includes a number of regional resource consents for enabling works, and district land use consents where these may be required for enabling works (e.g. for activities outside the proposed designations, noting that the proposed designations provide land use authorisation for enabling works that are within the boundaries of the proposed designations).

37. These enabling works will be carried out in advance of the 'main works' to enable the main construction activity to occur and include investigation activities needed to complete the detailed design of the Project. The intention is that some elements of the enabling works will (subject to securing the necessary resource consents) commence in the second half of 2020.
38. The enabling works are shown in Drawing TAT-3-DG-R-0010 (**Volume III**); Section 1.8.3 of the AEE provides a description of each of the enabling works and their status in respect of necessary resource consents. Some of these have advanced since the AEE was prepared, and are therefore summarised below:
 - (a) Western Access Track (Stage 1) - Consents for these works were granted by Horizons on 13 November 2019 (Consent reference: APP-2019202470.00); the works also include permitted activities pursuant to the Manawatū District Plan ("**MDP**").
 - (b) Geotechnical Investigations - Consents were granted by Horizons on 27 February 2020 (Consent reference: APP-2019202606.00). This activity is permitted by the MDP, Tararua District Plan ("**TDP**") and Palmerston North City District Plan ("**PNCDP**").
 - (c) Western Access Track (Stage 2) – Stage 2 of these works relates to the upgrade of an existing vehicles crossing to provide a left hand turn off Saddle Road and to provide a 'loop' arrangement in conjunction with an extension of the Western Access track (the consented part which is described in (a) above) to provide access to the Eco Bridge (BR 03). At the time of writing, this application is being processed by the relevant territorial authorities and Horizons respectively.
 - (d) Water take from Manawatū River and creation of reservoirs for water storage: The application is in preparation.
 - (e) Eastern Access (off Hope Road): The application is in preparation.
 - (f) Cook Road Access minor widening of the existing access track: The application is in preparation.

- (g) Pine tree clearance: This is a permitted activity under the National Environmental Standard for Plantation Forestry 2017.
 - (h) Te Āpiti Wind Farm cable relocations and access tracks: Scoping is still underway for this work.
 - (i) Site Office and Compound: The application is in preparation.
 - (j) Access to BR02 staging area: The application is in preparation.
 - (k) Temporary / replacement Western Car Park: This is needed for the duration of construction to maintain access to the Manawatū Gorge. The application is in preparation.
39. I note that the section 87F report records the enabling works consents that have been granted (for the western access track and geotechnical investigations) and includes those consents in Appendix 7.

EFFECTS ON THE ENVIRONMENT

Existing environment

40. A comprehensive description of the existing environment is included in Section 2 of the AEE (in Volume I), the technical assessments in Volume IV and V, and the Cultural Impact Assessments in Volume VI, but I provide a brief summary below.
41. While there are designations in place for the Project, the AEE does not consider those to be part of the existing environment, as many works enabled by the designations cannot be implemented without associated regional resource consents.
42. In the existing environment the Gorge Route is closed and the main routes for east-west travel are along Saddle Road and Pahiātua Track. As outlined in **David Dunlop's** evidence, there are fundamental operational issues associated with both Saddle Road and the Pahiātua Track which impact on safety and efficiency of vehicle movements (particularly trucks). In addition, the crash rate and severity has increased significantly since the closure of the Gorge Route, which is a significant concern and emphasises the importance of delivering a safe outcome as soon as possible.
43. The Project is located entirely within the Manawatū-Whanganui Region, and traverses and connects the Palmerston North City, Manawatū District and Tararua District territorial authority jurisdictions. The Project reinstates the principal east-west link between the Manawatū and Hawkes Bay regions.

44. The Ruahine Range separates the townships of Ashhurst and Woodville, which are located on a terrace and plains (respectively) at either end of the Project.
45. At the western boundary of the Project is the existing SH3 bridge across the Manawatū River. The Project will join SH3/SH57 via a new roundabout ("**Western Roundabout**") and then cross the Manawatū River on a new bridge (BR02) between Manawatū Gorge Scenic Reserve and Parahaki Island, a significant cultural and historical site at the confluence of the Manawatū and Pohangina Rivers.
46. The Manawatū Gorge Scenic Reserve is approximately 1000ha in size, extends on both sides of the Gorge and contains an extensive area of native forest. The Reserve provides a distinctive contrast to the surrounding farmland and a contextual southern 'boundary' to the Project.
47. The Project crosses the Ruahine Range across land that is mainly hill country farmland, but also includes forest areas subject to covenants in favour of the Queen Elizabeth the Second National Trust ("**QEII covenants**"). The Project will impact two of the areas subject to QEII covenants (and avoid four others), but the area to be affected is less than anticipated when the Transport Agency gave the NoRs for the Project, due to the modification to provide for the Northern Alignment. A number of wetland systems have also been identified in the Project area, most of which are highly modified.
48. The Project then traverses agricultural land that contains Meridian's Te Āpiti Wind Farm; wind turbines are located on both sides of the Project, connected by access tracks.
49. Towards the eastern end of that area, the Project crosses the Ballantrae Farm Research Station owned by AgResearch Limited ("**Ballantrae Farm**"), near the eastern end of Saddle Road. The Project then descends the steep hills at the eastern end of the Ruahine Range, crosses the Mangamanaia Stream at the foot of the Range, and traverses the agricultural plains to the west of Woodville before rejoining SH3 via another roundabout ("**Eastern Roundabout**").
50. In addition to Te Āpiti Wind Farm, network utilities and infrastructure near the Project area include KiwiRail's Palmerston North to Gisborne railway, First Gas' high pressure gas pipeline, Tararua District Council's closed Woodville Landfill (located off Saddle and Morgan Roads), Transpower's Mangamaire – Woodville A 110kV transmission line, and a number of other utilities such as

local electricity distribution lines, water supply pipelines, stock water and telecommunications cables.

51. Much of the area, including the corridor through which the Project traverses, has been modified by human activity over hundreds of years, resulting in variable land cover along the route. The Project area generally consists of rural pasture, with pockets of native forest and some exotic vegetation.
52. The Project alignment is located within the Manawatū River catchment and will potentially affect the Manawatū River and nine of its sub-catchments. The Project affects a maximum of only about 0.6% of the total area of the Manawatū River catchment, or 0.3% if the upper Mangamanaia catchment is excluded. Generally, the headwaters of the sub-catchments have been modified and degraded by agricultural land use. Areas of higher quality stream length are typically present within the areas subject to QEII covenants and the Manawatū Gorge Scenic Reserve. Only one of the sub-catchments (catchment 9) has been assessed as having an overall high level of existing natural character.
53. Habitats have been identified within the Project area that could support native lizards, invertebrate and avifauna species (including some 'threatened' and 'at-risk' species), and it cannot be ruled out that bats (including the long-tailed bat) may occasionally traverse the Project area.
54. There is good air quality within the Project area. Due to the elevated topography and exposed nature of much of the Project area it is susceptible to sustained periods of high wind. Low background levels of dust and fine particulate matter may be present, however there are no anthropogenic emission sources within the Project area.

Positive effects

55. Once operational the Project will give rise to many significant benefits for the people of Manawatū and Tararua, and people travelling between and through the districts. Many of the benefits relate to the fundamental improvement to the state highway network that the Project will deliver, as well as a greater level of resilience of the route, and opportunities for recreational and active transport users and associated social benefits.
56. **Mr Dunlop's** evidence describes the significant positive effect on the transport network as a result of the Project. The Project will improve resilience, increase capacity within the wider network, and improve safety

and efficiency for general traffic and freight, including public transport and emergency services.

57. Travel times will significantly improve – the new route will see a significant reduction in travel times for key trips between SH3 West, Ashhurst, Palmerston North, SH57 South, SH2 North and South, and Woodville.
58. As explained by **Mr Dunlop** and **Mr Dalzell**, the Project will also provide a greater level of resilience to the state highway network through improved route resilience, including in the event of crashes, slips and natural hazards. There is also an increase in motorists' safety due to improved design responses to seismic activity, as well as ensuring post-rupture repairs can be easily and economically undertaken.
59. As **Mr Watterson** sets out in his evidence, the geotechnical design of the Project is in accordance with the required standards specified in the Transport Agency's Bridge Manual to minimise as far as practicable any potential adverse effects on life, infrastructure and property from natural hazards, including land instability and earthquake induced effects.
60. In addition, there are a number of social, economic and environmental positive effects associated with the implementation of the Project.
61. As noted in **Mr Dalzell's** evidence, there are a number of positive social, economic and environmental effects associated with the implementation of the Project. At a regional and local level this includes increased business activity and the provision of direct, indirect and induced employment opportunities during the construction period. He also highlights the increased importance of this Project to help reinvigorate New Zealand's economy due to the economic impacts of the Covid-19 situation.
62. Resulting positive social effects include:
 - (a) Road noise and associated disturbance for residents in Ashhurst and around the outskirts of Woodville will reduce.
 - (b) The diversion of heavy traffic out of Ashhurst will result in the reinstatement of the community's way of life, connectivity and business activity as it was prior to the closure of the Gorge Route.
 - (c) Traffic through Woodville will increase, resulting in increased business activity.
63. Through the provision of the viewing areas, walking tracks and the Shared Use Path, there are social and economic benefits including:

- (a) Greater travel choice as well as increased connectivity for active mode users. The Project will support health benefits by encouraging active modes of transport, both recreationally and for commuters.
 - (b) Tourism, leisure and recreational economies in the region by providing a Shared Use Path between Ashhurst and Woodville that connects with and expands the existing walking and cycling networks.
64. The positive environmental effects of the Project include:
- (a) Net biodiversity gain will be achieved through habitat restoration, riparian planting, stream retirement, stock exclusion fencing, maintenance and weed and pest control, which will also improve water quality and habitat connectivity, resulting in positive ecological and biodiversity enhancements within the area.
 - (b) Providing stormwater treatment on the new highway (in comparison to the currently untreated Saddle Road) will improve water quality in some streams and contribute to the overall improvement of the Manawatū River and Pohangina River.
 - (c) The Mangamanaia Stream Bridge (BR07) is anticipated to reduce the net effect of the existing flood hazard of the Mangamanaia floodplain.
65. I note that the section 87F report concurs with the assessment of positive effects of the Project.

Approach to avoiding and reducing adverse effects (design development and refinement)

66. The approach taken to the development of the Project and the management of effects has been underpinned by the purpose and principles of the RMA. The nature and scale of the Project is such that it will inevitably result in some adverse effects on the environment during construction and operation, as would any major roading proposal. This is reflective of the tensions inherent in the sustainable management purpose of the RMA which involves managing the use, development and protection of resources in a way which enables people and communities to provide for their well-being and health and safety, while also sustaining the potential of resources, safeguarding the life-supporting capacity of resources and avoiding, remedying or mitigating adverse effects.

67. The development of the Project's design has involved ongoing rigorous and robust consideration to reducing (and where possible avoiding) adverse effects, as explained by **Mr Watterson** in his evidence.
68. Sections 1.4.2 to 1.4.5 of the AEE summarise the option selection and design refinement processes adopted for the Project. A key aspect of these processes has been the consistent consideration given to environmental, social and cultural aspects to ensure actual and potential adverse effects could be avoided or reduced as much as possible while ensuring Project objectives could still be met. I do not specifically comment on the Detailed Business Case options consideration process or on the development of the NoRs Indicative Design, other than to note that a robust process has been used to select the preferred option and develop the alignment design.
69. As discussed in the evidence **Mr Watterson**, ongoing consideration of the Project alignment and features within it has continued to be a central focus during the development of the Project design (both the Alliance's 'Preliminary Concept Design' and the 'Consenting Design'). In particular, the Northern Alignment modification was introduced in order to reduce actual and potential adverse effects on areas of indigenous vegetation and to reduce impacts on private property and on other infrastructure and physical resources. Other improvements to design include the design development and selection of the Manawatū River Bridge (BR02), Eco Bridge (BR03), and the Mangamanaia Stream Bridge (BR07), the site selection process of spoil sites and changes to the Eastern Roundabout. I address each of these features below with reference to the evidence of others where appropriate.

Northern Alignment

70. As described in **Mr Watterson's** evidence, the Preliminary Concept Design ("**PCD**") included an altered alignment to that provided for in the NoRs originally given by the Transport Agency, being the Northern Alignment. As noted above, the Environment Court has now confirmed the NoRs for the Project with the Northern Alignment modification.
71. The benefits achieved through the Northern Alignment include:
- (a) reduced impact and footprint on the areas subject to QEII covenants through a reduction in the area of disturbance and the degree of severance;

- (b) reduced impact on a rare seepage wetland and the avoidance of 0.05 ha of nationally significant swamp maire, through extending the length of the Eco Bridge (BR03) structure;
- (c) reduced effects on Te Āpiti Wind Farm by eliminating the need to remove wind turbines, reducing the extent of works in the vicinity of turbines and enabling uninterrupted access to the wind farm during construction;
- (d) reduced effects on the Ballantrae Farm through an amended alignment and steepened cut slopes lessening the area impacted;
- (e) optimised earthworks volumes and material re-use strategies;
- (f) a resilient geotechnical solution, provided through the use of benched cut slopes; and
- (g) reduced effects on significant habitats as a result of design refinements, from those assumed in the NoRs documentation (which were based on a broad corridor approach).

Manawatū River Bridge (BR02)

- 72. The Manawatū River, including in the location of the proposed Manawatū River Bridge (BR02), is identified as having cultural, ecological and natural character values, and the bridge has the potential to have significant adverse effects on these values.
- 73. The process to consider alternative locations of the Manawatū River Bridge (BR02) was broadly determined as part of earlier alternatives assessments as set out in the NoRs consideration of alternatives.⁴ This included the assessment of six sub-options and concluded the bridge over the Manawatū River at this proposed location was preferred because of its connection into the existing roading network at Ashhurst and its avoidance of Parahaki Island.
- 74. As part of the preparation of this resource consent application, design options for the bridge were considered. The length of a bridge span and the form and material of the bridge are directly related to the number of piers required to support the structure (which in turn can impact on the cultural values, including mauri, and natural character of the river in this location).

⁴ Notice of Requirement Assessment of Environmental Effects, Section 15.5 Ashhurst Sub-Options Assessment (p. 74) and Statement of Evidence Scott Wickman (Alternatives), para 62-66 & Appendix E Ashhurst Sub Option Assessment.

75. Four options were considered through combined workshops with Project Iwi Partners and various technical experts (in design including structural design, construction, ecology, landscape, and urban design), each with differing arrangements, construction and permanent footprints. These four options are explained in detail in Section 7.4.1 of the AEE. All options sought to avoid physical encroachment into the legal property boundary of Parahaki Island and the Manawatū Gorge Scenic Reserve.
76. A 4-span variable depth concrete balanced cantilever structure, with a single central pier in the river (Option 2), has been adopted for the Manawatū River crossing on the basis that it balances minimising effects on the environment with constructability and cost (with the non-pier option being approximately 30% more expensive than the preferred option).
77. The Cultural Impact Assessment ("**CIA**") prepared for the Project by Rangitāne o Manawatū (in Volume VI) confirms that while their preferred position is a bridge design with no piers in the Manawatū River, the iwi now supports the preferred option (being Option 2). The cultural importance of the Manawatū River is also confirmed in the CIAs prepared by Rangitāne o Tamaki nui ā Rua, Ngāti Kahungunu ki Tāmaki nui-a-Rua, Ngāti Raukawa ki te Tonga⁵ and Te Āpiti Ahu Whenua Trust (also in Volume VI) with the health and mauri of the river being key cultural impacts that they wish to see addressed.
78. Discussions with the Iwi Partners and Te Āpiti Ahu Whenua trustees are ongoing regarding the design process for the Manawatū River Bridge (BR02). The proposed conditions of consent provide for a Tangata Whenua Values Management and Monitoring Plan ("**TWVMMP**") which will ensure the ongoing involvement of the Iwi Partners in the refinement of design and delivery of the Project.

Eco Bridge (BR03)

79. During the PCD stage, particular effort was made to reduce the impact and footprint of the Project on the two areas subject to QEII covenants and streams 6 and 7 as well as to reduce the impact on the ecosystem types. In addition to the Northern Alignment modification, the most fundamental change to the original design upon which the NoRs were based is the shift to

⁵ This CIA is stated to be on behalf of the iwi and hapū of Ngati Raukawa ki te Tonga, which includes Ngāti Kauwhata.

an extended bridge structure, known as the 'Eco Bridge' (BR03) to minimise the effects on this highly valued and sensitive ecological area.

80. This is described in detail in **Mr Watterson's** evidence, however I note that this change:
- (a) avoided culverting 308 m of high value stream in Catchment 7;
 - (b) as noted above, avoided clearance of 0.05 ha of 'Threatened – Nationally Critical' swamp maire and old growth mataī trees, which were confirmed as being important to iwi; and
 - (c) as noted above, avoided and reduced effects on significant habitats, specifically a 100% reduction in the impact on old-growth alluvial forest, indigenous dominated moderate value seepage wetlands and exotic wetlands in the area, while also reducing impacts on secondary broadleaved forests and scrublands by 60% and reducing impacts on kānuka forests by 59% due to the use of a retaining wall.

Mangamanaia Stream Bridge (BR07)

81. The original NoRs design for the Mangamanaia Stream Bridge (BR07) provided for a 3-span bridge approximately 80m long. This bridge design was considered excessively long for the stream and farm access tracks required to pass beneath it.
82. As outlined in the Design and Construction Report in Volume II of the application ("**DCR**"), the selected design is a 36 m single span bridge that is considerably shorter than the original NoRs design based on a more detailed understanding of the flow and flooding levels of the stream. This design is preferred because there is no unnecessary permanent structure in the waterway, which carries the following advantages:
- (a) There are whole-of-life maintenance benefits as there is no pier in the waterway requiring maintenance and debris clearing.
 - (b) A single span bridge is the most resilient form aside from realigning the stream; it is more seismically resilient than two spans.
 - (c) The single span design is less expensive to construct than the longer multi-span structure with piles as provided for in the original NoRs design.

Spoil site selection

83. As stated in **Mr Adams'** evidence, the cut to fill balances of the Project results in an excess of 1.8 million m³ of fill (including a bulking factor). To allow for some variability and contingency for the Project, a target disposal volume of 2 million m³ has been provided for, which represents 15% additional volume.
84. Indicative spoil sites (eleven in total) for the Project were annotated on the Indicative Alignment Plans for the NoRs⁶, reflecting the design status of the proposed alignment during the NoRs process. As part of the PCD development, and the consenting process, these indicative spoil sites were reviewed. The identification, analysis and selection of spoil sites has been the subject of an assessment process which is explained in detail within the Spoil Sites Selection Memorandum provided at Appendix C of the DCR (Volume II of the application). Using an assessment framework, the technical specialists provided commentary on the location suitability or potential issues at each of the sites.
85. The Project team also met with the Project's Iwi Partners over a series of workshops to review the spoil site selection and assessment process and consider the cultural values for each of the proposed spoil site locations.
86. In response to the concerns raised by representatives of the Iwi Partners and the importance of a spoil site to support the cut #13 works, the Project team undertook further assessment in respect of spoil sites #8 and #25. The DCR notes that the provision of a spoil site in the vicinity of cut #13 is critical to the Project. A number of spoil site locations were considered in this area, including spoil site #8 and spoil site #25. Detail on this optioneering exercise is addressed in **Mr Watterson's** evidence and presented at Section 3.2 of the Spoil Sites Selection Memorandum appended to the DCR (in Volume II).
87. At the conclusion of this spoil site selection process, 15 spoil sites were proposed, which had been identified as avoiding significant adverse environmental effects on ecological, natural character and cultural effects. The locations of these sites are shown on the Spoil Disposal Areas Plans (Drawings TAT-3-DG-C-3600 to TAT-3-DG-C-3645) and supported by a Spoil Sites - Typical Cross Section (TAT-3-DG-C-3650) contained in the Drawing Set at Volume III.

⁶ Notice of Requirement, Indicative Alignment Plans, Drawings 51-38113 A-01 to A-10

88. I note the requirement under proposed condition TW2, which provides an ongoing ability for the Iwi Partners to influence the design of spoil site 25; that spoil site is of particular relevance due to its location close to the peak of Te Ahu a Turanga.
89. Since lodgement, proposed spoil site 15 has been removed due to a changed culvert arrangement (i.e. the culvert has dropped down and there is a need to maintain downstream levels). This has the benefit of reducing impacts on stream 4F and wetland habitat. This is indicated on an updated drawing set attached to **Mr Watterson's** evidence (specifically TAT-3-DG-C-3540 and TAT-3-DG-C-3544).

Eastern Roundabout

90. As outlined in **Mr Watterson's** evidence, since the application was lodged, the design of the Project has continued to develop in other ways too. One material refinement relates to the Eastern Roundabout, which is in the vicinity of infrastructure owned by a submitter, Transpower New Zealand Limited ("**Transpower**"), and the property of another submitter, Mr Shoebridge.
91. As described in **Mr Watterson's** evidence, the Eastern Roundabout is now proposed to have a four-arm (rather than five-arm) single lane configuration. This modified four-arm roundabout arrangement provides the same access to adjacent local roads as the five-arm roundabout, and has the following benefits:
 - (a) It reduces the overall footprint for the roundabout, which in turn reduces earthworks and pavement areas (and cost).
 - (b) It improves road user safety (for drivers, pedestrians, and cyclists) through improved 'readability' and navigation through the roundabout.
and
 - (c) It minimises impact on the infrastructure owned by Transpower in the vicinity of the roundabout.
92. The design refinement has resulted in some consequential refinements to the proposed stormwater design, which is detailed in the evidence of **David Hughes**. Mr Hughes confirms that these changes are within the performance of the Project's stormwater design as described in the Technical Assessment B - Stormwater Design, as part of the application lodged with Horizons.
93. The hydrological effects from the Eastern Roundabout design refinement have been addressed by **Dr Jack McConchie**. In summary, the modelling

confirms that the proposed four-legged roundabout leads to no material change in effect to that assessed under the lodged five-leg roundabout design. This is discussed further in my evidence below.

Summary

94. It is recognised that a Project of this scale and nature cannot be constructed without adverse effects on the environment. However, throughout the design process the Project team has sought to manage the potential for significant adverse effects on cultural and environmental values. As explained above, the Project has sought to minimise these effects as far as practicable through innovation, design iterations and the consideration of alternatives (as well as constructability methods).
95. Where avoidance of adverse effects has not been possible through route selection, design or construction method development, a package of measures is proposed to remedy, mitigate or offset/compensate adverse effects. This is explained further below.

Effects assessment

96. Section 6 of the AEE (in Volume I) and the technical assessments included in Volumes IV and V (further supplemented and confirmed by expert evidence) describe in detail the range of actual or potential effects, both positive and adverse, that granting the resource consents will have on the environment, as well as the proposed measures to avoid, remedy or mitigate (or offset or compensate for) adverse effects.
97. I rely on the expert assessment of the technical specialists who have assessed the Project for the Transport Agency and provide a summary below of their conclusions on effects and the measures that have been proposed to remedy, mitigate or offset/compensate for any adverse effects.
98. Where effects have been reassessed or elaborated on due to material design refinements, ongoing discussions with Horizons and/or submitters which have led to proposed design changes, I have provided more detail.

Earthworks and erosion and sediment effects

99. As set out in **Campbell Stewart's** evidence, without appropriate erosion and sediment control ("**ESC**") measures, earthworks activities have the potential to result in large additional discharges of sediment to waterbodies.
100. As he explains, ESC will be installed to minimise, capture and treat sediment laden runoff that would otherwise enter the receiving environment to meet the

GD05 guidance document that is considered industry best-practice. Due to the extent of further information requested by Horizons on this matter, I have described the monitoring of ESC devices in more detail below.

101. In **Mr Stewart's** view a robust management and monitoring regime has been proposed to mitigate these effects, including an Erosion and Sediment Control Plan ("**ESCP**") and Erosion and Sediment Control Monitoring Plan ("**ESCMP**") aligned with GD05.
102. Details of proposed measures that will be considered should monitoring show that sediment control performances do not meet the prescribed triggers is shown in the Aquatic Ecological Monitoring and Responses Flow Chart (refer to Attachment 2 of the section 92 response and the updated version attached to **Justine Quinn's** evidence as **Attachment JQ.5**, which responds to Horizons' section 87F reports and further discussion with Mr Pearce and Mr Brown). The Aquatic Ecological Monitoring and Responses Flow Chart shows the monitoring feedback loop and, if necessary, the process to adjust the management of the site, particularly in the case of an 'Event'. As such, the ESC monitoring programme will complement other ecological monitoring discussed by **Ms Quinn**.
103. The Aquatic Ecological Monitoring and Responses Flow Chart has been developed to help illustrate and explain how the ESCP process is designed to work, including its connection to the associated water quality and ecological monitoring programme. This Flow Chart is important because it summarises some of the key management approaches provided for within the ESCP.
104. Device failures and unexpected slips/slumps will also trigger immediate downstream ecological investigations and remediation as required and this process is captured within proposed Condition GA3, attached to **Ms McLeod's** evidence.
105. Site-Specific Erosion and Sediment Control Plans ("**SSESCPs**") will also be prepared in accordance with the ESCP and associated drawings.
106. These measures will mean that any actual and/or potential effects associated with erosion, soil mobilisation, sedimentation and discharges to receiving environments will be temporary in duration and will not result in significant adverse downstream effects.

107. I note Mr Pearce, Horizons' technical advisor for ESC,⁷ agrees with **Mr Stewart's** conclusion regarding Universal Soil Loss Equation ("**USLE**") outputs, and the adherence to GD05. However, he recommends that should best practice measures improve, this be enabled by a condition allowing for changes in GD05 to be implemented on site, along with higher standards if approved in the SSESCPs.
108. Mr Pearce also states that the information submitted by the Transport Agency contains the high level ESCP and concept ESC drawings only. He considers that earthworks should not commence in any discrete areas until a SSESCP is developed and certified. Mr Pearce also considers there are a number of performance outcomes, standards and reporting requirements proposed for management plans, which are better suited for conditions of consent.
109. Mr Pearce also proposes an 'end of pipe' total suspended solids ("**TSS**") discharge standard because, in his view, this is the only way to ensure minimisation of effects on the receiving environment. Mr Pearce acknowledges that while TSS cannot be measured onsite (it requires sampling and analysis in a laboratory before results can be reported), it provides a more accurate indication of the sediment discharge from site and any resultant effects on the receiving environment. This is consistent with the recommendation of Mr Brown.
110. I consider the above matters raised by Mr Pearce and Mr Brown later in my evidence. These matters are also discussed in detail in the evidence of **Mr Stewart, Ms Quinn, and Keith Hamill.**

Stormwater management and effects

111. As set out in **Mr Hughes'** evidence, increased impervious surfaces can increase runoff, potentially impacting on downstream flood levels in large rainfall events and increasing the potential for stream erosion. The design of the stormwater management system has sought to mitigate and manage the actual and potential adverse effects of the Project in relation to stormwater quantity through the design of the reticulation system, the inclusion of wetlands and wetland swales to treat stormwater, fitting outlets with erosion protection and energy dissipation structures, and intercepting overland flow through cut-off drains.

⁷ Appendix 5 of the section 87F report

112. In addition, the proposed stormwater management design provides a 'treatment train' approach to manage stormwater runoff from the impervious areas to a high standard, namely removal of 75% of TSS on a long-term average basis. This is a significant improvement from the treatment that is currently being provided over the existing state highway network within the Project area (for example, Saddle Road), which is currently discharging untreated stormwater.
113. Due to these management and mitigation measures, the Project is expected to have a minimal residual effect on the amount of pollutants reaching the receiving environment. In addition, the Project will not exacerbate flooding or reduce the ability of a watercourse to convey flood flows, as peak-flow attenuation has been provided for in the design of stormwater treatment devices.
114. As stated above, there are design refinements which have resulted in refinements to the proposed stormwater design. However, as explained in the evidence of **Mr Hughes**, these are consistent with the intent and performance of the Project's stormwater drainage design and conditions as described in the application lodged with Horizons.
115. I note that Mr Bell, Horizons' technical advisor for hydrology and stormwater quality, concurs with the Stormwater Management Design -Technical Assessment B and endorses the stormwater management conditions proposed. Mr Brown, Horizons' technical advisor for freshwater ecology and stormwater quality⁸, agrees that overall there will be an improvement in the quality of stormwater runoff entering the environment (arising from the proposed treatment) when compared to the current situation. However, Mr Brown recommends a condition that monitoring be undertaken from at least one of the treatment wetlands to test for soluble nutrients from stock effluent. This is addressed in the evidence of **Mr Hamill**, who explains that stock effluent is unlikely to be a concern and states the monitoring proposed by Mr Brown is unnecessary.

Hydrological and flood risk effects

116. As set out in **Dr McConchie's** evidence, the magnitude of any potential hydrological effects will be relatively small given the geographical size and existing dynamics of the receiving environment.

⁸ Appendix 3 of the section 87F report

117. The effects of the Manawatū River Bridge (BR02) central pier on water levels and flow velocities during a range of design events have been shown to be very small and localised. The construction of BR02 and piers will have no physical adverse effects on Parahaki Island. However, there is a decrease in velocity along the edge of the gravel bar at the upstream end of Parahaki Island which could potentially lead to the deposition of sediment and accretion of this zone of the gravel bar. This will be mitigated using scour protection to protect the central pier of the proposed bridge and Parahaki Island. With these measures in place, the construction of the bridge and piers will have minimal impact on Parahaki Island and the bed and riparian bank of the Manawatū River.
118. In respect of the proposed Mangamanaia Stream Crossing Bridge (BR07), the Mangamanaia catchment is already prone to flooding and the formation of the highway and bridge will not exacerbate the current situation. As outlined in his evidence, **Dr McConchie** has updated his analysis, based on additional modelling undertaken following more detailed design of the Mangamanaia Bridge. He concludes that overall, the construction of the Mangamanaia Bridge is likely to result in a net reduction in the existing flood hazard.
119. The Eastern Roundabout is also located on a floodplain. As stated earlier in my evidence, the application documents and Technical Assessment D - Hydrology assessed the potential effects of the construction of a 5-legged roundabout design on the active floodplain, which is formed by the interaction of the Mangamanaia, Mangapapa and Manawatū Rivers.
120. Technical Assessment D found that the proposed five-legged roundabout has no effect on the existing flood hazard when considering the current climate. If the effects of climate change over the 100-year life of the Project are considered, then one additional current building site (described as Property E in that assessment) would be potentially affected by a shallow depth of flooding (+0.11m)**Error! Reference source not found.** The assessment went on to note, however, that this flooding would persist for only few hours. In summary, based on the five-legged design, any changes as a result of the Project will be extremely small relative to those that have occurred in the past. I note that Mr Bell, Horizons' technical advisor for hydrology⁹, agrees with the conclusions of **Dr McConchie's** assessment.

⁹ Appendix 2 of the section 87F report

121. However, as outlined above and in the evidence of **Mr Watterson**, due to the advantages of a 4-legged roundabout configuration, it is proposed to include this design as part of the Project going forward.
122. **Dr McConchie** has modelled the potential interaction of a 4-legged roundabout with the existing flood hazard (in the same manner as for the 5-legged roundabout), and that work has been peer reviewed. The modelling shows that the proposed four legged roundabout has no effect on the existing flood hazard when considering the current climate (i.e. the same four building sites that are at risk from flooding under the current environment are likely to still be at risk, and to the same or lesser extent).
123. After allowing for 100 years of climate change, the construction of a four-legged roundabout on the floodplain has the potential to increase the flood hazard by up to an additional 9cm for one current building (described as Property A in **Dr McConchie's** evidence). The flooding would persist for only a few hours and be at the maximum depth (32cm) for less time than that. Other building sites (identified as Properties B, C and D) already flood to a depth of 50-70cm under the current and future climate scenario, and this does not change after the construction of the proposed 4-legged roundabout.
124. **Dr McConchie** therefore concludes that in terms of the flood hazard, there is no significant difference between constructing either a 5-legged or 4-legged roundabout, and indeed that the 4-legged roundabout has slightly less effect on the existing and future flood hazard potential than the initially proposed 5-legged roundabout. **Dr McConchie** considers that any small increase in the flood hazard under either of the roundabout configurations, with 100 years of predicted climate change accounted for, could be easily avoided or mitigated.
125. However, given the improved conveyance under the existing highway and the Project (i.e. a culvert), the Project will not result in any significant change in flooding potential to that which could be expected and/or experienced under current conditions (e.g. the existing environment).
126. Based on the above, I consider that the Project will have an effect on the hydrology and associated flood risk which is no more than minor, and will result in a reduction in flood risk hazard in some areas.

Water quality effects

127. As outlined in **Mr Hamill's** evidence, sediment discharges during earthworks will be particularly apparent during high flow events but the effects on

downstream water quality will be minimised and mitigated with the ESCP, SSES CPs, and ESCMP.

128. I note that Mr Brown's report is particularly concerned with the long-term effects of sediment discharges. Although there are a number of triggers related to both visual deposited sediment and re-suspendable sediment (within the streambed) within the proposed consent conditions and EMP, Mr Brown has also recommended 'end of pipe' concentrations of TSS as enforceable standards. As explained by **Mr Stewart** and **Mr Hamill** (and discussed further below), the standards proposed by Horizons are impractical.
129. The stormwater treatment devices proposed as part of the Project will provide treatment, detention and attenuation of stormwater runoff from the impervious areas created by the Project, once operational. This will result in overall better water quality in the Manawatū River.
130. **Mr Hamill** also concludes there is potential for stormwater to cause a decline in water quality in sub-catchment 2E and in catchments 3, 7 and 8. However, for these catchments the effects will likely be small because of the intermittent nature of stormwater discharges, the quality of the stormwater being within relevant guidelines and, for TSS, the stormwater having similar concentrations to that found in the streams during flood events. Therefore, once operational, the stormwater discharges from the Project can be expected to have negligible or minor impact on surface water quality. I discuss this matter later in my evidence as it relates to the One Plan objectives and policy framework.
131. As stated above, while Mr Brown agrees there will be an improvement in the quality of stormwater as a result of the operation of the Project, he has residual concerns about discharges from stock effluent which I have already discussed above.

Contaminated land effects

132. A Preliminary Site Investigation ("**PSI**") and Detailed Site Investigation ("**DSI**") were completed for the Project area. The PSI identified six areas of current and historical contaminating activities. Consequently, a DSI was undertaken to determine the extent and level of contamination present. This DSI identified four areas that should be remediated prior to commencing land disturbing activities associated with the main works. The Contaminated Soils Management Plan ("**CSMP**") provides that remediation will be carried out

through excavation, transport and disposal of soil to a facility licensed to accept the material (e.g. Bonny Glen Landfill) in accordance with a Remedial Action Plan ("**RAP**").

133. A discharge consent from Horizons is not considered to be required as no contaminants will be discharged as part of the remediation, provided the CSMP and RAP are adhered to. If unexpected contamination is encountered, the CSMP will be adhered to in order to prevent the discharge of contaminants to the environment.

Air quality effects

134. As outlined in **Mr Chilton's** evidence, the Project area, because of its locality and topography, is exposed to relatively frequent strong wind conditions, particularly from the west and north-west direction. Mr Chilton has identified the following receptors as having a moderate or high risk of dust impact when considered without any mitigation implemented:

- (a) four wind turbines (identified as TAP09, TAP10, TAP46 and TAP49);
- (b) six ecological areas (identified as F2, F4, F7, E1, E2, and E4);
- (c) areas of the Ballantrae Farm that are located within 100 m west or north of the Project alignment (identified as Receptor B1); and
- (d) three residential dwellings near the Eastern Roundabout (identified as R4, R5 and R7).

135. I note that the original Air Quality -Technical Assessment only listed R4 and R5 as residential dwelling receptors. However, subsequent to the section 92 response, receptor R7 (Mr Shoebridge's property) is also included.

136. **Mr Chilton** has recommended a Dust Control Procedure (Appendix 3 of the ESCP) to provide for the management, mitigation and monitoring measures to be implemented during the construction and earthworks activities associated with the Project. The Procedure focuses principally on controlling the source of dust discharges and will address the risk of discharges from the earthworks (including from each construction laydown area). Additionally, the designation conditions require dust management to be included within the management plans to be specifically prepared for Ballantrae Farm, Te Āpiti Wind Farm, and the National Grid.

137. I rely on the evidence of **Mr Chilton**, and support his conclusion that the implementation of the mitigation and monitoring measures identified in the Dust Control Procedure, in conjunction with the wider ESC measures

proposed for the Project, will ensure that offensive and objectionable dust effects are avoided, that dust emissions are not detrimental to amenity values, and that ambient particulate levels will be within the thresholds of the relevant NES.

138. I note that Ms Ryan, the air quality technical advisor for Horizons,¹⁰ supports the view of **Mr Chilton** that the effects of dust will be less than minor. Ms Ryan has recommended additional conditions, which are addressed in **Mr Chilton's** and **Ms McLeod's** evidence. I agree that relatively minor amendments can be made to the Dust Control Procedure (as has been updated and presented by **Mr Chilton**), rather than through the inclusion of additional conditions.

Terrestrial ecology effects

139. Terrestrial ecology effects of the Project include the loss, fragmentation and degradation of habitats for flora and fauna as well as harm to species and individuals within these habitats.
140. Appropriate avoidance and minimisation measures have been implemented or are proposed as part of the application, including through the requirement for a detailed Ecology Management Plan ("**EMP**"), which has been prepared in draft form and lodged with this application. In particular, these measures will ensure that the overall extent of indigenous vegetation and wetland habitat affected by the Project is significantly reduced from the maximum levels assumed through the designation process.
141. Nevertheless, there are effects that have been assessed as having 'moderate' or 'high' levels of effects on local biodiversity values after those avoidance and minimisation measures are taken into account. Accordingly, a comprehensive offset and compensation package has been designed. The offset model achieves a 'net gain offset' for 7 out of the 12 ecosystem types. After compensation is applied, a net gain in biodiversity will result over the short- and long-term for all 12 ecosystem types. Through the implementation of the EMP, in combination with the offset and compensation package, actual and potential adverse effects resulting from the Project on terrestrial ecology will be appropriately addressed.
142. Since lodgement, deer control has also been added to the suite of offset and compensation measures which is discussed in the evidence of **Dr Matthew Baber** and **Joshua Markham**. There are also updates to the EMP which are

¹⁰ Appendix 1 of the section 87F report.

discussed in the evidence of **Dr Baber**, **Mr Markham** and **Ms McLeod**, including regular biodiversity monitoring terminating at the end of the proposed 10 year mammalian pest control programme (excluding deer, which is proposed to run for 35 years) to demonstrably verify the net gain. **Mr Markham** goes on to note that at this ten year review point, if it is determined that intended outcomes are not on track, then there will be a process of determining what additional action is required. **Dr Baber** and **Mr Markham** have discussed these matters in their evidence.

143. I note that Mr Lambie, the terrestrial ecology technical advisor for Horizons,¹¹ generally agrees with the assessment of ecological values, and with the classification and assessment of significant habitats under the One Plan. However, Mr Lambie expresses reservations in respect of the five habitat types for which there is an 'expected net gain' by reference to their rarity, vulnerability and irreplaceability. This is discussed in the evidence of **Dr Baber** and later in my evidence.

Freshwater ecology effects

144. A comprehensive assessment of the Project's freshwater ecology values has been carried out, including through detailed surveys. A number of construction and operational or long-term effects on those values have been identified, and accordingly appropriate mitigation actions are proposed.
145. Stream habitat loss and modification is the most significant adverse effect on freshwater ecology associated with this Project, and mitigation of these very high effects is not possible given the permanent loss of the original streambed. At the time of lodgement, Technical Assessment H - Freshwater Ecology concluded that the residual adverse effects on freshwater ecology of the Project can be offset via the 9,501 m² of streambed created, stream diversions and riparian restoration/enhancement (indicatively modelled to occur along 10,137 m² of streambed) to ensure that there is no net loss in ecological function.
146. It was recognised at the time of lodgment that once detailed design was finalised and offset sites secured, the final amount of stream offset required would be calibrated to reflect the 'actual' effects of the Project and the ecological gains that are achieved. Since lodgment, further work has been carried out to secure riparian planting offset locations, which has resulted in

¹¹ Appendix 4 of the section 87F report

modifications to the proposed stream offset package. These are described in detail in **Ms Quinn's** evidence. In summary, these are:

- (a) the loss of constructed stream channel and an associated reduction of riparian planting at Te Āpiti Wind Farm subsequent to discussions with Meridian (discussed later in my evidence);
- (b) a reduction of the available stream length at existing offset sites (Ratahiwi Farm and Sproull Farm); and
- (c) two additional offset sites: Wharite-Beagley Farm ("**Beagley Farm**") in the upper Mangapapa catchment; and Massey Tuapaka Farm ("**Tuapaka Farm**") downstream of the Project adjacent the Manawatū River.

147. Also since lodgment, design refinements have resulted in the modification to the length of some culverts and stream diversions, and this has resulted in changes to the length of culverts and stream diversions within Catchment 1 (due to the Eastern Roundabout refinement) and a reduction of stream directly impacted due to the removal of Spoil Site 15.
148. As stated in **Ms Quinn's** evidence, overall, the mitigation and offset measures proposed remain sufficient to address the residual freshwater ecology effects associated with this Project and will result in a positive overall outcome within the immediate Manawatū River catchment.
149. I note that Mr Brown, Horizons' technical advisor for freshwater ecology and water quality,¹² agrees with the assessment set out in the Technical Assessment H - Freshwater Ecology, and that the Project will have adverse effects on freshwater values but that the majority of these effects able to be managed by avoidance and the remediation or mitigation measures as proposed.
150. The exception to this is the loss of stream habitat which cannot be fully avoided, remedied or mitigated within the footprint of the works area. Mr Brown considers that the SEV method contained in the assessment is a transparent (and appropriate) approach to offset these residual effects. However, he goes on to note that if the preferred sites cannot be secured, the offsetting calculation may need to be revisited to ensure alignment with offsetting principles, including the location of the works within a similar environment. This point is acknowledged, but I note proposed condition

¹² Appendix 3 of the section 87F report.

EC15 (and subsequent revision described by **Ms McLeod**) is designed to ensure this important process occurs.

151. Mr Brown also agrees with the approach to providing fish passage. However, Mr Brown proposes an additional requirement for the design of culverts to ensure that fish passage is maintained at these structures over the lifetime of the culvert. I agree with this recommendation and note that it has been reflected in the updated conditions attached to **Ms McLeod's** evidence. Mr Brown also recommends a condition of consent to ensure fish passage is provided for in the culvert which runs underneath the KiwiRail rail tracks where Catchment 7 enters into the Manawatū River. While I consider this desirable, I note that **Ms Quinn** does not rely on this in her assessment. I also note that it will be subject to a third-party agreement with KiwiRail. For these reasons, I do not consider the proposed condition to be appropriate.

Natural character effects

152. **Boyden Evans'** evidence records that as a major roading development, the Project will inevitably result in large-scale changes to the natural character of watercourses and their margins. The extent of those effects varies along the Project's length.
153. The Northern Alignment has led to a significant improvement in natural character effects when compared to the original alignment being considered at the NoRs phase. In particular, catchments 6 and 7, which are both located in areas protected by QEII covenants, are less affected by the Northern Alignment than they were by the original NoRs alignment.
154. **Mr Evans** has described the methodology and process by which the natural character assessment was undertaken. I note that while not part of the 'natural character' team, I was able to observe this process and I consider it to be comprehensive, particularly in terms of the multidisciplinary approach, the process of assessment itself at both the crossing point and catchment level, and the inclusion of calibration as a key step.
155. **Mr Evans** notes that in places, the Project will lead to a significant diminishment of some attributes and qualities of natural character at a 'crossing point' scale; that is, at the point where a waterbody is located directly underneath the anticipated construction footprint. At that crossing point scale, there will sometimes be significant adverse effects on natural character due to the filling or culverting of stream gullies, and the associated

loss of vegetation and loss or modification of stream bed/margin. Significant diminishment is expected at crossing points 5A, 7A and 7B.

156. However, **Mr Evans**' evidence is that potential effects on waterbodies need to be considered in context as effects at a site of impact or crossing point are influenced by the stream conditions both upstream and downstream. At a catchment scale, none of the streams affected by the Project will experience a significant diminishment in natural character.
157. For the Manawatū River crossing point, this is not expected to experience a significant diminishment in natural character as it will only reduce from 'moderate high' to 'moderate' levels of natural character following construction of the Manawatū River Bridge.
158. As per **Mr Evans**' evidence, there are no areas with outstanding natural character, and only one of the stream catchments (catchment 9, Mangakino Stream) has been assessed as having high natural character. Only a small proportion of this catchment will be affected by the Project; therefore, this catchment is expected to retain its high natural character following completion of the Project.
159. The natural character effects of the Project will be mitigated through a variety of measures provided for under both the designation conditions and proposed resource consent conditions. **Mr Evans** covers these in detail in his evidence. In summary, measures contained in various (and interrelated) management plans include for the management of planting, shaping of landform, and enhancement of biodiversity, which will all contribute to mitigate effects on natural character (as well as landscape and visual effects). The resource consent conditions also cover matters such as retirement and exclusion of stock around areas of bush and wetland (through fencing), restoration planting around wetlands and streams, fish salvage, provision of fish passage, and control and management of mammalian animals and pest plants. The mitigation, offset and compensation measures covered in these conditions will have beneficial effects on the natural character of waterways.
160. A cumulative effects assessment was undertaken for natural character within paragraphs 236 to 239 of Technical Assessment I and was further clarified in the section 92 response.
161. The section 92 response explained that by assessing the effects of the Project on the existing level of natural character in the nine catchments and

the post-development levels, the assessment has inherently considered how the existing land use activities have modified the streams and their margins (i.e. this is the "existing" natural character rating), as well as the cumulative effect of the Project on natural character (i.e. this is the "post-development" natural character rating). The summary tables provided in Technical Assessment I are also useful in that all catchments can be viewed together and in relation to one each other. I am comfortable with the approach taken and I discuss this further in my evidence later as it relates to the One Plan objectives and policy framework.

162. I note that Mr Hudson, the natural character technical advisor for Horizons,¹³ despite some ongoing concerns in respect of catchments 5 and 7 and the Raupō seepage wetland area, generally agrees that the cumulative effects of the Project (in combination with other activities) on natural character are unlikely to be significant. He notes that care must be taken in mitigating the effects within the appropriate catchment, and at a local, not just catchment scale.
163. Mr Hudson also cautions that if the proposed planting and wetland development do not occur then the mitigation that this planting would provide in managing the effects on natural character in Catchment 5 would be reduced, in his opinion.
164. As discussed later in my evidence, since lodgement and following several discussions with Meridian, 1,796 m of stream diversion planting (of an original 2,874 m within Te Āpiti Wind Farm) have been removed, leaving 1,078 m of constructed stream channel within the permanent highway footprint, along the road edge, with planted riparian margins of 10 m on each bank, within Catchments 4 and 5 (in Te Āpiti Wind Farm).
165. The implications for natural character of these changes are discussed in the evidence of the natural character team, but primarily the evidence of **Ms Quinn** and **Mr Evans**. Based on the updated assessment of **Mr Evans**, although there are some reduced ratings for some of the attributes and a reduced overall rating at the crossing point level, there is a no change in the overall rating of natural character effects at a catchment level for either Catchment 4 or Catchment 5.
166. **Mr Evans** does go on to recommend that that the Transport Agency (and the Alliance) investigate providing additional fencing of natural waterways within

¹³ Appendix 6 of the section 87F report

Catchment 5. **Mr Evans** considers that the removal of stock and fencing will benefit natural character even if not accompanied by riparian planting, by preventing stock fouling waterways and damaging stream banks and margins. I agree with this recommendation and have discussed it directly with Meridian representatives who agree (and are comfortable) that environmental enhancement, through the fencing of natural waterways in catchment 5 within Te Āpiti Wind Farm is appropriate.

Cultural effects

167. In order to integrate cultural and spiritual values into the Project, the Project's design has been developed together with the Project's Iwi Partners, being Rangitāne o Manawatū, Rangitāne o Tamaki nui-ā-Rua, Ngāti Kahungunu ki Tāmaki nui-a-Rua and Ngāti Raukawa ki te Tonga / Ngāti Kauwhata, in particular through regular design workshops that commenced in mid-2019, building on earlier work done by the Transport Agency and the Iwi Partners during the NoR process to develop a Cultural and Environmental Design Framework ("**CEDF**"). Iwi Partners have developed key cultural values for the Project that underpin the ongoing cultural, environmental and wider design, management and implementation aspects.
168. The process of working with Iwi Partners has allowed cultural and spiritual values to be integrated into the development of the design of the Project, and the design of processes for managing the effects associated with its construction. This process is ongoing; in particular, the proposed conditions of consent provide for a Tangata Whenua Values Management and Monitoring Plan ("**TWVMMP**") which will ensure the ongoing involvement of the Iwi Partners in the refinement of design and delivery of the Project.
169. Five CIAs have been prepared for the Project, and are provided in Volume V. The CIAs represent a point in time and (aside from the CIA prepared by the Te Āpiti Ahu Whenua Trust) largely report on how the Transport Agency and Iwi Partners have agreed that residual cultural effects should be managed. Additional design information and continued involvement of Iwi Partners is required to ensure that these effects continue to be effectively managed. As noted above, the requirement for a TWVMMP will ensure that this occurs.
170. Te Āpiti Ahu Whenua Trust remain concerned about the effects of the Project on the cultural values associated with Parahaki Island and have provided a neutral submission on the Project which is addressed below. Positive discussions regarding those concerns are continuing and include consideration of potential ecological planting on Parahaki Island.

Proposed measures to minimise or mitigate adverse effects

171. Effects associated with the construction of the Project are largely temporary in nature (with the exception of natural character, cultural and ecological effects) and are able to be managed such that they are appropriately avoided, remedied or mitigated. The proposed management measures include the following:
- (a) Dust mitigation and monitoring measures are proposed such that offensive and objectionable dust effects will be avoided and will not be detrimental to amenity values.
 - (b) The CSMP provides precautionary measures to be adopted should any unexpected contaminated soil be discovered during earthworks.
 - (c) ESC will be installed to minimise, capture and treat sediment laden runoff that would otherwise enter the receiving environment. The comprehensive and proactive ESC monitoring program has been proposed to help ensure that the ESC (GD05) standard is achieved at all times. A robust management and monitoring regime is recommended to mitigate these effects, including an ESCP, ESCMP and SSESCPs.
 - (d) Short-term effects on freshwater ecology during the construction phase can be minimised through the implementation of fish salvage protocols, vegetation clearance (and storage) protocols, hazardous substance procedures and good practice sediment and erosion control measure. A variety of measures to avoid, remedy, and mitigate effects are proposed to be implemented to address long-term effects, including provision of fish passage, a high standard of stormwater management, constructing stream diversions rather than culverts and constructing stream diversion channels to mimic existing natural situations.
172. In terms of the ongoing operation of the Project, the Project design has sought to avoid and mitigate adverse effects as far as practicable, including in the following ways:
- (a) The stormwater discharges can be expected to have negligible or minor impact on surface water quality. The Project is expected to have a minimal residual effect on the amount of pollutants reaching the receiving environment as a result of the proposed treatment devices and treatment train approach applied in the design to achieve a minimum of 75% TSS removal on a long-term average basis.

- (b) The Project will not exacerbate flooding or reduce the ability of a watercourse to convey flood flows, as peak-flow attenuation has been provided for in the design of stormwater treatment devices.
- (c) The magnitude of any potential hydrological effects will be relatively small given the geographical size and existing dynamics of the receiving environment and will result in a number of environmental benefits, particularly relating to flood hazard mitigation.
- (d) The design minimises as far as practicable any potential adverse effects on life, infrastructure and property from natural hazards including land instability and earthquake induced movements.
- (e) Many of the catchments/areas within the Project area experience a reduction in the level of natural character as a result of the Project works, however no areas of high natural character are considered to experience a significant diminishment in natural character.
- (f) Full mitigation of long-term effects on freshwater ecology is not possible given the permanent loss of the original streambed and offsetting is required, which is described in **Ms Quinn's** evidence and summarised in my evidence below.
- (g) Terrestrial ecology effects of the Project include the loss, fragmentation and degradation of habitats for flora and fauna as well as harm to species and individuals within these habitats. Appropriate avoidance and minimisation measures are proposed including through a detailed EMP. A comprehensive offset and compensation package has been designed to achieve a 'net gain offset'. This is described in more detail in **Dr Baber's** and **Mr Markham's** evidence and summarised below.

Proposed measures to offset or compensate adverse effects

Terrestrial ecology

173. Terrestrial ecology effects of the Project include the loss, fragmentation and degradation of habitats for flora and fauna as well as harm to species and individuals within these habitats. Despite the measures to avoid, remedy and mitigate adverse effects, **Dr Baber** considers that the Project results in significant residual adverse effects on terrestrial ecology. These effects have been assessed as having 'moderate' or 'high' levels of effects on local biodiversity values after those avoidance and minimisation measures are taken into account. These effects are described in detail in **Dr Baber's** evidence, and I do not repeat them here. However, I note that this is

particularly relevant within the planning framework, to the habitats that are classified as significant habitats (under Schedule F and Policy 13-5 of the One Plan).

174. These residual adverse effects need to be offset and/or compensated for. **Mr Markham**, in his evidence, discusses what is required as offset and compensation and how this has been calculated.
175. It was recognised in the NoR process that measures to offset and/or compensate for effects on terrestrial ecology values would be necessary. In accordance with the 'mitigation hierarchy' as a matter of ecological best practice, and in accordance with designation condition 24, where possible, effects are to be offset (to a 'verifiable net gain') as opposed to compensated for (to an 'expected net gain').
176. To offset or compensate for the abovementioned residual effects, the following restoration and habitat enhancement measures are required:
 - (a) 45.6 ha of native terrestrial revegetation, including:
 - (i) provision for seeding of forest resources and artificial cavities for fauna (if necessary);
 - (ii) stock exclusion by fencing;
 - (iii) plant establishment (rabbits and hares) pest control;
 - (iv) weed and rat, possum and mustelid pest management for a ten-year period
 - (v) deer control for a thirty-five year; and
 - (vi) permanent legal protection;
 - (b) 6.55 ha of wetland revegetation with additional 10 m buffer plantings including:
 - (i) stock exclusion by fencing; and
 - (ii) permanent legal protection;
 - (c) 48.3 ha of native bush (pus 0.4 ha of existing wetland) will be retired from stock grazing through stock exclusion fencing; as with the revegetation area, this will be complemented by weed and rat, possum and mustelid pest management for a ten-year period, 35 years of deer control and permanent legal protection;

- (d) approximately 300 ha of rat, possum and mustelid pest control will be undertaken for a period of 10 years and deer control over a period of 35 years in the Northern Block of the Manawatū Gorge Scenic Reserve, which is adjacent to parts of and within close proximity to the Project footprint and is dominated by Old Growth Hill Country Forest; and
 - (e) performance standards and ‘targeted outcome monitoring’ of specific restoration and habitat enhancement measures (including pest control) are proposed to ensure the anticipated gains are achieved.
177. As outlined in **Mr Markham’s** evidence, a 35-year deer control programme is now proposed as an additional offset and compensation measure.
178. Together, the proposed offset and compensation measures will deliver an overall gain in terrestrial biodiversity over the short and the long term. The offset model achieves a ‘net gain offset’ for 7 out of the 12 ecosystem types. After compensation is applied, a net gain in biodiversity will result over the short and the long term for all 12 ecosystem types.
179. As **Mr Markham** discusses in his evidence, target sites have not at this stage been formally secured; formal agreements will be required with landowners to achieve the necessary protection. Discussions to that end are in progress. As explained in **Ms McLeod’s** evidence, conditions requiring the offset and compensation sites to be secured are proposed.
180. Also explained in **Ms McLeod’s** evidence is that the Planting Establishment Management Plan and Residual Effects Management Plan (which are part of the EMP) together set out the detail in terms of the offset and compensation actions to be implemented, and the performance standards to be met.
181. Mr Lambie also concurs that there is a high degree of certainty that the habitats showing as ‘verified net gain’ through the modelling will demonstrate net biological diversity gain over the life of the Project. Mr Lambie states there is less certainty when considering those habitats where net gain is only ‘expected’. To address these concerns, and to better demonstrate the success of an ‘expected’ net gain, Mr Lambie has suggested a number of solutions.
182. The key changes recommended to conditions relate to the nature and duration of pest management (over 35 years, and not 10 years, for example), and a requirement to check that the offset/compensation package has delivered the outcomes anticipated by year ten and to thus confirm that the longer term outcomes can be expected to be achieved. At this ten year

review point, if it is determined that intended outcomes are not on track, then there will be a process of determining what additional action is required. **Dr Baber** and **Mr Markham** have discussed these matters in their evidence. I support this approach.

183. Subject to the modifications to conditions of consent recommended by Mr Lambie, once the offset/compensation measures are accounted for, his opinion is that the residual effects on terrestrial ecology and wetland ecosystems will be acceptable.

Freshwater ecology

184. As stated in **Ms Quinn's** evidence, while many of the potential effects on freshwater ecology have been avoided or mitigated to the extent possible, there are residual adverse effects on freshwater ecology resulting from stream habitat loss and modification of 13.207 km of intermittent and permanent stream. As the most significant adverse effect on freshwater ecology associated with this Project, full mitigation of these effects is not possible given the permanent loss of the original streambed. However, the residual adverse effects on freshwater ecology of the Project can (and will) be offset via riparian restoration/enhancement to ensure that there is no net loss in ecological function.
185. Impacts on intermittent and permanent streams can be offset to achieve 'no net loss' in ecological function through the construction of stream diversions and riparian planting and fencing of streams. The final location and precise composition of the offset package will be determined following further discussions with landowners and the final amount of stream offset required will be calibrated to reflect the effects of the Project and the ecological gains that are achieved.
186. This is described in **Ms Quinn's** evidence and I rely on that evidence to conclude that overall effects on freshwater ecology can be avoided, minimised or mitigated and residual effects can be offset to achieve 'no net loss' of ecological function. This will be achieved through the measures described by **Ms Quinn** and enshrined in conditions (as explained by **Ms McLeod**).

Summary

187. Effects associated with the construction of the Project are largely temporary in nature (being over the course of the 4-year, staged construction period)

and are able to be appropriately managed such that they avoid, remedy and mitigate significant effects.

188. Although the design of the Project has sought to avoid and mitigate effects as far as practicable, the Project will give rise to some adverse effects that are significant, specifically those effects associated with terrestrial and freshwater ecology values that are not able to be avoided or mitigated, and therefore need to be offset and compensated for. Nevertheless, I note that the longer-term benefits of the Project will be significantly positive for people, the community and the environment.

RMA POLICY STATEMENTS, PLANS, NATIONAL ENVIRONMENTAL STANDARDS AND OTHER REGULATIONS

189. A comprehensive assessment of the Project and its effects against the relevant RMA policy and planning documents is provided in Section 8 of the AEE. In the following section, I summarise those which I consider to be of particular relevance to the resource consents sought.

National Policy Statements and National Environmental Standards

190. There are three National Policy Statements ("**NPS**") and four National Environmental Standards ("**NES**") that are relevant to the Project. These are assessed in detail in Section 8 of the AEE and I consider the Project is consistent with the policy direction of those documents for the following reasons:

- (a) NPS for Freshwater Management 2014 ("**NPSFM**"): The Project is consistent with the NPSFM given the proposed mitigation measures, such as stormwater treatment and ESC, as well as the integrated management of freshwater, land use and development, the reflection of tangata whenua values throughout stormwater design, and offsetting measures.
- (b) NPS for Renewable Electricity Generation 2011 ("**NPSREG**"): The Project is consistent with the NPSREG given there are no wind turbines impacted by the Project, and given the suite of other measures to avoid disruption to Meridian's operations, the Project does not hinder the operation and/or maintenance of renewable electricity generation, particularly at Te Āpiti Wind Farm. I note that the NPSREG is relevant to the submission from Meridian (Submission Number 13) which I address later in my evidence.

- (c) NPS on Electricity Transmission 2008 ("NPSET"): The Project potentially requires conductors on the Mangamaire – Woodville A 110kV transmission line to be raised in order to achieve the necessary road surface clearance (both the construction and operational phase). As this action will be managed through proposed conditions, the Project will not hinder the operation and maintenance of the national electricity transmission activities, the Project is consistent with NPSET. I note that the NPSET is relevant to the submission from Transpower (Submission 10) which I address later in my evidence.
- (d) NES for Air Quality 2004 ("NESAQ"): As the Project will only result in discharge of dust to air which will remain well within the ambient air quality standard, the NESAQ is not relevant to the Project.
- (e) NES for Assessing and Managing Contaminants in Soil to Protect Human Health 2011 ("NESCO"): Land use consents will be sought from the territorial authorities in a separate application, pursuant to NESCO.
- (f) NES for Telecommunication Facilities 2016 ("NESTF"): While the Project is not a telecommunication network operator, where work may necessitate the disruption or relocation of telecommunication facilities, consultation with the utility network operator has been undertaken and will continue to occur; the Project will not hinder the operation and maintenance of those telecommunication networks.
- (g) NES for Electricity Transmission Activities 2009 ("NESETA"): As noted above, the Project potentially requires raising the level of the conductors to achieve the necessary clearance from the road. At this stage, the required height change is expected to be within the permitted activity status threshold, and as such, no consent is required. I note that the NESETA is relevant to the submission from Transpower (Submitter 10) which I address later in my evidence.

191. Subject to the matters identified by Transpower and Meridian being addressed, the section 87F report generally agrees with the assessment provided in Section 8 of the AEE, which concludes that the Project is consistent with the objectives and policies of the relevant National Policy Statements and National Environmental Standards.

192. However, Mr St Clair notes his view that additional conditions for discharge standards and offset/compensation (as recommended by Mr Brown, Mr Lambie and Mr Pearce) are required in order to ensure that the application is

consistent with Objective A1 of the NPSFM. These recommendations are discussed in more detail later in my evidence.

Horizons' One Plan

193. Part 1 of the One Plan contains the Regional Policy Statement ("**RPS**") which sets out the regionally significant resource management issues and the objectives, policies and methods that will be used to address these issues, over ten chapters (Chapters 1 to 10). Part 2 is the Regional Plan section of the One Plan, which gives effect to the RPS and primarily contains regional rules regarding the control of the region's natural and physical resources over nine chapters (Chapters 11 to 19), but also contains objectives and policies designed to guide decision-making on resource consent applications.
194. An assessment of the One Plan objectives and policies is provided in detail in Section 8 of the AEE, and concludes the Project is consistent with the relevant objectives and policies. I do not repeat that assessment here, except where the objectives and policies appear to be particularly pertinent or have been addressed in submissions or section 87F report. The following sections of my evidence address the particular objectives and policies of Chapters 3, 5, 6, and 13.

Chapter 3 – Infrastructure

195. Chapter 3, specifically Objective 3-1, Policy 3-1, Policy 3-2 and Policy 3-3 of the RPS relate to infrastructure, and therefore are particularly relevant to the Project as they strongly support the establishment and operation of the regionally and nationally important infrastructure (including the road network as identified in the RLTP). As noted in **Mr Dalzell's** evidence, the Project has been identified in the RLTP as critical infrastructure.
196. Policy 3-3 is a policy specific to important infrastructure, with a particular approach or pathway being offered because such infrastructure has special importance (when compared to other activities). Policy 3-3 establishes a framework for the management of adverse effects arising from the establishment, operation, maintenance and upgrading of infrastructure of national importance. This framework provides for minor adverse effects to be allowed, and more than minor effects to be avoided, remedied or mitigated, or offset.
197. As discussed elsewhere in my evidence, route alternatives have been considered and the Project's design has sought to minimise adverse effects and measures will be undertaken as the Project is constructed to avoid,

remedy and mitigate those adverse effects as far as practicable.

Nevertheless, the Project will still result in more than minor adverse effects on the environment, particularly on terrestrial and freshwater ecology.

198. In this regard, it is relevant to note that Policy 3-3(c)(iv) provides that *“any more than minor adverse effects that cannot be adequately avoided, remedied or mitigated by services or works can be appropriately offset, including through the use of financial contributions”*. The flexibility afforded by this policy (underscored by the option of offsetting, which includes financial contributions) reflects the importance of enabling regionally or nationally significant infrastructure, notwithstanding the scale of residual effects following efforts to avoid, remedy, or mitigate them.
199. I note that the section 87F report concurs with the applicability of Policy 3-3(c), and agrees that after avoiding, remedying and mitigating, the Project has sought to offset or compensate for those residual ecological effects where there are functional, operational or technical constraints associated with the delivery of necessary infrastructure. However, Mr St Clair further argues that Policy 3-3(c)(iv) only refers to offsetting (which I address below in the assessment of Policy 13-4). I note in response to this point, that the terminology of offsetting at the time of the One Plan development was not fully understood and has developed over time. Policy 3-3(c)(iv) specifically provides for financial contributions, which we now understand are included in the definition of compensation and not offset.

Chapter 5 – Water

200. Chapter 5 of the RPS addresses the management of fresh water in the Region, specifically, the management of water quality, water quantity and the beds of rivers and lakes. Objective 5-4 (which is supported by Policies 5-22 to 5-27) relating to the management of the beds of rivers and lakes, is particularly important in relation to the proposed Manawatū River Bridge (BR02), Mangamanaia Stream Bridge (BR07) and the loss of streams as a result of the Project.
201. Policy 5-23 relates to activities in sites with a ‘Schedule B Natural State’, ‘Sites of Significance – Cultural’, or ‘Sites of Significance – Aquatic’ value, and as a consequence, it is relevant to the Manawatū River Bridge (BR02). Policy 5-23(a) requires effects on these values to be avoided in the first instance. While I acknowledge that the Project will result in stream diversions and other ecological impacts, Policy 5-23(b) again enables infrastructure of regional and national importance (or activities that result in an environmental

benefit), provided that adverse effects are remedied or mitigated where it is not practical to avoid them. This is the case for the Project.

202. Policy 5-24 is relevant to activities in rivers and their beds with a Schedule B value of Flood Control and Drainage and is, therefore, relevant to the Mangamanaia Stream Bridge (BR07). The policy requires the activity (i.e. BR07) to be managed in terms of flood hazard, erosion protection and adverse effects. Policy 5-24(b)(ii) also provides consent applicants with the option of making an offset if effects cannot be avoided, remedied or mitigated in the first instance. However, offsetting is not required for BR07, as **Dr McConchie** concludes that the effect of constructing the proposed bridge over the Mangamanaia Stream will be small and overall likely to be positive.
203. Policy 5-25(a) is relevant to all other activities in rivers and their beds in respect of all other Schedule B values, and therefore apply to the stream diversions and culverts proposed to be constructed as part of the Project. It requires that significant adverse effects, in the first instance, be avoided, remedied or mitigated on the instream morphological components of natural character and the Schedule B values. Policy 5-25(b) then goes on to provide consent applicants with the option of providing an offset.
204. While all efforts have been made to avoid stream loss and to reduce modification where this has been practicable to do so through the design development process (as discussed earlier in my evidence and in **Mr Watterson's** evidence, as outlined in **Ms Quinn's** evidence, the stream loss and modification associated with these stream diversions and new culverts can neither be avoided nor fully remedied or mitigated. However, in addition to mitigation that is proposed, offsetting these effects on freshwater ecology is also proposed, in accordance with Policy 5-2(b).
205. Policy 5-26 provides for activities in, on, under or over the beds of rivers and lakes that are essential or that result in an environmental benefit to generally be allowed. It is considered that the activities for which resource consent is sought pursuant to section 13 of the RMA are essential to enable the Project, which in turn, is highly beneficial.

Chapter 6 – Indigenous Biological Diversity, Landscape and Historic Heritage

206. Chapter 6 of the RPS addresses Indigenous Biological Diversity, Landscape and Historic Heritage. The provisions in Chapter 6 relating to indigenous biodiversity are given effect to through the provisions of Chapter 13 of the

Regional Plan, and as such, I address them holistically in the Chapter 13 section of my evidence below.

207. The provisions relevant to natural character are Objective 6-2, Policy 6-8 and Policy 6-9.
208. There are no areas with outstanding natural character, therefore Objective 6-2(b)(i) does not apply.
209. Objective 6-2(b)(ii) seeks to avoid adverse effects, including cumulative adverse effects, on natural character where those effects would significantly diminish the attributes and qualities of areas that have high natural character.
210. Objective 6-2(a)(ii) seeks to protect natural character from inappropriate subdivision, use and development, while Objective 6-2(b)(iii) seeks to avoid, remedy and mitigate adverse effects on natural character and Objective 6-2(c) seeks to promote the rehabilitation and restoration of natural character.
211. From the assessment undertaken (using a range of attributes such as those in Policy 6-8(c)), no areas were assessed as having outstanding natural character. One catchment (Catchment 9) was assessed as having high existing natural character, however, the effects of the Project in this catchment were assessed as not significantly diminishing this area's natural character. It is therefore considered that the Project is consistent with Objective 6-2(b)(ii).
212. In the remaining catchments (those which are not considered to have high natural character) the adverse effects on natural character, including cumulative effects (as discussed earlier in my evidence and **Mr Evans'** evidence), have been avoided, remedied, or mitigated to the extent practicable and therefore do not offend against Objective 6-2(b)(iii).
213. Based on the above, I consider that the Project is not a form of inappropriate development given the existing natural character of the landscape through which the Project passes and the way in which the Project has considered and responded to potential natural character effects, As such, I consider that the Project meets Objective 6-2 (a)(ii). In addition, and based on the evidence of **Mr Markham, Ms Quinn** as well as the measures recommended in the evidence of **Mr Evans** (e.g. rehabilitation and restoration of stream margins through measures including stock exclusion and riparian planting), I consider the Project is consistent with Objective 6-2(c).
214. Taking into consideration the design and mitigation efforts of the Project, the form and scale of the Project has been designed to be compatible with the

landform, geological features and vegetation as far as practicable and as a result will not significantly disrupt natural processes or existing ecosystems, which is consistent with the direction of Policy 6-9.

215. I note that the section 87F report concurs with the RPS assessment within the AEE, agreeing that the Project will be generally consistent with the relevant objectives and policies of the RPS. However, it is noted that this is subject to the imposition of the recommended conditions (a matter which I discuss further below).

Chapter 13: Indigenous Biological Diversity

216. Objective 6-1 and Policy 6-2 within Chapter 6 of the RPS, seek to protect and manage significant indigenous biodiversity, particularly rare, at risk and threatened habitats. The provisions (including rules) in Chapter 13 in the Regional Plan give effect to these RPS provisions. The objectives and policies of these chapters are particularly important given the Project will result in 'high' or significant residual adverse effects on Schedule F (rare and threatened) habitats, and resource consents are sought for non-complying activity pursuant to Chapter 13 (specifically Rule 13-9).
217. Schedule F sets out the classification of habitat type through a regional lens (Table F.1 of the One Plan) and then criteria to apply to those habitat types (set out in Table F.2(a)) to determine if they qualify as rare habitats, threatened habitats or at-risk habitats (in accordance with Policy 13-5). Schedule F habitats are identified within the Terrestrial Ecology Drawings TAT-3-DG-E-4131 to 4137 contained within Volume III.
218. Policy 13-4(b) stipulates a hierarchical approach to any more than minor adverse effects (in accordance with Policy 13-5). They are to be avoided in the first instance, and where they cannot be reasonably avoided, they are to be remedied or mitigated at the location where the effect occurs. Where this cannot be achieved, Policy 13-4(b)(iii) requires that the effects are offset to result in a net indigenous biological diversity gain (which must be able to be achieved and maintained). Policy 13-4(d) sets out how offset is to be assessed, as follows:
- (iii) provide for a net indigenous biological diversity gain within the same habitat type, or where that habitat is not an area of significant indigenous vegetation or a significant habitat of indigenous fauna, provide for that gain in a rare habitat or threatened habitat type, and*

- (iv) *reasonably demonstrate that a net indigenous biological diversity gain has been achieved using methodology that is appropriate and commensurate to the scale and intensity of the residual adverse effect, and*
- (v) *generally be in the same ecologically relevant locality as the affected habitat, and*
- (vi) *not be allowed where inappropriate for the ecosystem or habitat type by reason of its rarity, vulnerability or irreplaceability, and*
- (vii) *have a significant likelihood of being achieved and maintained in the long term and preferably in perpetuity, and*
- (viii) *achieve conservation outcomes above and beyond that which would have been achieved if the offset had not taken place.*

219. Although activities within Schedule F (rare and threatened) habitats are a non-complying activity, Policy 13-4(b) does not prohibit the granting of the consent if the decision-maker is satisfied that where *"more than minor"* adverse effects cannot reasonably be avoided or mitigated at the point of the adverse effect, then an offset to result in a net indigenous biological gain must be able to be achieved. **Mr Markham's** evidence outlines how net gain will be achieved and maintained in order to offset the adverse effects on terrestrial ecology in accordance with Policy 13-4(d).
220. The Terrestrial Offset and Compensation - Technical Assessment G used a modelling approach that has been used to address the residual adverse terrestrial ecological effects of the Project that cannot be avoided or minimised. In particular, a Biodiversity Offset Accounting Model ("**BOAM**") has been devised that indicates that seven habitat types will be offset to a 'verifiable' Net Gain standard within 35 years; and five habitat types could be compensated to an 'expected' Net Gain standard within 35 years.
221. The reason the revegetation (and enhancement measures within the revegetated areas) for the five habitats is not able to be classified as 'offset', (as that term is now commonly understood), is because biodiversity values in these habitat types take too long to reinstate and be demonstrably offset (namely the three mature forest habitat types); or because some values cannot be replaced (that is, while wetland habitat types can be compensated for by improving wetland habitat quality within compensation wetlands, this does not constitute an offset because all three wetland habitats affected by the Project would incur a Net Loss in Wetland area per se). However,

through the offset monitoring programme, the expected Net Gain outcome can then be verified as an offset.

222. **Mr Markham's** evidence and Terrestrial Offset and Compensation - Technical Assessment G uses the strict definition of 'offset' set out in the Biodiversity Offsetting Under the Resource Management Act 2018¹⁴ ("**BOURMA**"). I note that there are no definitions for 'offset' within the One Plan as at the time it was being prepared, I understand that the field of 'offsets' was still developing and compensation had not fully emerged as a separate concept for consideration at that time (as I have previously indicated in the discussion relating to Policy 3-3(c)(iv) above).
223. While there is no specific definition of offsets, a definition is implied through 13-4(d)(i) to (vii), and the requirement for the use of an appropriate (current/best practice) methodology. However, I note that Policy 13-4(d)(ii) also includes the use of the word 'reasonably' (the offset must be reasonably demonstrated) which, in my opinion, indicates a more 'relaxed' or wider version of the definition of an offset. Based on the evidence of **Mr Markham**, given the 'compensation' proposed for five of the ecosystem types is essentially 'offset,' but which cannot be verified in the short term, I consider that the 'net gain' has been reasonably demonstrated through use of the accepted and current best practice (**BOAM**) methodology and the most commonly applied definition.
224. I also note there are no definitions for 'offset' or 'compensation' within the RMA. Indeed, under the RMA, compensation is not restricted to environmental compensation and can include any form of compensation. However, section 104(1)(ab) notes that the consent authority must, have regard to: (my emphasis added)
- "any measure proposed or agreed to by the applicant for the purpose of ensuring **positive effects on the environment** to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity".*
225. Because the proposed compensation which can be verifiably demonstrated as an offset, albeit at a later date (as confirmed in the evidence of **Mr Markham**), this will result in a better environmental benefit than unverified

¹⁴ Biodiversity Offsetting Under the Resource Management Act – A Guidance Document, 2018. Prepared by Fleur Maseyk, Graham Ussher, Gerry Kessels, Mark Christensen and Marie Brown.

compensation at offset sites or financial compensation. The consent authority should have regard to this matter.

226. In addition, I consider that the offsetting proposed goes beyond what is required to be offset under the One Plan provisions (Policy 13-5) given that it has been calculated to offset all residual adverse effects and not just those eight habitats identified as rare or threatened under Schedule F, and additional compensation through pest control is also proposed to ensure this (and which has been updated and discussed in **Dr Baber** and **Mr Markham's** evidence).
227. The offset and compensation proposed (to be verified as offset at a later date) demonstrates that residual ecological effects are able to be appropriately managed and a net overall biodiversity gain is able to be achieved and can be maintained. Accordingly, it is my opinion that the Project has responded to Policy 13-4(d) through careful consideration of the design, construction activities and mitigation measures proposed. For effects that cannot be avoided, the Transport Agency has proposed a range of measures to mitigate adverse effects and then to offset and compensate residual adverse effects, which aligns with the policy hierarchy. As such, I consider that Policy 13-4(d) is able to be met and is therefore not an impediment to consent being granted.
228. I note that the offset proposed also achieves the net gain requirement under designation condition 24.
229. The section 87F report generally concurs with the assessment of the objectives and policies of the Regional Plan. Additionally, Mr St Clair agrees with the hierarchical approach to offsetting, where more than minor effects that cannot be avoided, remedied or mitigated can be offset to result in a net indigenous gain. However, Mr St Clair (and Mr Lambie) notes that additional certainty around the likelihood of 'expected gains' being achieved and maintained requires amendments to conditions to ensure that the Project is consistent with Chapter 13 of the One Plan, particularly Policy 13-4. The above discussion, along with the evidence of **Dr Baber**, **Mr Markham** and the revised conditions attached to **Ms McLeod's** evidence responds to this matter.

Summary

230. The Project touches on a number of competing values and has been designed and developed further to respond to those whilst having regard to

the One Plan policy framework. It is my view that the Project finds strong policy support from the One Plan as it relates to important infrastructure and that the design and development of the Project has had particular regard to the policy framework. This has included embedding key policy outcomes (including, for example, avoiding and significantly reducing adverse effects through design refinement and then through the offsetting and compensation of residual ecological effects through extensive restoration of the environment where it is appropriate and practicable to do so). In addition, it has included the development of appropriate methods (conditions) to manage actual and potential effects on the environment (attached to **Ms McLeod's** evidence). Consequently, it is my opinion that the Project is consistent with the objectives and policies of the One Plan.

District plans

231. All three district plans encourage the provision of safe, efficient and integrated transport networks. I consider the Project contributes in a significant way to these outcomes. As explained in Section 8.6 of the AEE, I consider that the Project achieves the various provisions and indeed the policy direction contained within the district plans and do not comment further, other than to note that the section 87F report records that the assessment of the District Plans within the AEE has identified relevant objectives and policies and has adopted the assessment undertaken as part of the report.
232. It is also important to note that the designations and their associated conditions are now contained within these District Plans. Consequently, the designations have already given effect to, and are consistent with, the applicable district plan provisions. Therefore, as the regional consent application is aiming to give effect to the designated purpose of the site, demonstrating consistency with the district plan objectives and policies is relatively straightforward.

OTHER MATTERS

233. Other matters are to be considered under section 104(1)(c) of the RMA; those that I consider relevant to the Project are assessed in Section 8.5 and Section 9.10 of the AEE and summarised in the below paragraphs.
234. Land Transport Management Act 2003 (“LTMA”): The Project is consistent with the Transport Agency’s legislative purpose and purpose of the LTMA (as explained in the evidence of **Mr Dalzell**) as the Project provides an effective,

efficient and safe state highway route between Ashhurst and Woodville. Further, the Project reflects the Crown's Treaty of Waitangi responsibilities through the Transport Agency's on-going partnership with the Project Iwi Partners.

235. Government Policy Statement of Land Transport ("GPS"): I consider the Project will achieve the key strategic priorities of safety, access, environment and value for money (as explained by **Mr Dalzell**). The Project improves safety performance and provides safer journeys through the delivery of reduced travel times, increased access to all road users and improved route resilience (in the event of crashes, slips and natural hazards).
236. National Land Transport Programme ("NLTP"): **Mr Dalzell** demonstrates the importance and high priority the Project has. As the NLTP gives effect to the GPS, I consider that the Project is essential to its achievement.
237. Horizons Regional Land Transport Plan ("RLTP"): This recognises the Manawatū Gorge replacement route as a key focus area and 'first priority project' within the region. Consequently, I consider that the Project is fundamental to the achievement of the RLTP and NLTP, which in turn achieves the priorities of the GPS.
238. Rangitāne o Manawatu Claims Settlement Act 2016 (including Statutory Acknowledgements): The Project responds in a respectful way to Rangitāne o Manawatū's cultural, historical, spiritual, and traditional association with the area of interest and particularly the statutory acknowledgement areas. This is achieved through the Transport Agency's on-going partnership with Rangitāne o Manawatū, their involvement in the Project's design process (with a focus on minimising cultural and environmental impacts), the measures proposed to offset or compensate for residual ecological impacts, and a range of measures proposed in response to the residual cultural effects identified by Rangitāne o Manawatū in their CIA. Participation in the Iwi Working Group, and the proposed conditions of consent provide for a Tangata Whenua Values Management and Monitoring Plan ("**TWVMMP**") which will ensure the ongoing involvement of all Iwi Partners in the refinement of design and delivery of the Project.
239. Rangitāne Tū Mai Rā (Wairarapa Tamaki nui-ā-Rua) Claims Settlement Act 2017 (including Statutory Acknowledgements): Likewise, the Project responds appropriately to Rangitāne o Tamaki nui-a-Rua's cultural, historical, spiritual, and traditional association with the area of interest and particularly the statutory acknowledgement areas. The transport Agency's on-going

partnership with Rangitāne o Tamaki nui-ā-Rua has enabled their direct involvement in minimising adverse impacts, both cultural and environmental. This has allowed for a range of measures to be proposed in response of offsetting and compensating residual ecological impacts, and the residual cultural effects identified by Rangitāne o Tamaki nui-a-Rua in their CIA. Participation in the Iwi Working Group, and the proposed conditions of consent which provide for a **TWVMMP** will ensure the ongoing involvement of all Iwi Partners in the refinement of design and delivery of the Project.

240. Te Ture Whenua Māori Act 1993: Parahaki Island is Māori freehold land as defined by section 129 of Te Ture Whenua Māori Act, and is subject to the provisions of that Act. The Te Āpiti Ahu Whenua Trustees as owners of Parahaki Island have been engaged in detailed discussions with the Transport Agency regarding the potential effects of the Project on the Island and have prepared a CIA (refer to Volume VI). Although it is currently understood that the Project avoids any direct impact on Parahaki Island (as currently delineated), the Te Āpiti Ahu Whenua Trustees remain concerned about the effects of the Project. As discussed in the evidence of **Mr Dalzell**, the Transport Agency has been working closely with Te Āpiti Ahu Whenua Trustees who have been invited to participate in the Iwi Working Group. Discussions are continuing in relation to the bridge design and the construction process, ways to mitigate negative effects on Parahaki Island (including through mitigation planting), as well as potential opportunities for the owners to achieve better access, educate on the history of the island and uphold the mana of their land.

241. Heritage New Zealand Pouhere Taonga Act 2014: This was considered thoroughly throughout the NoR phase of the Project, and while no known or recorded archaeological sites will be damaged or destroyed during construction of the Project, it is anticipated that unidentified sites may be within the footprint of the works for which resource consents are sought. For this reason, the Transport Agency is separately seeking archaeological authorities under section 44(a) of the Heritage New Zealand Pouhere Taonga Act 2014. In addition, Heritage New Zealand (submitter number 11) has submitted in support of the Project, while recognising that an archaeological authority will be sought separately. I note that these matters were considered in detail in the NoR stage of the Project. Further matters raised relate to proposed consent conditions have been addressed in the evidence of **Ms McLeod**.

242. Wildlife Act 1953: The Project has effects on areas of ecological value and the Wildlife Act is, therefore, relevant such that the Project will require an authorisation(s) given by the Director-General of Conservation under section 53 of the Wildlife Act for the disturbance of any protected wildlife. It is anticipated that any such authorisation will require management plan(s) similar to the EMP provided at Volume VII.
243. Queen Elizabeth the Second National Trust Act 1977: The Project area includes two areas subject to QEII covenants. Four other areas subject to QEII covenants are also in the vicinity of the Project but have been avoided as part of the route selection and refinement process. Effects on the areas subject to QEII covenants have been further reduced and otherwise managed through the Northern Alignment design and proposed conditions of consent, and a comprehensive offsetting and compensation package that is designed to ensure a net indigenous biological diversity gain. The submission in opposition has been received by QEII Trust (submission 16) which I address in my evidence below.
244. I note that the section 87F report agrees with the relevance of the identified policies and plans, and 'other matters' within the AEE, noting in particular that it is appropriate to consider those identified transport plans and policies which identify the key priority status and the strategic importance of the Project.

THE "GATEWAY TEST" UNDER SECTION 104D

245. As outlined in Section 4, Rule 13-9 of the One Plan applies to works in rare and threatened habitats (identified by Schedule F of the One Plan) and a non-complying activity status applies to a number of resource consents being sought for the Project when located in those habitats. Given the interrelated and overlapping nature of the activities for which resource consent are required, it is appropriate for the resource consents sought to be 'bundled' together and considered jointly as a non-complying activity.
246. In determining an application for a non-complying activity, the decision-maker must first consider whether one of the two tests under section 104D of the RMA can be met. In summary these tests are (emphasis added):
- (a) whether the adverse effects of the activity on the environment will be minor (section 104D(1)(a)); or

- (b) whether the application for an activity will not be contrary to the objectives and policies of relevant plans and proposed plans (section 104D(1)(b)).

247. Section 6 of the AEE includes an assessment of actual and potential effects on the environment that is, in turn, supported by a number of technical assessments and reports included in Volumes IV and V. This assessment concludes that the Project may result in adverse effects on the environment that are more than minor in respect of:

- (a) the cultural landscape, indigenous biodiversity, the mauri of the Manawatū River and catchment, and access to cultural resources;
- (b) the natural character of streams and their margins;
- (c) terrestrial ecology concerning the loss of indigenous biodiversity values including those identified as Schedule F under the One Plan; and
- (d) freshwater ecology concerning the loss and modification of stream habitat.

248. On this basis, I confirm that it is my view the Project cannot pass the section 104D(1)(a) 'effects' gateway test.

249. In order to be granted consent the Project must, therefore, pass the second gateway test under section 104D(1)(b) and demonstrate that it is not contrary to the objectives and policies of relevant plans or proposed plans.

250. Considering the application in respect of section 104D(1)(b) is, as I understand the relevant case law, a test of whether the application is "*contrary*" to relevant objectives and policies following a balanced assessment of the objectives and policies of a plan as a whole. The word "*contrary*" is understood as meaning opposed in nature, different, or opposite to. An absence of support is not sufficient to meet the test of "*contrary*" and therefore, an activity need not be consistent with every objective or policy.

251. Section 8 of the AEE includes a consideration of the Project in respect of the provisions of the One Plan and the relevant District Plans. In the carrying out the assessment (in which I was involved), a holistic and balanced approach was taken, consistent with relevant case law on the approach to considering non-complying activities. Regardless of this however, there is necessarily more scrutiny applied to some specific provisions of the One Plan over and above others, because they directly link back to the rules that give the Project its non-complying activity status.

252. Accounting for this, it is my view that the Project is consistent with the relevant objectives and policies for the following reasons:

- (a) The Project specifically responds to the direction in the One Plan as it relates to the provision of regionally and nationally important infrastructure (including the roading network as identified in the RLTP), in that the infrastructure provisions specifically recognise that there are some instances where there will be adverse effects on the environment, and provides for this to occur providing more than minor effects are appropriately avoid, remedied, mitigated or offset (or compensated) and where the effects are managed in accordance with the provisions of the One Plan;
- (b) Iwi Partners have been closely involved in the development of the Project and have all prepared CIAs about the Project. I rely on these CIAs and the draft evidence of the Iwi Partners' representatives that I have seen in relation to cultural effects matters.¹⁵ Another important aspect is the commitment to this Iwi-Crown partnership through the ongoing role in aspects of the day-to-day development of the Project of Kaimahi and through the outcomes and ongoing monitoring proposed, achieved not only through the proposed resource consent conditions attached to **Ms McLeod's** evidence, but also through the designation conditions;
- (c) The Project has been designed (and measures proposed) to ensure that its adverse environmental effects will be avoided, remedied, mitigated, or otherwise addressed in a manner that is consistent with the One Plan. In particular:
 - (i) The significant diminishment of the attributes and qualities of areas that have high natural character has been avoided. The One Plan framework allows infrastructure of regional and national importance, or activities that result in environmental benefit, to remedy or mitigate those effects where it is not practical to avoid them. I consider that to be the case here in respect of linear infrastructure such as this and that the effects of the Project on waterbodies and their margins have been avoided, remedied and mitigated as far as practicable.

¹⁵ Noting that at the time of finalising this evidence, the evidence of Ms Karaitiana for Rangitāne o Manawatū, was not yet available.

- (ii) The proposed measures to offset (and compensate for) residual adverse ecological effects will ensure that the Project is able to achieve the policy direction regarding the protection and management of indigenous biodiversity, thus ensuring a net indigenous biological diversity gain.
 - (iii) In addition, the Project will deliver no-net loss in relation to freshwater ecosystem functioning.
 - (d) The Project is provided for within the District Plans, by way of designations, and therefore is consistent with the relevant provisions of the relevant district plans, all of which seek the provision of safe, integrated transport networks.
253. Because the Project is strongly aligned with the relevant provisions of the planning instruments (in particular the One Plan framework) and therefore not contrary to it, it is my view the application passes the section 104D(1)(b) test of section 104D, and all resource consents sought in this application can be considered by the Court pursuant to sections 104 and 104B.
254. The section 87F report, subject to recommendations made and discussed above, agrees with this assessment, and as a result concludes that the Project can pass the second gateway test of s104D in order for the application to be assessed under sections 104 and 104B of the RMA.

MATTERS RELEVANT TO DISCHARGE PERMITS

Section 105

255. Section 105 of the RMA requires decision-makers to have regard to particular matters with respect to discharge permit applications, including the nature of the discharge and the sensitivity of the receiving environment to adverse effects, the applicant's reasons for the proposed choice, and any possible alternative methods of discharge, including discharge into any other receiving environment.
256. The nature of the proposed discharges to air and water and the sensitivity of the receiving environment to these discharges have been described in detail by other expert witnesses. An assessment against section 105 is also contained in Section 9.6 the AEE.
257. **Mr Stewart** has identified a series of control measures in accordance with GD05 to manage the quality of stormwater discharges during construction and these measures will be set out in the SSESPPs required by the

conditions of consent. Mr Stewart considers that the measures proposed meet best practice in terms of construction management and associated monitoring and potential adverse effects can be effectively managed. **Mr Hamill** and **Ms Quinn** have taken into account the nature of the receiving environment (both in terms of water quality and aquatic ecology respectively) and the erosion and sediment controls required by the conditions of consent (which are presented in the evidence of **Ms McLeod**), and conclude that the impacts on water quality can be appropriately managed during the construction phase.

258. **Mr Chilton** has described the nature of the potential construction related air discharges and the sensitivity of the receiving environment to air discharges. This has led to recommendations for a management framework (including mitigation and monitoring), to be prescribed in a DMP. **Mr Chilton** concludes that this approach is the best practicable option ("**BPO**") and any potential adverse air quality effects will be able to be effectively managed.
259. In terms of operational discharges, **Mr Hughes** has thoroughly considered the BPO in respect of stormwater quality and quantity matters respectively. The Project represents an improvement with respect to both the quality and quantity of the stormwater discharges through the design and mitigation proposed.
260. In terms of section 105(1)(c), given the nature of construction and operational discharges, I consider that the choices available in terms of locations or methods are constrained by topography and the general nature of the Project corridor within which construction and operation will take place (including other physical infrastructure constraints and land ownership). In addition, it is not practical to discharge to an alternative receiving environment, given the Project's location within the wider Manawatū River catchment.
261. Based upon the evidence presented, I consider that the practicable alternative options and discharge methods are limited to those identified by various experts. The range of management, physical and monitoring techniques proposed will ensure discharges are managed appropriately, and to best practice standards. I am of the opinion that sufficient regard has been had to the matters set out under section 105.

Section 107

262. Section 107 restricts the ability of a consent authority to grant a discharge permit if the discharge gives rise to certain effects. The AEE (at Section 9.7)

and accompanying technical reports describe the nature and effects of these discharges and conclude that these discharges will generally not give rise to the effects in the receiving waters set out in section 107(c) to (g) of the RMA (subject to appropriate construction management measures being implemented). That said, if such effects were to arise, a discharge permit may still be granted because the circumstances in section 107 of the RMA apply as follows:

- (a) The discharges will be short-term (or temporary) and any effects will occur at limited times, though not necessarily consistently, over the duration of construction (as discussed in the evidence of **Mr Stewart**). Effects are expected to dissipate within a year of construction. If any unexpected longer-lasting effects are observed (which I consider unlikely based on the evidence of others), a process is proposed to ensure they are effectively addressed, as described by **Ms Quinn**.
- (b) Measures will be put in place to manage and minimise discharges during construction (as discussed in the evidence of **Mr Stewart, Mr Hamill and Ms Quinn**).
- (c) There are unlikely to be ongoing adverse effects of any significance once construction has been completed (such that further offsetting would be required). As outlined in **Mr Hughes'** evidence, the operational stormwater discharges will result in a positive effect on the receiving environment as the Project will treat all new impervious areas associated with the Project. This is a significant improvement from the treatment that is currently being provided over the existing state highway network within the Project area.

263. I note that the section 87F report concurs that the Project is consistent with sections 105 and 107 of the RMA.

PART 2 ASSESSMENT

264. Section 9 of the AEE provides an assessment of the Project against Part 2 and concludes that the Project achieves the purpose and principles of the RMA as set out in Part 2.

265. Having now reviewed the information presented in submissions and evidence of others, I continue to support the conclusion that granting consents to enable the Project would promote the sustainable management purpose of the RMA as provided for in section 5, bearing in mind the statutory directives on the decision-maker in Part 2 (to recognise and provide for the relevant

matters of section 6, have particular regard to the matters of section 7, and take into account the principles of the Treaty of Waitangi). I detail the reasons below.

Section 5 – Purpose and principles of the RMA

266. The Project will enable people and communities to provide for their social, economic and cultural wellbeing and their health and safety, by providing:

- (a) economic benefits, including increased economic activity during construction and the operational benefits of certainty, productivity benefits and agglomeration benefits;
- (b) significant transport benefits through improved resilience, safety, efficiency, reliability and travel times, and benefits arising from increased connections and opportunities for recreational and active transport users; and
- (c) social benefits in terms of connectivity, community cohesion, reduced consequences of crashes and associated deaths and injuries. There will also be improved social outcomes for Ashhurst residents through the removal of traffic from local roads. Additionally, the Project will deliver a range of other opportunities that will deliver social benefits over time including initiatives to be developed with Iwi Partners and through employment.

267. I consider that the Project does not compromise the potential of natural and physical resources to meet the needs of future generations for the following reasons:

- (a) The Project will result in a net indigenous biological diversity gain with beneficial outcomes for the natural environment (including the life-supporting capacity of ecosystems).
- (b) In terms of physical resources, the Project will increase the ability of the state highway system (as a physical resource of national and regional significance) to meet the foreseeable local and regional needs for road transport.
- (c) The proposed management of potential effects on network utilities and other national and regionally significant infrastructure via the Project design and conditions will ensure that the ongoing operation of a range of physical resources is not compromised.

- (d) The Project safeguards the life supporting capacity of air, water, soil and ecosystems through the implementation of performance standards and a comprehensive management plan framework.
268. The section 87F report agrees with the assessment of the economic, transport and social benefits of the Project, and considers the Project to be consistent with section 5 matters.
269. However, Mr St Clair notes that due to some adverse effects, there is the potential for soil and water to be impacted in a manner that conflicts with the purpose of the RMA. In order for the Project to promote the sustainable management of natural and physical resources, he recommends conditions that he considers must be complied with and implemented correctly. This matter is discussed further in my evidence below in response to the section 87F report.

Section 6 – Matters of national importance

270. Matters of national importance, which are to be recognised and provided for, are set out in section 6 of the RMA. In my opinion the Project response appropriately to those the matters of national importance for the following reasons:
- (a) The Project has minimised stream crossing effects as far as practicable, limiting the disruption to the abiotic and biotic attributes. This, combined with the extensive offset and compensation planting proposed, and other measures (retirement and protection of established vegetation, the development and protection of enhanced riparian margins, and extensive mammalian pest control) will provide for the preservation of the natural character of streams and margins as well as enhancing the natural character in some areas (section 6(a)).
 - (b) While the Project corridor traverses two outstanding natural landscapes or features (being the Manawatū Gorge and the Ruahine Range ridgeline), effects are avoided and mitigated appropriately (section 6(b)).
 - (c) The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna is achieved, in part, by the proposed alignment of the road which avoids the areas subject to QEII covenants as far as practicable, and other design refinements have limited the extent of adverse effects. The replacement and offset planting measures and other measures proposed (including retirement

and pest control) will ensure that the Project results in a net biological diversity gain (section 6(c)).

- (d) The Project will enhance public access to or along the margins of rivers and other waterbodies (except where limited by necessary construction activities), including to areas that are currently inaccessible by the public, through the development of the Western Gateway Park, SUP and a pedestrian path network (section 6(d)).
- (e) The relationship of tangata whenua and their culture and traditions with their ancestral lands, water, sites, wāhi tapu and other taonga has been recognised and provided by embedding Māori cultural values in the Project, including through the incorporation of Te Aranga principles (via the CEDF), cultural mitigation measures (proposed conditions) and provision of ongoing partnership between the Transport Agency and the Iwi Partners in respect of the Project (section 6(e)).
- (f) The Project does not affect historic heritage (section 6(f)).
- (g) The Project does not affect any protected customary rights (section 6(g)).
- (h) Natural hazard risks are appropriately managed through the location and design of the Project (section 6(h)).

271. The section 87F report agrees that the Project accords with section 6.

Section 7 – Other matters

272. Section 7 of the RMA sets out the other matters to which particular regard must be had when a decision-maker is exercising functions and powers under the RMA. I consider the Project responds appropriately to section 7 matters for the following reasons:

- (a) The kaitiakitanga of tangata whenua has been recognised in this Project through the partnership with iwi, and their integral role in guiding the design and implementation of the Project (section 7(a)).
- (b) The ethic of stewardship has been provided for through the Project's recognition of collective responsibility for local resources, and engagement with community groups. As a result, community groups have been able to exercise stewardship over resources (section 7(aa)).
- (c) The Project provides for the efficient development of a state highway connection between Ashhurst and Woodville, as a physical resource of

critical importance to the Region (as identified by the RLTP and One Plan) (section 7(b)).

- (d) The significant transport benefits that are realised by the Project will lead to reduced travel times with associated fuel savings and, therefore, greater efficiency of the end use of energy (section 7(ba)).
- (e) The Northern Alignment and overall design of the roading elements have been developed in order to minimise adverse effects on existing amenity values. Assessment during the NoRs stage of the Project concluded that in many circumstances, amenity values are enhanced e.g. Ashhurst (when compared to the existing environment). While it is understood that the Project results in changes to the existing environment, designation conditions ensure that impacts on amenity values are minimised and mitigated, particularly through requirements such as the Landscape Management Plan.
- (f) In respect of the intrinsic value of ecosystems (section 7(d):
 - (i) the actual and potential effects of the Project on significant and high-value ecosystems have been avoided where practicable:
 - (ii) the replacement and offset planting measures will achieve a net biological diversity gain in respect of terrestrial ecosystems (including identified Schedule F habitats); and
 - (iii) there will be no net loss in ecosystem functioning in respect of freshwater ecosystems.
- (g) While the Project results in a permanent change to the existing environment, the adverse effects have been avoided, remedied, mitigated, offset or compensated for through the Project design and proposed conditions in order to achieve the maintenance of, and in some cases, an enhancement of the existing environment (section 7(f)).
- (h) In terms of finite characteristics of resources, the Project responds to the presence of Schedule F rare, at-risk and threatened habitats through avoidance where practicable or by limiting the Project extent (e.g. within the envelope provided for under the proposed designation in all cases). In addition, the design avoids a remnant stand of threatened – nationally critical swamp maire by providing for their retention and avoids ramarama. In terms of fauna, a range of measures are proposed, including pre-construction surveys, seasonal constraints

and management procedures, to manage impacts on significant avifauna, lizards and bats (section 7(g)).

- (i) The effects of climate change have been considered in the design of the Manawatū River Bridge and the Mangamania Stream Bridge, which accounts for climate change effects on the flood levels of the Manawatū River catchment. Proposed culvert sizing has also had regard to this matter (section 7(i)).
- (j) While the Project passes through the Te Āpiti Wind Farm, the Transport Agency has worked closely with Meridian to ensure that the renewable energy benefits arising from its operation will not be compromised (section 7(j)).

273. The section 87F report concurs with this assessment.

Section 8 – Treaty of Waitangi (Te Tiriti o Waitangi)

274. In my opinion, the Transport Agency, as a Crown agency, has taken into account the principles of the Treaty of Waitangi/Te Tiriti o Waitangi (and enabling the Project therefore accords with those principles) by the following:

- (a) The Transport Agency has a commitment to a partnership-based approach with tangata whenua that reflects Treaty principles. This approach is reflected in the on-going engagement between parties, and particularly the collaboration with the Project Iwi Partners, including their integral role in guiding the design, mitigation and implementation of the Project.
- (b) The Project has addressed the requirements of section 8 of the RMA through engagement with iwi who have identified themselves as mana whenua with an interest in the Project corridor. Where possible, the matters raised by iwi through hui and CIAs have been addressed in the Project design to date. The Transport Agency will continue to work closely with its Iwi Partners in finalising the Project's detailed design and implementing the Project, thus realising other opportunities for tangata whenua.

275. While the Project will result in some unavoidable adverse effects on the environment, extensive measures are proposed to mitigate or otherwise offset or compensate for those effects. The Project will realise significant national, regional and local benefits and make a real difference in people's lives; as such, the Project gains strong support from Part 2 of the RMA and

granting this application will further the sustainable management purpose of the RMA.

COMMENTS ON SUBMISSIONS

276. The application was publicly notified on 25 March 2020, with the submission period closing on 24 April 2020. A total of 19 submissions were received with nine in support, seven in opposition, two opposing in part and one neutral submission (which requested that the application be placed on hold). No late submissions were received.

277. I have read and considered the submissions made, including those that raise issues relating to the activities for which consent is sought, planning policy matters, and those that address effects on the environment. In my evidence below, I specifically address those submission points which relate to planning policy matters (submitters 10, 13, 15, 16 and 19). **Ms McLeod**, in her evidence, responds to submissions that are concerned with proposed conditions of the resource consents and matters pertaining to the submitted management plans.

Submitters in support / Project benefits

278. I acknowledge those submissions that have been made in support of the Project, which identify the significant benefits that the Project will deliver.¹⁶ I also acknowledge the submissions supporting the conclusions within the AEE, including those in relation to relevant statutory documents.¹⁷

279. I agree with these submissions that the Project will deliver significant benefits to the local community and broader regional community, and that granting the consents sought for the Project would promote the sustainable management of natural and physical resources.

Transpower New Zealand Limited (Submission 10)

280. The submission made by Transpower opposes the parts of the Project that may adversely affect the National Grid and seeks clarity on the intended design and construction of the Eastern Roundabout. In addition, the submission notes that the application is required to meet the relevant

¹⁶ Carl Westwood (Submission 1); Palmerston North City Council (Submission 4); Manawātū District Council (Submission 5); Business Central (Submission 7); Tararua District Council (Submission 14); Automobile Association (Submission 17).

¹⁷ Ken Barnett (Submission 6) and Graham Speedy on behalf of DaSS Trust (Submission 9).

infrastructure objectives, policies and other provisions of various planning instruments.¹⁸

281. As addressed in the evidence of **Mr Watterson**, the configuration of the proposed Eastern Roundabout has been modified so that it now has four arms (of single lanes) and he has included supporting plans, to be substituted into the application, which reflect this change. **Mr Watterson** has confirmed that all necessary clearances from Transpower's assets can be achieved under this configuration.¹⁹
282. The evidence of **Mr Adams** details how construction works, and associated activities will be designed and undertaken to comply with NZECP (including clearances). This includes detail on how the safe clearance requirements can be met both during construction (including consideration of staging) and for the purposes of ongoing maintenance activities (both for Transpower and Transport Agency maintenance personnel in relation to their respective assets.)
283. However, I note that construction and operational clearances and other requirements are subject to Transpower's own detailed analysis and this will occur over the coming 3-4 months. I understand though that Transpower are comfortable with the conditions proposed by **Ms McLeod**. This includes a potential condition precedent, as proposed by Transpower in its submission, and the replication of a condition similar to Designation Condition T2 (discussed below) to be imposed on the resource consents. The imposition of such conditions will ensure that its assets are appropriately safeguarded during construction and once the Project is operational.
284. I consider that Designation Condition T2 will ensure that the issues identified by Transpower are continued to be developed with the submitter and addressed, particularly as the detailed design progresses. Condition T2 requires the preparation of a National Grid Management Plan ("**NGMP**") prior to any construction works, or enabling works, being undertaken in the vicinity the Mangamaire – Woodville A 110kV transmission line. I consider that this provides the necessary certainty that Transpower requires, alongside the condition proposed by **Ms McLeod**.

¹⁸ The objectives and policies of the New Zealand Electrical Code of Practice ("NZECP"), particularly Policy 10; the objectives and policies of the NZECP, particularly clearance distances; requirements for compliance with Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009 (NESETA); and the relevant objectives and policies of the One Plan.

¹⁹ New Zealand Electrical Code of Practice for Electrical Safe Distance (NZECP 34:2001) guidelines have been used to confirm all clearance requirements are met in relation to works around Transpower assets.

285. Other witnesses, including **Dr McConchie** and **Mr Hughes**, have also considered the impacts of this design refinement in their evidence and consider that any actual or potential effects fall within the 'envelope' of effects considered under a five-arm configuration (which had a somewhat larger footprint).
286. Based on the above, I consider that adverse effects on Transpower's assets can be avoided or otherwise appropriately addressed and that relevant policy statement and standard, and objectives and policies can be complied with.

Meridian Energy Limited (Submission 13)

287. Meridian opposes the resource consents being granted on the basis that the Project introduces risk to the ongoing operation and future 're-powering' of its wind farm site, primarily through the introduction of new habitat (brought about through a combination of planting within stormwater infrastructure, proposed riparian planting associated with stream diversions and landscape planting adjacent the highway).
288. **Mr Dalzell, Mr Watterson, Mr Hughes, Dr Baber** and **Ms Quinn** have provided evidence as to the ongoing engagement that has been occurring, and which I have been part of, and the outcomes of that ongoing engagement. I concur with the evidence provided by these witnesses. I also note that this engagement is a continuation of an ongoing close working relationship that has been established between the Alliance and Meridian since August 2019.
289. As described in the evidence of **Dr Baber** and **Ms Quinn**, Meridian is concerned that Project-related planting, leading to potential bird habitat creation associated with stormwater management, stream diversion plantings and landscape plantings could result in significant adverse effects on Meridian due to the proximity of these features and associated planting to turbines.
290. I have been involved in ongoing discussions with Meridian representatives (alongside **Dr Baber** and **Ms Quinn**) regarding this issue and note that the Transport Agency has agreed to remove some of the previously proposed stream diversion and associated riparian planting, specifically those stream diversions across spoil sites 15 (removed) and 16, and 25 and 28, and a reduction in the width of riparian planting on others. These changes have been introduced through the updated drawings attached to **Mr Watterson's** evidence. As described by **Ms Quinn**, the stream diversions that the

Transport Agency has agreed to remove will now be unplanted channels, likely to comprise either rock lined, or grassed cut-off drains with those diversions have been removed from the proposed offset package. In addition, there is also a reduction in the quantum of stormwater wetland creation that has been agreed (although not shown in the drawings).

291. I can confirm that agreement of the revised stream diversion and planting scheme has been reached with Meridian representatives regarding the final configuration of the riparian planting within the Te Āpiti Wind Farm site (the configuration reflected in the drawings attached to **Mr Watterson's** evidence).
292. I note that **Messrs Watterson, Adams and Hughes** have commented on other matters raised in Meridian's submission pertaining to geotechnical, civil, construction and stormwater related aspects. I agree with the conclusions reached and again note the productive discussions with Meridian's representatives in respect of these matters.
293. In addition to the above discussion, I note that Designation Condition T1 provides clear requirements which the requiring authority (the Transport Agency) must confirm with Meridian ahead of any construction works starting within the wind farm site, and otherwise meet. In addition, any planting that is proposed within the wind farm site is subject to agreement, as set out under Designation Condition 19(a)(i). Condition T1 requires the development of the Te Āpiti Wind Farm Management Plan, which will be agreed and submitted as part of the future outline plan process.
294. Based on the above discussion, I consider that the Project can be designed in a way such that it does not hinder the operation and/or maintenance of renewable electricity generation thereby resulting in adverse effects on the Te Āpiti Wind Farm and all associated Meridian assets. I also consider that the relevant designation (that within Tararua District) and associated conditions provide a high level of certainty to Meridian that design matters can and will be resolved. The proposal is therefore consistent with the NPSREG and relevant policies of the One Plan.
295. **Ms McLeod** provides further detail in respect of conditions which have been developed further in discussion with Meridian (specifically proposed conditions EC15, LD5 and SW1). I support these amendments.

**Royal Forest & Bird Protection Society of New Zealand Incorporated
(Submission 15)**

296. Royal Forest and Bird Protection Society of New Zealand Incorporated ("**Forest & Bird**") is concerned that the Project will result in adverse effects which are inconsistent with providing for protection under section 6(c) of the RMA and that the adverse effects of the Project will not be appropriately avoided, remedied or mitigated. In addition, and relevant to my brief of evidence, the submission asserts that the Project does not meet the direction provided by the One Plan, namely Objectives 6-1 and 6-2 and Policy 13-4 (in particular 13-4(d)). The submission also raises a large number of concerns with respect to proposed conditions and the management plan framework.

297. I comment on these matters in turn below.

Objective 6.1; Policy 13-4 and 13-4(d); and section 6(c) of the RMA

298. As described in detail in **Mr Markham's** evidence, a package of offsetting and compensation measures is proposed to address the Project's residual adverse ecological effects. I consider that offsetting and ecological compensation provides an important part of the broader suite of measures required to appropriately respond to the residual adverse effects of projects of this nature and scale.

299. Based on the evidence of **Dr Baber** and **Mr Markham**, I consider that the assessment that underpins the offsetting and compensation proposal meets current best practice (including that outlined in BOURMA) and therefore supports the intent underpinning the One Plan policy framework.

300. Objective 6-1 seeks to protect areas of significant indigenous biological diversity, and Policy 13-4 guides consent decision-making for activities in rare habitats, threatened habitats and at-risk habitats. Policy 13-4(b) stipulates a hierarchical approach to any more than minor adverse effects (in accordance with Policy 13-5). They are to be avoided in the first instance, and where they cannot be reasonably avoided, they are to be remedied or mitigated at the location where the effect occurs. Where this cannot be achieved, Policy 13-4(b)(iii) requires that the effects are offset to result in a net indigenous biological diversity gain. Policy 13-4(d) sets out how offset is to be achieved, as set out in full earlier in my evidence.

301. Therefore, in order to grant consent for the activities in areas of significance in accordance with Policy 13-4(b) the decision-maker must be satisfied that where more than minor adverse effects cannot be avoided or mitigated at the

point of the adverse effect, then an offset to result in a net indigenous biological gain must be able to be achieved and maintained.

302. **Mr Markham's** evidence and the Terrestrial Offset and Compensation - Technical Assessment G sets out in detail the offset and compensation package proposed as part of the Project. Models have been used to address the residual adverse terrestrial ecological effects of the Project that cannot be avoided or minimised.
303. As stated earlier in my evidence, the reason the revegetation (and enhancement measures within the revegetated areas) for the five habitats is not able to be classified as 'offset', as that term is now commonly understood, is because biodiversity values in these habitat types take too long to reinstate and demonstrably offset. However, through the offset monitoring programme, the expected Net Gain outcome can then be verified these as an offset.
304. As **Mr Markham** states in his evidence and the Terrestrial Offset and Compensation - Technical Assessment G, additional compensation is proposed in the form of stock exclusion fencing (and associated habitat enhancement measures) and mammalian pest control to address short- to medium-term loss in biodiversity values.
305. To that end, the offsetting proposed goes beyond what is required to be offset under the One Plan provisions (Policy 13-5), given that it has been calculated to offset **all** significant adverse effects and not just those eight habitats identified under Schedule F. The offset proposed (to be undertaken in accordance with the EMP) demonstrates that residual ecological effects are able to be appropriately managed, and a net overall biodiversity gain achieved and maintained. Accordingly, Policy 13-4(d) is met and is not an impediment to consent being granted.
306. Additionally, the offset proposed achieves the net gain requirement under proposed Designation Condition 24. Additionally, given that the Project will result in the construction of nationally significant infrastructure, allowing for residual effects to be offset, is consistent with Policy 3-3 as discussed above.
307. Regarding the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna as a matter of national importance (pursuant to section 6(c) of the RMA), I acknowledge that the Project will certainly adversely affect indigenous vegetation and habitats of indigenous fauna. I consider that it would be unusual for a major transport project in this

type of setting to avoid effects, that in some case will be significant. However, the significance of the adverse effects has been identified and provided for by a combination of a careful, yet robust approach to route refinement and through the development of a comprehensive ecological mitigation, offset and compensation package.

Objective 6-2 and section 6(a) of the RMA

308. **Mr Evans** has set out the process which has been used to assess natural character in his evidence and within Technical Assessment I. While not part of the assessment process itself, I consider the approach adopted to assess natural character (including consideration of cumulative effects) to be sufficiently robust, and appropriately guided by the One Plan policy framework. I note that **Mr Evans** considers that the approach to the assessment has been conservative.
309. Objective 6-2(b)(i) relates to areas of outstanding natural character. As explained in the evidence of **Mr Evans**, the Project does not intersect with any areas with outstanding natural character, therefore One Plan Objective 6-2(b)(i) does not apply.
310. Objective 6-2(a)(ii) seeks for the characteristics and values of the natural character of wetlands and rivers and their margins to be protected from inappropriate subdivision, use and development. I consider that the Project is not a form of inappropriate development given the existing natural character of the landscape through which the Project passes and the way in which the Project has considered and responded to potential natural character effects (as well as the supportive objectives and policies within Chapter 3 of the One Plan). As such, in my view the Project meets Objective 6-2 (a)(ii).
311. As set out in **Mr Evans'** evidence, one catchment (catchment 9) was assessed as having high existing natural character, however, the effects of the Project in this catchment were assessed as not resulting in a significant diminishment of the attributes and qualities of this catchment's natural character. The Project is therefore consistent with Objective 6-2(b)(ii). None of the other areas affected by the Project were considered to have existing high levels of natural character.
312. In general terms I consider that the Project has appropriately avoided, remedied, or mitigated adverse effects, including cumulative effects, on the natural character of all other catchments and areas. I therefore conclude that

Project is not contrary to Objective 6-2(b)(iii) of the One Plan and is consistent with section 6(a) of the RMA.

313. Objective 6-2(c) seeks to promote the rehabilitation or restoration of the natural character of the coastal environment, wetlands, rivers and lakes and their margins. Policy 6-8(b) acknowledges that such restoration and rehabilitation should only be where "*appropriate and practicable*". The ecological mitigation proposed in the relevant Technical Assessments and outlined in the evidence of **Mr Markham, Ms Quinn** as well as the measures recommended in the evidence of **Mr Evans** provide the opportunity for rehabilitation and restoration of stream margins through measures including stock exclusion and riparian planting which will provide a longer-term positive benefit for these waterbodies. On that basis, I consider the Project is consistent with Objective 6-2(c).

Conditions and management plan framework

314. Specific concerns raised in relation to the proposed conditions and the management plan framework have been addressed in the evidence of **Ms McLeod**. I concur with her conclusions and proposed amendments she has made.

Queen Elizabeth the Second National Trust (Submission 16)

315. The submission made by Queen Elizabeth the Second National Trust ("**QEII Trust**") highlights that the proposal will have broader environmental impacts on indigenous vegetation and habitat and waterbodies beyond the areas subject to QEII covenants that are directly affected. In addition, the submission raises concerns with respect to draft consent conditions and suggests that the application is inconsistent with the One Plan Objectives and Policies, particularly in relation to consent decision-making for activities in rare, threatened and at-risk habitats.
316. Policy 13-4 sets out the consent decision-making for activities in rare habitats threatened habitats and at-risk habitats. As stated in my response to the Forest & Bird submission, a hierarchical approach to dealing with adverse effects (in accordance with Policy 13-5) was undertaken for the Project, however, more than minor adverse effects cannot be avoided or mitigated at the point of the adverse effect. Therefore, an offset to result in a net indigenous biological gain must be able to be achieved and maintained.
317. Again, the offset proposed (to be undertaken in accordance with the EMP) and discussed in detail in the evidence of **Mr Markham**, demonstrates that

residual ecological effects are able to be appropriately managed and a net overall biodiversity gain is able to be achieved and can be maintained. Accordingly, I consider that Policy 13-4(d) is able to be met.

318. Specific concerns in relation to proposed conditions have been addressed in the evidence of **Ms McLeod**. I concur with her conclusions and proposed amendments she has made.

Submission by the Director-General of Conservation (Submission 19)

319. The submission by the Director-General ("**DOC**") raises a number of issues, many of which have been addressed by other experts. In response to DOC's submission, and in particular to the specialist ecological matters raised, a series of meetings were held through April and May 2020 to enable one-on-one discussions between by the Transport Agency's experts and the DOC experts. I was part of these discussions. My understanding is that there are no outstanding matters of concern in regard to the level of effects assessment, and this is largely due to constructive advice and ongoing work with Wildland Consultants ("**Wildlands**"; DOC's consultant ecologists in respect of the Project).
320. I address below DOC's submission points relevant to the policy framework and in respect of achieving the purpose of the RMA. I note that the submission also raises concerns with respect to draft consent conditions, which **Ms McLeod** responds to in her evidence.
321. Regarding section 5 of the RMA, I understand the general point being asserted by DOC (namely that avoiding or appropriately addressing adverse ecological effects is an important aspect of sustainable management), but I disagree that the Project does not meet the purpose of the RMA. In my view the Project will strongly enable people and communities to provide for their social, economic and cultural wellbeing and their health and safety, by providing significant transport benefits through improved resilience, safety, efficiency, reliability and travel times, and consequent social benefits arising from increased connectivity, community cohesion. Sustainable management also involves the promotion of the matters in section 5(2)(a) to (c) of the RMA. In this regard, I consider the Project does not compromise the potential of natural and physical resources to meet the needs of future generations for the reasons set out in the Part 2 Assessment below.
322. I also disagree that the Project does not meet section 6(a) and 6(c) of the RMA. Section 6(a) states that the preservation of the natural character of the

wetlands, and lakes and rivers and their margins, and their protection from inappropriate subdivision, use, and development, must be recognised and provided for as matters of national importance. As stated earlier in my evidence, the Project is not an inappropriate form of development in this receiving environment. Furthermore, as set out in **Mr Evans**' evidence, the Project does not affect any area of outstanding natural character and has not significantly diminished any areas of high natural character. Indeed, the Project provides for the preservation of the natural character of streams and margins by minimising the need for and extent of stream crossings as far as practicable which in turn limits disruption to the abiotic and biotic attributes.

323. Further, the extensive offset and compensation planting proposed may result in some enhancement of natural character in some areas over time, as discussed in the evidence of **Mr Evans**, through inclusion of retirement and protection of established vegetation, the development and protection of enhanced riparian margins, and extensive mammalian pest control.
324. In terms of section 6(c), that provision states that the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna must be recognised and provided for as a matter of national importance. The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna is achieved, in part, by the proposed alignment of the road which avoids the areas subject to QEII covenants as far as practicable, and other design refinements that have limited the extent of actual and potential adverse effects.
325. Moreover, the replacement and offset planting measures and other measures proposed (including retirement and pest control) will ensure that the Project results in a net biological diversity gain. I note that the approach taken adheres to current best practice (BOURMA) and therefore I consider the approach supports the intent of the underpinning policy framework. Therefore, I consider the Project meets section 6(c) of the RMA.
326. I also disagree that the Project does not meet sections 7(c), 7(d) and 7(f) of the RMA. Section 7 requires the Court to have particular regard to the maintenance and enhancement of amenity values (section 7(c)), intrinsic values of ecosystems (section 7(d)) and maintenance and enhancement of the quality of the environment (section 7(f)). The actual and potential effects of the Project on significant and high-value ecosystems are managed through avoidance, where practicable, mitigation and remediation, and by replacement and offset planting measures to achieve a net biological

diversity gain in respect of terrestrial ecosystems (including identified Schedule F habitats); and no net loss in ecosystem functioning in respect of freshwater ecosystems. While the Project results in a permanent change to the existing environment, the adverse effects have been avoided, remedied, mitigated, offset or compensated for through the Project design and proposed conditions in order to achieve the maintenance of, and in some cases, an enhancement of the existing environment (section 7(f)).

327. A number of changes to conditions to address matters of concern are raised. The majority of the requests in the submission do not seek specific wording, however through ongoing engagement with the submitter (in which I have been involved) further refinements to conditions have been made. **Ms McLeod** covers these updated conditions in her evidence. I support the conditions arrived at, as appended to her evidence.

COMMENTS ON SECTION 87F REPORT

328. For the most part, I have addressed matters raised in the section 87F report within various parts of my evidence. However, in this section of my evidence, I make general observations and address the areas of contention.
329. I note that in preparing the section 87F report, Mr St Clair has relied on expert advice of technical advisors. Similarly, I have relied on the evidence in of the Transport Agency's expert's in relation to these matters.
330. My general observations are that the section 87F report agrees with the application documents and the AEE, namely:
- (a) Concurs with the resource consents applied for (i.e. the reasons for consent/ rule triggers), the overall activity status of the application, and the terms of the resource consents sought;
 - (d) Concurs with the assessment of effects and that there are residual adverse effects on cultural, natural character, terrestrial and freshwater ecological values;
 - (b) Concurs that the Project does not meet the first gateway test of section 104D of the RMA due to the level of effects. However, the report concludes that the second gateway test is met as the Project will be generally consistent with the objectives and policies of the Regional Plan; and

- (c) Concurs that the sustainable management of natural and physical resources would be promoted in accordance with the purpose of the RMA.

331. Below, I address the areas of contention within the section 87F report, or which warrant further discussion:

- (a) Solutions to demonstrate 'expected' net gain, and the ability of the Project to meet Policy 13-4, specifically, and a recommendation as to the nature and duration of pest management (over 35 years, not 10, for example);
- (e) An 'end of pipe' discharge standard (TSS limit) and One Plan Water Quality Targets; and
- (d) An update as to the position of Transpower and Meridian and whether the Project is consistent with relevant policy statements and regulations.

332. I cover each of these matters below.

Policy 13-4 and Offsetting for terrestrial ecology effects

333. As stated earlier in my evidence, Mr Lambie has made recommendations in order to address the lack of certainty around the 'expected' net gain to offset the effects on five habitats (old growth forests (alluvial and hill country); and the three wetland habitat types).
334. Mr Markham identifies that these are technically "*compensations*" and not offsets because they do not meet the criteria for defining an "*offset*" under BOURMA. Mr Lambie states that these "*expected*" net gain proposals work in a very similar manner to an offset for the purpose of the One Plan.
335. However, Mr Lambie is concerned because old growth forest types would always default to compensation due to their length of time to be established (i.e. the time lag), which in his opinion indicates an inability to pass Policy 13-4(d)(iv) which states an offset is "*not be allowed where inappropriate for the ecosystem or habitat type by reason of its rarity, vulnerability or irreplaceability.*"
336. To address these concerns, and to better demonstrate the success of an 'expected' net gain, Mr Lambie has suggested a number of solutions. The key changes to conditions relate to the nature and duration of pest management (over 35 years, not 10, for example), regular review of offset calculations with changes to the offset/compensation package as required,

and prevention of vegetation clearance without legal agreements securing offset sites in perpetuity being in place.

337. I note that Mr St Clair relies on the recommendations and the modifications to conditions of consent, as recommended by Mr Lambie, to concluding that the Project is consistent with Policy 13-4.
338. As outlined in **Mr Markham's** evidence, some additional proposed offset and compensation measures have been proposed to address Mr Lambie's concerns. These include a 35-year deer control programme and regular biodiversity monitoring (and a check at 10 years) to enable offsets to be demonstrably verified to a net gain for a number of vegetation and avifauna values. This will ensure that Mr Lambie's concerns are addressed, and the Project remains consistent with Policy 13-4.
339. As outlined in the evidence of **Ms McLeod**, the biodiversity outcome monitoring specifications are provided in the proposed consent conditions and the details of the programme are provided in the Residual Effects Management Plan, part of the updated EMP (attached to **Mr Markham's** evidence).

Sediment Discharge Limits

340. As addressed earlier in my evidence, Mr Pearce and Mr Brown have recommended that the condition should be imposed with a discharge standard for the proposed sediment retention devices based on the TSS discharge calculations derived from the USLE in order to assess the effects of the discharge on the receiving environment.
341. Mr Pearce agrees, and concludes, having reviewed Mr Brown's report, that a condition should be imposed with a discharge standard for the proposed sediment retention devices based on the TSS discharge calculations derived from the USLE. This recommendation is discussed in detail in the evidence of **Mr Stewart, Mr Hamill, and Ms Quinn**.
342. **Mr Stewart** and **Mr Hamill** describe the limitations and challenges with assigning a discharge limit to the sediment retention devices. Specifically, they identify that imposing a discharge limit (as proposed by Mr Brown) is not practical and could not be complied with.
343. Based on the evidence of **Mr Stewart, Mr Hamill** and **Ms Quinn**, I concur that the best course of action to ensure effects are no more than anticipated, is through the implementation of an effective monitoring regime rather than a discharge limit.

344. The suite of monitoring proposed is outlined in detail in the evidence of **Ms Quinn**, and presented in the Aquatic Ecological Monitoring, Management and Response Framework which was originally included in the section 92 response. The Framework should be read in conjunction with the Aquatic Ecology Monitoring Protocols ("**AEMP**") in the EMP and in the ESCP.
345. The Framework sets out an approach to implementing next steps to addressing effects if they occur (as determined by deviation change from baseline condition), which includes reporting, further investigation, consideration of onsite controls and further mitigation, offset or compensation if required. In the event that an effect is detected, the first step will be to investigate what on-site controls can be implemented.
346. Following discussion with Messrs St Clair, Pearce and Brown on 2 June 2020, modifications were made to the Framework submitted with the section 92 response. This updated Aquatic Ecological Monitoring, Management and Response Framework is attached to **Ms Quinn's** evidence (**Attachment JQ.5**).
347. This further analysis and updated approach are supported through the revised conditions proposed by **Ms McLeod** in her evidence.
348. On that basis, I consider the Aquatic Ecological Monitoring, Management and Response Framework is more appropriate than a discharge standard and reiterate that the Project is consistent with, and not reliant on a discharge standard in order to meet, the relevant objectives and policies of the One Plan.

One Plan Water Quality Targets

349. Mr St Clair highlights that the AEE states (based on the Water Quality Technical Assessment E), that many of the streams with which the Project intersects show signs of degradation and do not currently meet all the One Plan targets within Schedule E, including for clarity and deposited sediment. Therefore, Mr St Clair concludes that more stringent conditions are required to adequately mitigate adverse effects on Schedule B values, and to ensure that water quality is carefully monitored to check the One Plan targets (in Schedule E) are not exceeded to a level that would result in further diminishment of Schedule B values.
350. I concur with Mr St Clair's approach to link the target of Schedule E to Schedule B values, and this is clearly directed by Policy 5-2 which identifies

that the water quality targets cited at Schedule E must be used to inform the management of surface water quality as set out in Policies 5-3 and 5-4.

351. I also agree with Mr St Clair that Objective 5-2 clearly states that where existing water quality is at a level which will not support the values in Schedule B, this objective directs that water quality should be enhanced. Indeed, on a long-term basis, due to the level of the stormwater treatment proposed and the riparian planting and fencing proposed as part of the Project, water quality will be enhanced to that which exists today in the Middle Manawatū (Mana_10a), Lower Pohangina (Mana_10d), and Mangaatua (Mana_9c) sub-zones.
352. However, I agree with and acknowledge the evidence of **Mr Stewart and Mr Hamill**, that due to the size of the Project, the proposed sediment discharges from bulk earthworks during the construction phase will increase sediment loads to receiving water during rain and flood events.
353. However, I do not agree that the monitoring of One Plan targets (via a standard) is required in order to ensure that the Project can meet the objectives and policies of Chapter 5. Policy 5-4 (which applies rather than Policy 5-3 when water quality targets are not met), states that water quality must be managed in a manner that enhances water quality in order to meet Schedule E targets and/or Schedule B values (my emphasis added). This wording suggests that an inability to meet Schedule E targets does not necessarily mean an inability to meet Schedule B values. Furthermore, Policy 5-4 does not prohibit an activity which does not enhance the water quality targets of Schedule E.
354. The AEE contained a thorough assessment of the Schedule B values. There are nine zone-wide values which apply to all of the sub-zones. In addition, there are three additional site/reach specific wide values (*dotterel habitat, cultural value and trout fishery*) relevant to the Mana_10a, Mana_10d and Mana_9c is recognised as having *flood control and drainage* values, which are assessed in detail in Section 8.2.5 of the AEE. As they are not directly relevant to One Plan targets, they have not been repeated here.
355. The proposed sediment discharges during construction are unlikely to impact on the Schedule B values of *Aesthetics; Contact recreation; Industrial abstraction; Irrigation; Stock water; and Existing infrastructure*. In fact, the Project will ultimately enhance these values through stock exclusion, riparian planting, and the inclusion of a SUP over the proposed BR02 and Ecobridge

(along with other likely recreational enhancements that will be developed as part of the Project, such as access to/from the water).

356. In terms of the *Life supporting capacity* Schedule B value, I consider the Aquatic Ecological Monitoring, Management and Response Framework will ensure that the Schedule B value of life supporting capacity is met.
357. In terms of the *Capacity to assimilate pollution* Schedule B value, I rely on **Mr Hamill's** evidence that, regarding the contaminant of concern (sediment), "*assimilative capacity*" is a fraught term, and in fact, streams with higher amounts of deposited sediment are in fact less sensitive to deposited sediment.
358. On the basis of the above analysis, I consider that the Aquatic Ecological Monitoring, Management and Response Framework is more appropriate than a discharge standard to ensure that Schedule B values will not be compromised as a result of sediment discharges during construction, despite water quality not meeting Schedule E targets during the construction phase. I also consider that Schedule B values will be enhanced in the long-term and on that basis I conclude that the Project is consistent with the relevant objectives and policies of the One Plan.

Transpower / Meridian – consistency with NPSET, NESETA, NPSREG

359. I have responded to the submissions of both Transpower and Meridian above. Based on that response I consider that the Project is consistent with the NPSET and the NESETA (insofar as Transpower are concerned) and the NPSREG (insofar as Meridian is concerned).

CONCLUSION

360. The assessment of effects on the environment has identified significant positive effects that arise from the Project. The Project is intended to deliver a critical link that fundamentally improves the state highway network and provides significant benefits for the local communities and regions. It will provide a more efficient, reliable and safer transport system with reduced travel times and opportunities for recreational and active transport users.
361. The Project will give rise to adverse effects, the majority of which have been avoided or remedied through design. Where adverse effects cannot be avoided or remedied, mitigation has been identified and will be implemented through the proposed conditions. In addition, due to residual terrestrial and freshwater ecological effects, offset and compensation measures have been proposed.

362. Based on my assessment and the evidence of other witnesses, the Project will be consistent with the relevant objectives and policies of the relevant planning instruments. Furthermore, any actual and potential adverse effects can be appropriately avoided, mitigated, offset and compensated for. In turn, this will ensure that the sustainable management purpose of the RMA will be achieved.

Damien Ryan McGahan

12 June 2020