IN THE ENVIRONMENT COURT
AT WELLINGTON

I TE KŌTI TAIAO O AOTEAROA
KI TE WHANGANUI-A-TARA

Decision No. [2024] NZEnvC 133

IN THE MATTER	of a direct referral of applications for resource consents and notices of requirement under sections 87G and 198E of the Resource Management Act 1991 for the Ōtaki to North of Levin Project
BETWEEN	NEW ZEALAND TRANSPORT AGENCY-WAKA KOTAHI (ENV-2023-WLG-000005) Applicant

Court:	Environment Judge B P Dwyer Environment Commissioner K A Edmonds Environment Commissioner D J Bunting
Hearing:	24-26 October and 1-2 November 2023 at Levin
Last case event:	8 December 2023
Appearances:	D Allen and T Ryan for NZTA C Somerville-Frost for Horowhenua District Council M Thomas for Kāpiti Coast District Council S Johnston for Manawatū-Whanganui Regional Council and Wellington Regional Council D Allan for Kāinga Ora – Homes and Communities T Bennion for the Muaūpoko Tribal Authority E Toleman and P Anderson for Royal Forest & Bird Protection Society of New Zealand Inc

Date of Decision: 7 June 2024

Date of Issue: 7 June 2024

INTERIM DECISION OF THE ENVIRONMENT COURT

Contents

REASONS

Introduction

[1] The Ōtaki to North of Levin (Ō2NL) Project involves the construction, operation, use, maintenance and improvement of approximately 24 km of new four-lane median divided state highway, with a new shared use path (SUP) to facilitate cycling and walking along its full length. Compared with the existing section of state highway it has many benefits that none of the submitters and parties took issue with

(confining their attention to the matters that we later address in this decision). We start our decision by backgrounding the problems with the existing state highway and the benefits (or positive effects) of the proposal, drawing on the summaries given in evidence of Mr Lonnie Dalzell the Project Director for the Ō2NL and Mr Philip Peet a traffic expert.

[2] Mr Dalzell said:[1]

> The State Highway 1 (**SH1**) and (**SH57**) corridors between Ōtaki and the north of Levin suffer from both considerable safety and resilience issues.
>
> With 72 death and serious issues (**DSI**) from 2017-2021 this is one of the most dangerous sections of highway in Aotearoa. There were 26 DSIs in 2022 which was significantly more than the average of 14.4 for the previous five years … .
>
> Ō2NL is the last section of the Wellington Northern Corridor, which was a section of new highway to deliver a safe and resilient journey for travelling from north of Levin to Wellington … and the northern and central North Island, including logistic hubs such as Palmerston North.
>
> Many communities have grown around SH1, e.g. Kuku, Manakau, Ohau. The removal of a high percentage of traffic through these communities will improve functionality and liveability. …
>
> There is currently no transport network through this area. SH1 forms a backbone that all roads feed off, causing the mixing of local, regional and national traffic types with different purposes of use, which ultimately leads to lack of safety and resilience.
>
> SH1 between Manakau and Ohau has no alternative roading route. If there is an incident requiring a road closure … the main connection in and out of Wellington is severed leaving only SH2 through the Wairarapa. …
>
> The current road is narrow, angled and has a number of tight corners. The existing physical infrastructure (pavements, bridges, culverts) are not designed or built for the current severity of weather events the country is now experiencing and is near the end of its life. …
>
> The existing SH1 is old and is from a time when traffic volumes were lower, large farming machinery did not use the road, and inter regional travel person and freight was lower. …
>
> The new highway and SUP provide both network and infrastructure resilience. Culverts and bridges are designed for events 100 years from now considering climate change. Pavements and surfacing are designed and constructed for predicted volumes at least 30 years from now. A road geometry that is safe for the sign posted speed, easy to navigate and with

[1] Dalzell EIC 4 July 2023 at [42]-[45], [47]-[50] and [54]-[56].

> grades that allow consistent speeds not requiring consistent acceleration and braking is being provided.
>
> Ō2NL… [will remove] vulnerable road users from the traffic lanes, providing modern design standard and safety barriers, eliminating almost all the intersections[2] (and over 400 accessways) that the current road has … .

[3] Mr Peet referred to (among other transport benefits):

- Evening peak travel time savings of 11-15 minutes for trips from Ōtaki to north of Levin, and 6 minutes for trips from Ōtaki to Levin.
- Improved community connectivity through reduced journey times, and reduction of side road delays to mostly negligible levels.
- Provision of a high quality walking and cycling facility that is accessible to all adjacent communities.
- Significant urban amenity improvements from removing traffic, and particularly heavy vehicles, from the Levin town centre.
- Greater resilience from natural hazards and lesser impact from closures as a parallel alternative route will exist.

[4] During the hearing, there was also a focus on the human element behind the current problems with the state highway network, and the benefits the Project would deliver. The oral presentation given to the Court by Mr Anthony Young on behalf of the Horowhenua NZ Trust was especially powerful, bringing focus to the people who have lost their lives, or who have been otherwise gravely injured, on the existing SH1. Others too, such as Mr Lindsay Poutama, described the reality of the present road for many local residents, including those who are equipped and prepared to assist at accidents.

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2 Mr Peet gave evidence that the current highway has almost 40 intersections. See Peet EIC at [14].

The Project Objectives

[5] The Project has the following objectives for the purposes of s 171(1) of the Resource Management Act 1991 (RMA):

- Enhance safety of travel on the state highway network;
- Enhance the resilience of the state highway network;
- Provide appropriate connections that integrate the state highway and local road network to serve urban areas;
- Enable mode choice for journeys between local communities by providing a north-south cycling and walking facility; and
- Support inter-regional and intra-regional growth and productivity through improved movement of people and freight on the state highway network.

We come back later in this decision to evaluate the evidence on how those objectives would be met.

Project Overview

[6] The Ō2NL Project involves the construction, operation, use, maintenance and improvement of approximately 24 km of new four-lane median divided state highway, with a new SUP along its full length.

[7] The proposed new section of state highway will:

- Begin at the northern end of Pekapeka to Ōtaki (PP2Ō) Expressway (near Taylors Road, Ōtaki);
- Run generally to the east of the existing SH1 as it passes by Manakau, Kuku, Ohau and Levin (and immediately to the east of SH57 as it passes Levin); and
- Reconnect to the existing SH1 just north of Levin at Heatherlea East Road. This is the point at which approximately half the traffic leaves

SH1 to travel on SH57.[3]

[8] The Project includes the following key features:

- A half interchange with southbound ramps near Taylors Road and the PP2Ō Expressway to provide access from the current SH1 for traffic heading north or south and alternate access to Ōtaki;
- A grade separated diamond interchange at Tararua Road, providing access into Levin;
- Two dual lane roundabouts where it crosses SH57 and where it connects with the current SH1 at Heatherlea East Road, north of Levin;
- Four lane bridges over the Waiauti, Waikawa and Kuku Streams, the Ohau River and the North Island Main Trunk (NIMT) rail line north of Levin;
- A separated (typically) three-metre-wide SUP, for walking and cycling along the entire length of the new highway (but deviating away from being alongside the Project around Pukehou (near Ōtaki));
- Local road underpasses and overpasses;
- New local roads at Kuku East Road and Manakau Heights Road to provide access to properties located to the east of the Project, and local road connections between:
    - (i) McLeavey Road to Arapaepae South Road on the west side of the Project;
    - (ii) Arapaepae South Road, Kimberley Road and Tararua Road on the east side of the Project;
    - (iii) Waihou Road to McDonald Road to Arapaepae Road / SH57;
    - (iv) Koputaroa Road to Heatherlea East Road and providing access to the new northern roundabout; and

[3] We note that SH57 connects SH1 north of Ohau to SH3 east of Ashhurst.

- The relocation and improvement of the Tararua Road and current SH1 intersection, including the introduction of traffic signals and a crossing of the NIMT railway line.

[9] Additional operational features of the Project include:

- Road lighting at conflict points and road signs;
- Median and edge barriers;
- Stormwater collection treatment infrastructure;
- Culverts to reconnect streams crossed by the Project and stream diversions to recreate and reconnect streams;
- Various spoil and material supply sites;
- Noise treatment measures including 18 km of high-performance low-noise road surface and six specified lengths (between 530 metres and 1.2 km) of 1.1 metre high concrete safety barriers, with all measures in specified locations;[4] and
- Planting and earthworks design measures including stream retirement planting, terrestrial ecological planting, earthworks contouring and rehabilitation, landscape restoration, and planting for mitigation of visual amenity, following a 'whole-of-landscape' approach;
- Ecological enhancements including those achieved by way of offsets.

Operation and maintenance

[10] Continuing beyond the construction period, operation and maintenance activities relate to:

- Landscape furniture, accessways and stairs along the stopbank pathway and local streets;
- Local roads, pedestrian and cycle facilities;
- State highway road and cycle facilities;

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4 NZTA Opening Submissions 17 October 2023 at [17].

- Operational stormwater discharge, conveyance, detention and treatment (where provided) from the altered local roads and the state highway(s); and
- Flood protection and erosion control in the river corridor - these activities are anticipated to be covered by Wellington Regional Council's existing global resource consents for flood maintenance works (and therefore are not covered in this decision).

The direct referral process

[11] The proceedings related to the Notices of Requirement and resource consents have, with the parties' agreement, been sent by the relevant local authorities to the Court under the process set out in s 87C and s 198A (and following sections of the RMA. The Court therefore is not acting as an appellate body and is required to consider and decide the applications at first instance. The local authorities have provided the Court with reports under s 87F(4) – and copies of those have of course been provided to all of the submitters and parties under s 87F(5). The territorial authorities have also provided the Court with reports addressing the requirements of s 198D.

Notices of Requirement sought

[12] The Notices of Requirement lodged with Horowhenua District Council (HDC) and Kāpiti Coast District Council (KCDC) by NZTA under s 168 sought designations in the district plans of KCDC and HDC for:

> The construction, operation, maintenance and improvement of a state highway and shared use path and associated infrastructure between Taylors Road (to the north of Ōtaki) and State Highway 1 north of Levin known as the Ōtaki to North of Levin Highway Project.

[13] The purpose of the proposed designation is to construct, operate, maintain, and improve a state highway, shared use path and associated infrastructure. The nature of the proposed work is the construction, operation, maintenance and improvement of a state highway, shared use path and associated activities between

Heatherlea East Road and the boundary of the Kāpiti Coast District to the east of existing SH1 and SH57 (a part of the Ō2NL Project).

Resource consents sought

[14] The consents sought from the Manawatū-Whanganui Regional Council (MWRC) and Wellington Regional Council (WRC) include land use consents, water permits, and discharge permits (to land, water and air) to authorise the activities necessary for the construction and operation of the Project. Those activities applied for are:

- Earthworks;
- Vegetation clearance;
- Activities in the bed of any lake or river;
- The taking and diversion of water; and
- Discharges of sediment during construction, of stormwater within or to an identified rare or threatened habitat; works within a significant wetland including reclamation and land disturbance and drainage and diversion of surface water.

[15] These resource consents applied for are set out in RC1 – RC39 of the Conditions, including what the activity status is under the RMA and relevant regional plan rules for the construction and operational phase for each regional council.

[16] At this stage consents for activities involving contaminated or potentially contaminated land under the under the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS) (and any related consents) are not applied for.

Pre-hearing resolutions and follow-up

[17] The Applicants and various of the parties had a series of meetings in the early part of 2023 to discuss the submissions and to explore whether the concerns raised by individual submitters could be resolved. These meetings involved direct discussions between the Applicants and the parties in some cases and Court-facilitated mediations and/or expert conferencing for others.

[18] As this decision arises out of a 'first instance' hearing we have to independently consider each of the issues reported as having been resolved between the parties. Only then can we accept them as being appropriate outcomes in terms of the RMA and the relevant planning documents. We return to whether those outcomes are confirmed and are to be included as part of our decision.

[19] There was expert conferencing on a wide range of topics prior to the hearing that advanced resolution of matters and also informed the subsequent evidence and hearing process. We have considered the expert conferencing statements in this decision but do not need to dwell on the process. Instead we focus on the evidence and conditions put forward by the experts on matters of substance given we are reviewing the adequacy of this for ourselves as well as making decisions on the limited matters still at issue between the parties.

The Hearing Process

[20] After extensive mediation and expert conferencing very few submitters appeared before the Court. We have summarised submissions received and NZTA responses later in this decision.

[21] During the hearing the Court indicated that it did not see any reason why it should not confirm the notices of requirement and grant the resource consents sought provided adequate conditions were set. We deal with the approach to the conditions after the legal framework.

The Legal Framework

[22] We are dealing with notices of requirement as well as resource consent applications. We look separately at the matters that we must address under each category.

Consideration of Notices of Requirement

[23] The Environment Court may cancel a requirement, confirm a requirement, or confirm a requirement but modify it or impose conditions on it as the Court thinks fit.

[24] In reaching its decision the Court must have regard to the same considerations as does a territorial authority when making a recommendation under s 171 RMA; which provides:

> (1) When considering a requirement and any submissions received, a territorial authority must, subject to Part 2, consider the effects on the environment of allowing the requirement, having particular regard to -
>
> (a) any relevant provisions of-
>
> (i) a national policy statement:
>
> (ii) a New Zealand coastal policy statement:
>
> (iii) a regional policy statement or proposed regional policy statement:
>
> (iv) a plan or proposed plan; and
>
> (b) whether adequate consideration has been given to alternative sites, routes, or methods of undertaking the work if-
>
> (i) the requiring authority does not have an interest in the land sufficient for undertaking the work; or
>
> (ii) it is likely that the work will have a significant adverse effect on the environment; and
>
> (c) whether the work and designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought; and

> (d) any other matter the territorial authority considers reasonably necessary in order to make a recommendation on the requirement.

[25] The effects to be considered under s 171(1) may include any positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from the activity enabled by the designation, as long as those effects result from measures proposed or agreed to by the requiring authority.

[26] Under s 176A(1) of the RMA an outline plan of the public work, project, or work to be constructed on designated land must be submitted by the requiring authority to the territorial authority to allow the territorial authority to request changes before construction is commenced. An outline plan need not be submitted to the territorial authority if the details of the proposed public work, project, or work, as referred to in sub (3) are incorporated into the designation (s 176A(2)(b)); or the territorial authority waives the requirement for an outline plan (s 176A(2)(c)).

[27] Section 176A(3) specifies that an outline plan must show:

- The height, shape, and bulk of the public work, project, or work; and
- The location on the site of the public work, project, or work; and
- The likely finished contour of the site; and
- The vehicular access, circulation, and the provision for parking; and
- The landscaping proposed; and
- Any other matters to avoid, remedy, or mitigate any adverse effects on the environment.

[28] Within 20 working days after receiving the outline plan, the territorial authority may request the requiring authority to make changes to the outline plan and if the requiring authority decides not to make the changes requested, the territorial authority has a right of appeal against the decision to the Environment Court. In determining any such appeal, the Environment Court must consider whether the changes requested by the territorial authority will give effect to the purpose of this Act.

[29] We note that there are several conditions that refer to the outline plan phase (and return to them as necessary in the decision).

Consideration of resource consent applications

[30] As noted, the Applicants have also sought resource consents for certain aspects of the Project. The resource consent applications are for activities which have been bundled together and assigned an overall activity status of non-complying (the most restrictive activity status). We are obliged to consider the matters outlined in ss 104, 104D (non-complying activities) and s 105 and s 107, which relate to discharge permits.

[31] Section 104 requires:

> (1) When considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2 … , have regard to–
>
> (a) any actual and potential effects on the environment of allowing the activity; and
>
> (ab) 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; and
>
> (b) any relevant provisions of—
>
> (i) a national environmental standard:
>
> (ii) other regulations:
>
> (iii) a national policy statement:
>
> (iv) a New Zealand coastal policy statement:
>
> (v) a regional policy statement or proposed regional policy statement:
>
> (vi) a plan or proposed plan; and
>
> (c) any other matter the consent authority considers relevant and reasonably necessary to determine the application.

A resource consent application can be granted (with conditions), or declined.

[32] Section 104D applies to the Project. Under s 104D a decision maker may only grant resource consent applications for non-complying activities if **either**:

(a) the adverse effects of the activity on the environment will be minor: **or**

(b) the activity will not be contrary to the objectives and policies of the relevant plan or proposed plan.

[33] In opening, NZTA advanced the following:[5]

> The technical assessments on which the Project relies demonstrate that not all of the Project's adverse effects will be minor, however the Project has been designed to ensure it is not contrary to the objectives and policies of the relevant plans, thus meeting the 'objectives and policies' gateway test under section 104D(1)(b).

Sections 105 and 107

[34] In opening, NZTA said:[6]

> Sections 105 and 107 apply to the consents sought … for discharges of clean fill, discharges to air (during construction) and discharges of water or contaminants into water or onto or into land within a rare or threatened habitat in accordance with Schedule F of the One Plan.[7]

We consider whether the regional resource consents (and the conditions) can be approved in terms of the provisions of ss 105 and 107 later in our decision.

RMA Part 2

[35] Our consideration of both notices of requirement and a resource consent application is of course subject to Part 2 of the RMA.

[36] The relevance of Part 2 to the consideration of applications for resource consents has been considered by the Court of Appeal in *RJ Davidson Family Trust* v

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5 NZTA Opening submissions at [49].

6 NZTA Opening submissions at [51].

7 Supporting Information and Assessment of Effects on the Environment (AEE) at Chapter 29, at 153.

Marlborough District Council.[8] The Court of Appeal determined that:

- The position of the words "subject to Part 2" near the outset and preceding the list of matters to which a consent authority must have regard (in s 104), clearly show that it is necessary to have regard to Part 2, when it is appropriate to do so.
- If it is clear that a plan has been prepared having regard to Part 2, and with a coherent set of policies designed to achieve clear environmental outcomes, reference to Part 2 is unlikely to add anything.
- If a plan has been competently prepared under the Act, in many cases a consent authority will feel assured in taking the view that there is no need to refer to Part 2 because it will not add anything to the evaluative exercise. Absent such assurance, or if in doubt, it will be appropriate and necessary to do so.

[37] The High Court in *New Zealand Transport Agency v Architectural Centre Inc* considered the implications of *King Salmon*[9] in the context of notice of requirement proceedings. The High Court distinguished *King Salmon* on the basis that s 171 of the RMA requires a different approach to that taken in a plan change context. The High Court cited with approval the following passage from the Board of Inquiry's findings:[10]

> Further and perhaps more importantly, as we have already noted, Section 171(1) and the considerations it prescribes are expressed as being *subject to Part 2*. We accordingly have a *specific statutory direction* to appropriately consider and apply that part of the Act in making our determination. …

Conditions

[38] Conditions are an integral part of a designation or a resource consent. It is the conditions that have a lasting consequence in their direction of the nature of the activities that may be undertaken, how those activities are to be undertaken, and the

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8 *RJ Davidson Family Trust v Marlborough District Council* [2018] NZCA 316.

9 *Environmental Defence Society Inc v New Zealand King Salmon Co Ltd* [2014] NZSC 38.

10 *New Zealand Transport Agency v Architectural Centre Inc* [2015] NZHC 1991 at [118].

character, intensity and scale of the effects of the consented activities. In order to achieve the outcomes that are the basis of a proposal, the conditions attaching to its resource consent or designation must be drafted in a manner which seeks the same outcomes. Every condition must be certain, workable, enforceable and clear as to its purpose and effect on its face.

[39] Where a condition authorises a person to certify that a condition of consent has been met or complied with or otherwise settles a detail of that condition, the basis for any exercise of a power of certification must be clearly set out with the parameters for certification expressly stated in the relevant conditions. Proposed conditions on designations may seek to reserve some decision-making as part of the outline process under s 176A of the Act. While allowing for some flexibility in that process, outline plans and the conditions proposed in them must also be drafted to meet the principles of sound condition setting.

The Approach to Conditions

[40] As we have said, the conditions are key to the designation and consents. In reviewing the conditions we keep in mind directions in the Environment Court Practice Note 2023 in [10.4(e)] Presentation of Draft Conditions[11] that state:

> Counsel are expected to ensure that draft conditions presented to the Court meet the following standards of good practice:
>
> i. Conditions should promote sustainable management.
>
> ii. Conditions should not nullify the grant of the consent.
>
> iii. Conditions should not unreasonably limit a person's rights and freedoms.
>
> iv. A resource consent, which includes its conditions, must stand on its own and be capable of being interpreted and applied in its own terms.
>
> v. Conditions should make sense and be coherent, consistent and complete. There should be clarity, certainty and enforceability of all the conditions.

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11 We note the planning evidence on conditions of Ms Ainsley McLeod, an NZTA expert, references adhering to direction given in the Practice Note at [42(i)].

vi. Conditions are to accurately reflect not only the proposal applied for but also any modification suggested or offered in evidence during the course of a hearing.

vii. Conditions should be drafted to apply specifically to the elements or aspects of an activity which require resource consent and should not simply list all documents presented with an application for resource consent.

viii. Performance standards must be set out in the conditions of consent and not be left to be determined later.

ix. Conditions must not purport to delegate arbitral or judicial functions to officers of or consultants to a consent authority.

x. Conditions which require expert certification or oversight of an activity must include clear parameters and specified standards.

xi. Any condition that is volunteered by an applicant and which could not normally be imposed (for example, an *Augier* condition) must be specifically identified with the particular basis for including it.

Structure of our decision

[41] We acknowledge while there are many similarities between the matters to be considered for notices of requirement and resource consent applications there are some differences between the matters and also their weighting. That includes:

- "Have particular regard to" the matters for notices of requirement and "have regard to" for resource consent applications;
- The planning instruments to be considered are different for a notice of requirement (in not referring to a national environmental standard);
- Notices of requirement have the two added matters of consideration related to alternatives and achieving the objectives of the requiring authority for which the designation is sought;
- There are additional matters to consider for resource consent applications for discharges in ss 105 and 107.

[42] We will approach the remainder of our decision under the following headings:

- Tangata whenua involvement;

- The SUP and active modes and the interests of Equestrian Parties;
- Effects (noting the broad definition of "effects" in the RMA) on the environment;[12]
- Relevant provisions of RMA statutory and planning documents;
- Assessment of Alternatives;
- Project objectives;
- Sections 105 and 107 for discharge permits;
- Other matters relevant and reasonably necessary to our decision (including references to non-RMA statutory and other documents);
- Conclusion and directions as to conditions.

Tangata whenua involvement

Partnership background

[43] The Iwi Project Partners are Muaūpoko Tribal Authority (MTA) and the following hapū of Ngāti Raukawa ki te Tonga: Ngā Hapū o Ōtaki (on behalf of Ngāti Kapu), Ngāti Hikitanga, Ngāti Huia ki Poroutawhao, Ngāti Huia ki Mātau, Ngāti Kikopiri, Ngāti Ngarongo, Ngāti Pareraukawa, Ngāti Takihiku, Ngāti Tukorehe and Ngāti Wehi Wehi (the hapū of Ngāti Raukawa) (together referred to as the Project Partners).

[44] In opening submissions NZTA gave its background to the involvement of the Iwi Project Partners.[13]

> Engagement between NZTA and the Iwi Project Partners began in 2012 with initial discussions held with iwi and hapū as stakeholders. As the Project's development progressed, the Iwi Project Partners' involvement increased significantly and in late 2020 the Project Partnership was formally launched. The three Project Partners then commenced development of the Cultural and Environmental Development Framework (**CEDF**), one of the Project's fundamental guiding documents which is intended to provide an overarching common framework based on core principles. …
>
> [footnotes omitted]

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12 That includes consideration of the conditions that are to be imposed on allowing the NOR or activity.

13 NZTA Opening Submissions at [7].

[45] NZTA evidence covered the development of a series of values and principles for the Project, involving its Project Partners, that are to continue to guide the Project until completion.[14]

> The **kaupupu tumu/principles** are:
>
> - Tread Lightly, with the whenua:[15]
>
> (i) Me tangata te whenua (treat the land as a person); and
>
> (ii) Kia māori te whenua (let it be its natural self).
>
> - Create an Enduring Legacy:
>
> (i) Kia māori te whakairo (normalise māori values);
>
> (ii) Me noho tangata whenua ngā mātāpone (embed the principles in all things); and
>
> (iii) Tū ai te tangata, Tū ai te whenua, Tū ai te Wai (elevate the status of the people, land and water).
>
> The Project **tikanga/values** are:
>
> (a) Te Tiriti (spirit of partnership);
>
> (b) Rangātiratanga (leadership – professionalism – excellence);
>
> (c) Ūkaipotanga (care – constructive behaviour towards each other);
>
> (d) Pūkengatanga (mutual respect);
>
> (e) Manaakitanga (generosity – acknowledgement – hospitality);
>
> (f) Kaitiakitanga (environmental stewardship);
>
> (g) Whanaungatanga (belonging – teamwork);
>
> (h) Whakapapa (connections).

[46] There is a condition on the Cultural and Environmental Design Framework (CEDF). It requires the Project to be consistent with the Core Principles in Chapter 1 and Design Principles in Chapter 3 of that Framework. What is important to be

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14 Dalzell EIC at [60].

15 The Cultural and Environmental Design Framework Core Principles in 1.1 Overview footnotes this with:

> tread lightly with the whenua aligns with 'first do not harm'. It does not imply 'do minimum'. For example, the opportunities and outcomes to restore the streams will mean a bold approach.

aware of is that the version of the CEDF before the Court (and on which its decision is based) is the *Cultural and Environmental Design Framework (Consent Version, dated October 2022)*. That version of the CEDF is described as for the RMA consenting phase and contains concepts sufficient to inform the specialists assessment of effects and the future detailed design stage of the Project. While the CEDF is described as a "live" document (and so remains a draft), developing beyond the consenting phases, we need not explore the implications of that as it would not inform our decision.

[47] What is required is a recognition that references in the conditions are to the CEDF Consenting version as described above and that needs to be retained as it is and to inform implementation of the conditions. It is important to avoid any confusion with any amended versions of the CEDF that may be subsequently produced (and over which we have no jurisdiction). We require checking of references to the CEDF in the conditions to ensure that they accord with this principle.

[48] For completeness we mention that the Core Principles are as described above, along with a reference to specific design principles for landscape and urban design (referred to as Urban and Landscape Design Frameworks) supporting these principles (and which we return to later in this decision under the headings of landscape and urban design). The NZTA Design Principle contains Landscape Design Principles to be pursued in parallel with Urban Design Principles, with the latter noting that both sets of principles, as integrated within the Project, are consistent with the New Zealand Urban Design Protocol, to which NZTA is a signatory.[16]

General support for the Project

[49] Under the heading of cultural effects NZTA submitted in opening that more generally, MTA and the hapū of Ngāti Raukawa have expressed support for the

16 The Cultural and Environmental Design Framework, 1.2.

Project in their evidence.[17]

> That support is on the basis of the Project's safety, resilience, economic, growth-enabling, social and connectivity benefits[18] as well as the engagement undertaken by Waka Kotahi throughout the process which has ensured iwi and hapū have a strong voice in the Project's development.[117]
>
> In particular, Ms Rump, on behalf of MTA, endorses "*the safety and resilience benefits the road will bring for our wider community and those who pass through our rohe"*[19] while also acknowledging the Project's importance in a partnership context by stating "*the desire and possibility does exist to deliver a stunning hitherto unknown or seen showcase for Iwi and Crown partnership".*[20]
>
> Lindsay Poutama, representing Ngāti Tukorehe, *"strong[ly] support[s] the key outcomes the Project will deliver",* acknowledging the *"major concerns"* with the existing SH1 in terms of safety, resilience, noise and access.[21]
>
> Dean Wilson, on behalf of MTA, also speaks to the *"strong support from Muaūpoko for the Project, thanks in large part to all of the engagement sessions that have taken place."*[22] …
>
> Kim Tahiwi and Rawiri Rikihana, for Ngā Hapū o Ōtaki on behalf of Ngāti Kapu, refer to the *"mutually respectful engagement [which] has resulted in a positive and inclusive process of engagement with Ngā Hapū o Ōtaki on behalf of Ngāti Kapu"* which *"has ensured that our tikanga and kawa are embedded into the development of the Project up to this point."*[23]
>
> Waka Kotahi acknowledge that the Project will *"carve a scar through Papa-tū-a-nuku"*[24]
>
> However, through the constructive ongoing korero and hui between the Project Partners, the development and implementation of the CEDF, and carefully drafted conditions and mitigation measures, significant progress has been made, as demonstrated by the evidence of:
>
> (a) Mr Wilson, who records that *through these careful design measures, investigations, hui and other measures, any adverse effects of the Project have been considerably reduced compared to what they could have been;*[25]and

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17 NZTA Opening Submissions at [100] – [107].

18 See, for example, EIC of Dianne Rump at [79], [83]; EIC of Kim Tahiwi and Rawiri Rikihana at [28].

19 Ms Dianne Rump does question, however, the extent to which the Project will directly benefit Muaūpoko members. EIC of Dianne Rump at [79].

20 EIC Ms Rump at [83].

21 Lindsay Poutama EIC at [25]-[28].

22 Dean Wilson EIC at [113].

23 EIC of Kim Tahiwi and Rawiri Rikihana at [23].

24 See, for example, EIC of Lindsay Poutama at [32]; EIC of Janelle Tamihana at [42]; EIC of Quentin Parr at [41].

25 Dean Wilson EIC at [66].

(b) Janelle Tamihana, on behalf of Ngāti Takihiku and Ngāti Ngarongo (Ngā hapū o Kererū), who states *"we are largely happy with where the Project is currently, and the direction it is heading in"*.[26]

There is a demonstrated shared commitment to working together in partnership.[27] As captured in the evidence-in-chief of Te Kororangi Hakaraia (on behalf of Ngāti Wehi Wehi):[28]

> *…having three Project Partners working together on a large Project traversing a wide landscape can be challenging, and there will be times that opinions differ, However, provided there is a mutual respect, a shared commitment and a clear and fair dispute resolution process established, we are confident that we as Project Partners will be able to deliver a quality project that will have multiple safety, connectivity, social, economic and cultural benefits for our whānau, hapū, iwi and the wider community.*

[50] In opening NZTA also acknowledged the positions expressed by some iwi witnesses that there are still some outstanding conditions and CEDF matters.

Tangata whenua values – cultural Conditions

[51] At the hearing it was clear there was no agreement between the Iwi Project Partners as to the conditions under the heading Tangata Whenua Values.

[52] This created a difficulty for the Court and we laid that squarely out before the parties. There are many provisions in the RMA – not only the Part 2 references but also in the national, regional and district planning documents – that the Court needs to address and be satisfied on (including whether the resource consent applications would pass through the objectives and policies gateway and could be considered for granting consent). That could result in the Court being set a difficult task or one that could be difficult to achieve in the absence of agreement between the Iwi Project Partners.

[53] We understood from the evidence and the oral openings from Ms Dianne Rump and Mr Hayden Turoa that the Iwi Project Partners were not opposed to the Project but there were areas of difference about how the Project was carried out and

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26 EIC Janelle Tamihana at [25]. This statement was subject to matters of particular importance that Ms Tamihana highlighted in her evidence: effects on Kōpūtōroa Stream and a legacy issue relating to Te Ripo o Hinemata Wetland.

27 As stated in the rebuttal of Quentin Parr at [7], the EIC of Te Kororangi Hakaraia at [52] and the EIC of Dean Wilson at [67], for example.

28 EIC of Te Kororangi Hakaraia at [53].

the way that was reflected in the conditions. Muaūpoko sought additions to the content of the Muaūpoko Management Plan and Ngāti Raukawa sought a focus on tikanga principles. One option was for the Court to attempt its own drafting of conditions to deal with the issues between the parties, which may satisfy no one. Another (and in our view a better option as we advised the parties) alternative was for the iwi parties to meet and see whether resolution is possible.

[54] The Iwi Project Partners undertook to put the requisite work into meeting and seeing whether their differences could be reconciled, assisted by the NZTA counsel Mr David Allen acting as a facilitator. The Iwi Project Partners produced what was largely an agreed set of conditions, reserving their position to make any drafting amendments that might be required on a further examination of what was provided for the Court.

[55] We note NZTA's points in reminding us in its closing of what the witnesses said in their oral presentations to the Court concerning the conditions.[29]

[56] Ms Rump said:

> After intense kōrero and hui we have both settled on a position which names sites of importance for mitigation, this includes a table that sets out cultural values for those sites. At the same time, the conditions expand on the use of a tikanga and kawa framework for the project.

[57] Mr Turoa said:

> The outcome is that we, Raukawa, like Muaūpoko, now support the draft cultural conditions proposed for the Project.
>
> …
>
> Ms Rump described the outcome between two pre-settlement iwi as "incredible". Mr Turoa stated "I am pleased to have been involved in the process that has led to this significant outcome."

[58] The conditions resolved during the course of the hearing are agreed to by NZTA on an *Augier*[30] basis (and the condition set is to be amended to record that).

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29 NZTA Closing Submissions 17 November 2023 at [14] -[15].

30 *Augier v Secretary of State for the Environment* (1978) 38 P & CR 219.

As explained by the Judge an *Augier* condition is one that the Court could not impose, but one that is voluntarily entered into. No party raised any concerns with these conditions.

[59] The headings of the conditions (and with the references to the schedules in brackets) that come under the heading of Tangata Whenua Values are:

Designation conditions	Regional resource conditions:
DTW1 Iwi Partner Steering Group DTW2 Kawa and tikanga DTW3 Iwi Partner oversight DTW4 Integration of cultural values DTW5 Muaūpoko Management Plan (with reference to Schedule 3) DTW6 Ngāti Raukawa ki te Tonga Management Plan (with reference to Schedule 4) DTW7 Cultural and Environmental Design Framework	RTW1 Iwi Partner Steering Group RTW2 Kawa and tikanga RTW3 Iwi Partner oversight DTW4 Muaūpoko Management Plan (with reference to Schedule 3) RTW5 Ngāti Raukawa ki te Tonga Management Plan (with reference to Schedule 4)

[60] In opening NZTA submitted that the evidence filed on behalf of the respective Iwi Project Partners addresses the cultural effects of the Project. We have covered the evidence on and progress with agreement on conditions that occurred during the hearing under the *tangata whenua involvement*.

Submissions

Notification

[61] In preparing this section of our decision on submissions, we rely on NZTA's opening legal submissions dated 17 October 2023 as follows[31]:

> 34. The Application was publicly notified by the Councils on 24 January 2023. Submissions on the Project closed on 28 February 2023 and 90 submissions were received, including 27 submissions either supporting or conditionally supporting the applications, 6 neutral submissions, and one submission with components both in support and in opposition. The key issues raised by submitters included:
>
> (a) transport/traffic issues including alternative transport options,

31 NZTA Opening Submissions at [34]-[37].

construction traffic, general traffic volumes and provision for equestrians / horses via a bridle path;

(b) construction and operational noise and vibration;

(c) air quality (including dust);

(d) effects on water quality including groundwater, drinking water and water bores;

(e) stormwater, flooding and drainage concerns;

(f) ecological effects;

(g) social effects;

(h) landscape, visual and natural (and rural) character and amenity effects;

(i) design (including bridge and rail) and route selection;

(j) provision for network utilities;

(k) interaction with the Tara-Ika development area;

(l) effects on farm facilities and loss of productive land;

(m) property-related effects (including business effects, access, privacy/security, and acquisition).

35. The submissions in support focussed on the Project's key benefits, including safety and efficiency improvements, resilience benefits, air quality improvements, improved amenity for residences on the existing SH1, and economic, social and community benefits.

36. The requests for direct referral were granted by the Councils on 20 January 2023. The Councils' section 87F and 198D reports were issued on 28 April 2023, and on 1 May 2023 Waka Kotahi filed a notice of motion for direct referral of the Project together with the supporting affidavit of Lonnie Dalzell.

37. At the close of the section 274 period on 22 May 2023, … 35 section 274 notices were received.

[62] We note that the summary of submitter issues listed above is more or less consistent with the themes listed in the District Councils' s 198D Report.[32]

[63] Whether submitters lodged submissions or filed notices of interest as s 274 parties, or were or were not heard, the Court is examining issues at first instance and

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32 Kāpiti Coast District Council and Horowhenua District Council s 198D Report: Helen Anderson Report at [42].

not on an appeal and the Court must take account of all submissions.

[64] For the issues raised by submitters who did not become s 274 parties, our approach has been to respond to these issues in the individual sections of this decision where we have set out our evaluations of the environmental effects arising from the construction and operation of the Project.

[65] For the issues raised by the s 274 parties, NZTA advised that through the process of mediation and expert conferencing, many of the issues raised by these parties had been resolved.

[66] This meant that leading up to the hearing, only 11 of the s 274 parties remained with outstanding issues (apart from the Project Partners).

[67] These s 274 parties were identified as:[33]

- Kāinga Ora;
- Forest and Bird;
- John Bent;
- Kāpiti Equestrian Advocacy Group and NZ Equestrian Advocacy Group;
- Horowhenua Equestrian Advocacy Group;
- Jan Windleburn;
- Kevin Daly;
- Stephen Main;
- Te Ao Turoa Environmental Centre on behalf of Rangitāne o Manawatū;
- John Brown; and
- Rochelle Murray-Apatu.

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33 NZTA Opening Submissions, see list at footnote 36 to 38.

[68] We were told later that John Brown and Rochelle Murray-Apatu had withdrawn from the proceedings.[34]

[69] All remaining s 274 parties were either Iwi Project Partners (MTA and the 10 hapū of Ngāti Raukawa), s 274 parties in support (Speldhurst Country Residents Association and Horowhenua NZ Trust), or parties either not participating in the hearing (James McDonnell Ltd (JML) and the Prouses) or in the process of withdrawing (Christine Wallis, Louise Miles and Sarah Hodge).

[70] Either just before the start of the hearing or during the course of the hearing, agreements were also reached between NZTA and the following s 274 parties resolving all the issues which had been raised by these parties:

- The Iwi Project Partners;
- Karen and Stephen Prouse;
- Kāinga Ora; and
- John Bent.

[71] This left for resolution by the Court the issues raised by:

- Jan Windleburn;
- Kevin Daly;
- Stephen Main;
- Forest and Bird; and
- Equestrian interests.

[72] We consider each of these in turn.

Jan Windleburn

[73] In his submission dated 28 February 2023, Mr Windleburn sought that the new highway be elevated over the Kimberley Road/Arapaepae Road intersection

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34 NZTA Closing Submissions at [90].

area thereby maintaining the current road infrastructure in the context of the planned growth in this area.

[74] We have responded to Mr Windleburn's submission and request for the new highway to be elevated over the Kimberley Road/ Arapaepae Road intersection area in the Transport section of this decision.

Kevin Daly

[75] Mr Kevin Daly and his wife own 14.5 ha of farmland at 257 and 267 Tararua Road.

[76] Mr Daly advised that he had been working with the HDC over the last five years on the design and rezoning of the Tara-Ika growth area having submitted and being heard on this at Council hearings on Proposed Plan Change 4. In brief he described the growth area as comprising some 240 ha of land which is to be rezoned for residential, commercial and open space use. It is connected to the rest of Levin by the existing Queen Street and Tararua Road.

[77] Mr Daly said that while he fully supported the construction of the proposed new highway, he had a number of concerns including cycle and pedestrian access for Tararua Road, a dedicated cycle overpass for the new growth area, the Liverpool Street Bridge, effects of noise, visual impact and light pollution and construction dust, all as issues to be addressed in the planning for the new highway.

[78] We have noted in the Transport section of this decision that similar issues with respect to future access to the Tara-Ika development were raised by JML and that prior to the hearing JML had reached agreement with NZTA (and HDC) on a way forward for resolving these issues.

[79] We note with some surprise that Mr Daly does not appear to have been party to these discussions, given our understanding that there is a lot of overlap in the issues of concern raised by JML and Mr Daly on the Tara-Ika access.

[80] Notwithstanding, we have assumed that the way forward agreed between NZTA, JML and HDC for ensuring that there is suitable future access to Tara-Ika should also address Mr Daly's concern on this issue.

[81] With respect to other issues raised by Mr Daly, in its closing legal submission,[35] NZTA responded to Mr Daly's request for a landscaped earth bund to be constructed alongside Tara-Ika to mitigate noise and visual effects of the Project and for cycleway linkages to be provided from east to west.

[82] NZTA said that noise levels from the proposed highway at Mr Daly's land are predicted to be less than 52 dBLAeq(24h) which in Mr Michael Smith's (NZTA noise and vibration witness) opinion is appropriate for urban development. In landscape expert Mr Gavin Lister's opinion the proposed tall screen planting typically 10 metres deep would be sufficient to screen the highway for both the existing rural setting and also the planned urban development.

[83] With respect to Mr Daly's concern about construction dust, we note from Technical Assessment C Air Quality that at the time the effects on air quality from the Project were assessed by Mr Andrew Curtis in October 2022, there was no certainty as to what sensitive receivers might be in place on Tara-Ika during the period of construction of the Project. Mr Curtis said that he had assumed that there might be some areas of development within 200 metres of the construction footprint and that if there were properties located within 50 metres, provided the dust mitigation measures specified in the Construction Air Quality Management Plan (CAQMP) were effectively implemented, the dust risk impact on these receivers would be low.

[84] Mr Peter Stacey, who contributed an Air Quality assessment to inform the ss 87F and 198D Reports, noted also that Mr Daly's existing property at 257 and 267 Tararua Road would be located we assume more (and not less than) 50 metres from the designation boundary.

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35 NZTA Closing Submissions at [93]-[96].

[85] For Mr Daly, the Court accepts the responses from NZTA on the concerns raised by this submitter on noise, landscaping, access to Tara-Ika, air quality and the use of weedkillers on the Project.

Stephen Main

[86] While Mr Main supports the Project, he is concerned about construction air quality effects on his property and the potential use of weedkillers containing glyphosate.

[87] Air quality expert Mr Curtis noted that Mr Main's property is approximately 200 m to the east of the Project. The effects of construction dust on air quality at his property are addressed in the context of similarly affected properties in the air quality section of this decision.

[88] With respect to the use of weedkillers, in its closing submission,[36] NZTA drew attention to the requirements of the Ecology Management Plan and the Construction Environmental Management Plan (CEMP) where there is a requirement for the identification of the areas where the use of chemical herbicides is restricted.

[89] For Mr Main (as for Mr Daly), the Court accepts the responses from NZTA on the concerns raised by this submitter on noise, landscaping, access to Tara-Ika, air quality and the use of weedkillers on the Project.

Forest and Bird

[90] Forest and Bird initially advised it had three key issues that were unresolved and by the time of its opening submissions two of these had since been resolved. These issues were:

- The 'deeming provisions' with NZTA's proposed conditions providing for deemed certification of management plans, including the Ecology

36 NZTA Closing Submissions at [104]-[105].

Management Plan (EMP). The focus in its submissions was that deemed certification is inappropriate.

- The 'in perpetuity' point: whether the conditions should ensure the actions undertaken to offset ecological effects and achieve net gain are retained in perpetuity. The agreed conditions now provide for in perpetuity protection of offset areas.
- The natural character plantings: Forest and Bird had sought amendment to conditions that would provide for ongoing weed control but had now carefully considered the issue and no longer sought any amendments to conditions.

The issues around 'deemed' certification of management plans are of some moment and we deal with them when addressing issues on Conditions as well as in the ecology effects section.

The SUP and active modes and the interests of Equestrian Parties

[91] In opening NZTA said:[37]

> The Project encourages and facilitates walking and cycling through the SUP, which will run along the entire length of the new highway (deviating slightly in some locations) and connect to existing shared path facilities built as part of the PP2Ō and Mackays to Peka projects.
>
> As Mr Peet discusses, the SUP will enable pedestrians and cyclists to travel north and south to crossings of Ō2NL which will connect to facilities to the west. It also provides an opportunity for future linkages through walking and cycle paths joining the SUP from the east and west of the Project. The SUP will have important social and connectivity benefits, discussed in the evidence-in-chief of Joanne Healy.
>
> The Kāpiti Equestrian Group, Horowhenua Equestrian Advocacy Group, and New Zealand Equestrian Advocacy Network (together the **Equestrian parties**) request that the SUP specifically provide for equestrian use.
>
> The SUP is not intended to provide for equestrian use. Mr Peet, Ms Healy and Mr Dalzell give evidence that providing for equestrian use is not required to address any RMA effect – this is a distinction between the Project and the two Kāpiti expressways where the SUPs do cater to horse riders. Mr Dalzell also explains the additional costs associated with safely providing for equestrian use of the SUP. Further, no experts for the councils consider that

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37 NZTA Opening Submissions at [66]-[70].

> Waka Kotahi should be required to provide for equestrian use of the SUP.
>
> While Waka Kotahi acknowledges that providing for equestrian use of the SUP would have benefits, in simple terms it is outside the scope of the Project. There is no RMA basis for requiring Waka Kotahi to agree to the request made by the Equestrian parties.
>
> [footnotes omitted]

[92] The submission from the Equestrian Advocacy Groups delivered by Mr Arthur Yeo, Co-chair of New Zealand Equestrian Advocacy Network (NZEAN) was:

> Our contention has always been that the Multi-use pathways provided along the two new highways though the Kapiti Coast should be extended through to Levin on the proposed O2NL. …
>
> Waka Kotahi states in all of its literature about the O2NL project that the key driver behind the proposed highway is **SAFETY**. Safety improvements for all road users. … Reality is, it is no longer safe for horse riders on most NZ roads, where they are legally entitled ride. While small country laneways with little traffic can still be ridden with only a small increased risk, most roads with speed limits of between 80 and 100 km per hour are definitely a clear and present danger to rider, horse and other vehicles.
>
> One of the safest places to ride is on off-road pathways. Kapiti Coast district has a number of these, Horowhenua district has only one in the area of the O2NL, the Gladstone Road Trig. The inclusion of a multi-use pathway alongside the O2NL would provide Horowhenua horse riders with the only north/south off road connection to a multitude of small relatively safe east/west feeder roads and to get to other horse riding destinations such as the Gladstone Road Trig. …
>
> A key element of the Kapiti and Horowhenua districts is that, until these expressways were developed, there was only one route for north/south travel over the whole of the coast. This affects all road users including horse riders. If a multi-use pathway is not included next to the O2NL, horse riders, their children and their grand children will forever be excluded from travelling in a north\south direction in the Horowhenua.

Equestrian groups expressed their concern about the timing and nature of consultation by NZTA with equestrian groups but we do not consider we need to address that.

[93] There was not only evidence from the Equestrian Advocacy Groups but also questioning of Mr Dalzell and Mr Peet, witnesses for NZTA.

[94] In closing NZTA said:[38]

> … the **Equestrian Groups** requested specific provision for equestrian use of the Sup as part of the Project.
>
> As set out in counsel's opening legal submissions (and in the evidence of Philip Peet, Mr Dalzell and Joanne Healy):
>
> (a) Although Waka Kotahi accepts that provision of a bridleway, or specifically enabling use of the SUP by equestrians, would provide additional benefits, the Project's scope, set by the Minister for Transport, does not include provision of a bridleway.
>
> (b) The Equestrian Groups and Waka Kotahi both agree that the Project has no effects on existing equestrian facilities that require remedy or mitigation. No changes to the Project application are required to align with statutory planning documents in this regard either.
>
> (c) There is therefore no RMA basis for requiring Waka Kotahi to provide the upgrades sought by the Equestrian Groups and imposing such a requirement would come at additional cost to Waka Kotahi.
>
> Waka Kotahi … recognises the benefit, but does not intend to provide a bridleway for the Project. Should someone wish to ride on the existing state highway once the Project is constructed it will have significantly reduced traffic volumes.
>
> [footnotes omitted]

[95] At the hearing several representatives of the Equestrian Groups addressed the Court on their request for the provision of a bridleway, however none challenged the position held by NZTA (and the District Councils' planner and technical experts) that there is no effects-based rationale, and hence RMA justification, for requiring NZTA to include a bridleway as part of the Project.

[96] The Court asked questions about whether it was intended that horses be prohibited (or otherwise restricted) in their use of the SUP. We received no direct answers to that question. We also asked whether horses (riding or leading) would be prohibited on the state highway itself but were given to understand that the (legal) position was that horses could use the state highway (as can pedestrians and cyclists) other than on a motorway, and the new highway would not have motorway status.

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38 NZTA Closing Submissions at [106] – [107], [109].

[97] Aside from questions on whether NZTA's position on equestrian use of the SUP was on the basis of principle rather than any harm that may result, there were other questions on the implications of providing for equestrian use of the SUP. We cover these matters under the heading of social and recreational effects.

[98] While we deal more specifically with the evidence on effects later on we accept that we have no jurisdiction (or reason) to require NZTA to permit the use of the SUP by horse riders either as the SUP is proposed or to require the redesign of the SUP to better provide for equestrian users. In particular, we note that the project objective (d) is to enable mode choice for journeys between local communities by providing a north-south cycling and walking facility.

The scheme of and approach in the conditions

[99] The conditions contain:

- Tables listing the designations alongside the applicable conditions and lapse period (ten years from the date it is included in the relevant District Plan);
- Tables listing the resource consents alongside the applicable conditions, lapse period and expiry dates for each resource consent.

Then there are designation and resource consent conditions abbreviations, acronyms and terms.

[100] The designation conditions (which all start with the letter "D") come under the following headings:[39]

- General and Administration (Schedule 1: Referenced drawings);
- Construction Management – solely relating to Construction Environmental Management Plan (Schedule 2: Purpose and content of the Construction Environmental Management Plan);

[39] We have also included related Schedules in this list, some of which are also relevant under other headings.

- Tangata Whenua Values (Schedule 3 and Schedule 4 Purpose and content of Muaūpoko and Ngāti Raukawa ki te Tonga Management Plans);
- Archaeology – solely relating to Archaeology discovery protocol;
- Communications and Engagement (Schedule 5: Purpose and content of the Communications Plan);
- Landscape and Visual (Schedule 6: Methodology for revised assessment of visual effects);
- Construction Noise and Vibration (Schedule 9: Identified PPFs);
- Construction Traffic;
- Shared Use Path; and
- Operational Road-Traffic Noise.

[101] The regional resource consent conditions (which all start with the letter "R") and come under the following headings are next:[40]

- General and Administration (Schedule 1: Referenced drawings);
- Construction Management (Schedule 2: Purpose and content of the Construction Environmental Management Plan);
- Tangata Whenua Values (Schedule 3 and Schedule 4 Purpose and content of Muaūpoko and Ngāti Raukawa ki te Tonga Management Plans as covered in more detail later);
- Archaeology;
- Terrestrial Ecology;
- Freshwater Ecology;
- Ecology Management Offset and Compensation (Schedule 7: Purpose and content of the Ecology Management Plan and Schedule 11: Biodiversity Offsets Accounting Model attributes);
- Air Quality;
- Earthworks and Land Disturbance;

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40 Again, we have also included related Schedules in this list, some of which are also relevant under other headings.

- Groundwater;
- Surface Water;
- Erosion and Sediment Control (Schedule 8 Purpose and content of the Erosion and Sediment Control Plan);
- Operational Stormwater;
- Bridges and Structures over Water Bodies (Waiauti Stream, Manakau Stream, Waikawa Stream, Kuku Stream and the Ohau River); and
- Works in the Bed of Water Bodies.

[102] There is also Schedule 10 Certification process and we deal with the issues associated with that later.

The Evidence on the Approach to Conditions

[103] Ms Ainsley McLeod gave planning evidence for NZTA on the approach to the conditions. In summary she said that where avoidance of adverse effects is not possible, a range of measures are identified to remedy, mitigate, offset and compensate for the potential adverse effects of the Project. Those measures are incorporated into the Project as described in the consent applications and notices of requirement. Further that:[41]

> The means by which the Project avoids, remedies, mitigates, offsets and compensates for adverse effects are 'locked-in' through a comprehensive suite of conditions to be imposed on the designations and resource consents for the construction and operation of the Project.
>
> In addition to requiring the Project to be constructed in general accordance with the plans and other documents that describe the design parameters for the Project, the proposed conditions set out various standards, controls and requirements for the management of effects both during and following construction. A suite of management plans, and the measures these management plans provide, are pivotal to managing potential adverse effects on the environment and, in some cases, achieving the positive effects of the Project.

[104] On the approach to condition drafting Ms McLeod specifically referred to developing the conditions to: 'lock-in' the measures or parameters that have been incorporated into the Project to avoid or minimise adverse effects, including

41 McLeod EIC at [20]-[21].

through defining an 'envelope' of effects that sets the maximum adverse effect that can be caused by the Project. In the course of this decision we return to questions on the extent of what is actually 'locked-in' in terms of setting an 'envelope' of maximum effects when addressing some aspects of the conditions.

[105] Ms McLeod gave evidence that no draft management plans had been prepared (an option available to NZTA and one that has been pursued on other major projects) and recognised that there is typically subsequent consent authority oversight in the form of participation in management plan preparation or, in some cases, a certification process. Ms McLeod then referred to management plans required by the designation conditions being prepared and submitted as part of the outline plan process. She considered that through this process the management plans may be technically reviewed and amended, noting that the District Councils are able to request changes to outline plans under s 176A RMA. For the resource consents she referred to conditions including a technical certification process that provides the Regional Councils with the opportunity to confirm that the relevant management plans fulfil the requirements set out in the conditions.

The Conditions

[106] It is helpful to the scheme of the conditions to note the first condition in both sets of conditions – DGA1 and RGA1 under the heading of general accordance. These read:

> a) Except as modified by the conditions below, the Project must be undertaken in general accordance with the following drawings included in *'Volume III Drawing Set'* of the application documents and listed in Schedule 1:
>
> [each condition then lists relevant plans]
>
> b) Where there is inconsistency between the documents listed in clauses (a) and the requirements of these conditions, these conditions prevail.

[107] There are conditions on compliance with outline plan and management plans. For the designations DGA2:

> a) The Project must be undertaken in accordance with the most recent version of the following:
>
> i. an outline plan that has been submitted to the District Council, including any changes made under 176A of the RMA;
>
> ii. a Construction Environmental Management Plan …, including
>
> A. a Construction Noise and Vibration Management Plan …;
>
> B. a Construction Traffic Management Plan …;
>
> iii. a Communications Plan …; and
>
> iv.-v. [Muaūpoko and Ngāti Raukawa ki te Tonga Management Plans]

[108] For the designation, the outline plan is the vehicle for dealing with the following:

Condition	**Document or measure**
Condition DGA5(c)(vi)	Report describing landscape and urban design elements
Condition DGA5(c)(vii)	Report on water surface elevation change
Condition DLV2	Revised assessment of visual effects
Condition DNV4	Preparation of Site Specific Noise and Vibration Mitigation Plans
Condition DNV3	Construction Noise and Vibration Mitigation Plans
Condition DCT1	Construction Traffic Management Plan
Condition DRN3	Design of noise mitigation measures and report
Condition DRN4	Post-construction reviews of noise mitigation measures
Condition DRN6	Prediction of noise categories

[109] We note that an outline plan may be for the entire Project or for one or more stages, aspects, sections or locations of construction activities (DGA5b)). There are particular specified matters that are to be included in an outline plan where relevant to the particular location, design or construction matters being addressed (DGA5c)). We refer to these in more detail in relation to the treatment of specific issues including noise, 1024 Queen Street East, landscape and visual effects and flooding later in the decision.

[110] Resource consent condition RGA2 Compliance with management plans and site plans specifies that the Project must be undertaken in accordance with the most recent version of the Construction Environmental Management Plan, with that to be supplied to the Regional Council for information. Component parts of that CEMP are:

- A certified Ecology Management Plan including when amended;
- A certified Construction Air Quality Management Plan, including when amended;
- A certified Erosion and Sediment Control Plan, including when amended.

[111] The Project must also be undertaken in accordance with:

- All certified Site-Specific Erosion and Sediment Control Plans, including when amended; and
- All Ecology Offset Site Layout Plans, including where amended.

[112] We note that there are obligations set out in conditions DGA8 and RGA6 setting out those documents or measures that are required to be prepared or undertaken by the conditions of the designation or resource consent by a SQP for NZTA. A Suitably Qualified Person is defined in the conditions as:

> A person who is not an employee of the requiring authority/consent holder and is competent and experienced in the field of expertise that is relevant to a particular task or action directed by a condition.

[113] Some of these documents or measures are to be provided to the Councils for information and others are to accompany an outline plan or for regulatory certification or some other action.

[114] We find there is a lack of clarity as to when any follow-up amendment or revision (including to an outline plan) is to also be prepared or undertaken by an SQP in the conditions. Where the initial action specified SQP involvement, that principle should be carried through to follow-up action.

[115] Clearly that role is important in ensuring the substantive conditions containing terms, standards, limits, restrictions and prohibitions are achieved.

[116] For the same reasons, the conditions also need to make it clear that an amendment to or the revision of a certified management plan is also to be certified by the Regional Council (other than for the limited administrative exceptions provided for in the conditions) given the importance of these documents in securing environmental outcomes.

Incorporation of external documents by reference

[117] Conditions of consent or a designation may refer to external documents (or parts of them) that are to be complied with. Prior to the hearing we requested electronic copies of all the documents incorporated by reference in the conditions. At the hearing counsel for NZTA advised that copyright restrictions meant that a key document referred to in the conditions, *New Zealand Standard 6806: 2010 'Acoustics – Road traffic noise – New and altered roads* was not available to members of the general public without them purchasing it (or presumably arranging to look at it in the NZTA or District Council offices).

[118] The Court issued two Minutes relating to the *New Zealand Standard 6806: 2010 'Acoustics – Road traffic noise – New and altered roads'*. One Minute drew the attention of parties to the issue with the definition of "Best Practicable Option". The definition of "Best Practicable Option" in the conditions was:

> For the purpose of DRN3 the Best Practicable Option in accordance with New Zealand Standard 6806: 2010 'Acoustics – Road traffic noise – New and altered roads'.

[119] The second Minute issued after the hearing started referred to the Court (and not all parties because of the copyright associated with *New Zealand Standard 6806: 2010 'Acoustics – Road traffic noise – New and altered roads*) being provided with a copy of that Standard. That Minute made it clear that in our view substantive approaches to setting the "effects envelope" that rely on particular provisions of that Standard (or guidance in it) need to be contained in the conditions (and visible to all). Those conditions also need to meet the standards of good practice set out in 10.4 of the

Environment Court Practice Note 2023.

Exemption of "establishment works" from an outline plan

[120] The Project conditions for the designation rely heavily on the "outline plan" process. There is one category of activity "establishment works" which are exempted from an outline plan. The conditions define that term:

> Preliminary activities undertaken in advance of construction activities commencing, including within a particular stage or geographic area, as follows:
>
> (a) site-wide geotechnical investigations and material reuse testing and earthwork methodology;
>
> (b) topographical surveys;
>
> (c) ecological, cultural, archaeological and heritage surveys and relocations;
>
> (d) baseline monitoring;
>
> (e) contaminated land testing;
>
> (f) protection of and/or relocation of utilities;
>
> (g) formation of site access and haul roads, including temporary stream crossings;
>
> (h) formation of construction access tracks and/or reconfiguration of existing access tracks;
>
> (i) development of the construction yard and main site offices;
>
> (j) works associated with the abstraction of water needed to construct the Project and associated reservoirs (for storage);
>
> (k) property fencing and demarcation of areas where construction activities will not occur;
>
> (l) installation of erosion and sediment control measures associated with establishment works;
>
> (m) clearance of vegetation associated with establishment works (and clearing buildings and other features); and
>
> (n) management plan production.

[121] Counsel for the District Councils submitted that this approach was taken under the provision that the territorial authority waives the requirement for an

outline plan (s 176A(2)(c)) and that this could be provided for in the conditions in this way. She also referred to consideration being given to the provisions of the district plans permitting or otherwise regulating associated activities as a factor in agreement to the exceptions.

Management Plans

[122] The approach in the conditions puts a lot of reliance on these. That is not just for management plans prepared in relation to resource consents, but also those that accompany an outline plan. For example, the construction noise and vibration mitigation plan and site specific construction noise and vibration mitigation plans (styled as a mitigation plan but similar in nature to a management plan), ecology management plan, construction air quality management plan, and the erosion and sediment control plan and site specific erosion and sediment control plans.

[123] In looking at how the conditions (and associated schedules) deal with these we start with the outcome to be sought, which is a decision that should be made at first instance to inform what the purpose and procedures in the management plan are to achieve.

Deemed certification

[124] During the hearing the Court made it clear that it had a concern about the "deemed certification" conditions promoted by NZTA in several conditions. That allowed for NZTA to go ahead with implementing a revision of or amendment to a management plan for a resource consent where the Regional Council in its regulatory role was to certify the revision or advise of any changes it required within a specified time period but failed to give NZTA the necessary advice within that time period. The Councils also had a concern about this, as did Forest and Bird in the ecological context providing full reasoning on why we should not agree to the NZTA proposition.

[125] In its final closing NZTA remained of the view that the certification process set out in its Schedule 10 to the conditions for the Ecology Management Plan,

Construction Air Quality Management Plan, Erosion and Sediment Control Plan and Site Specific Erosion and Sediment Control Plans and their amendment is appropriate and reasonable. It said:[42]

> … Waka Kotahi is not seeking a deemed certification process.[43] It is proposing a process with clear milestones, generous timeframes for the Regional Councils to consider drafts, and early engagement, which would also enable NZTA to commence works – at its own risk[44] - **only if** it does not receive a response from the Regional Councils within the specified timeframes. NZTA does not consider this unreasonable, particularly when considering the overall benefits of the Project.

[126] We do not agree with the general proposition and proposed approach advanced by NZTA. We see no reason to depart from our findings in *Meridian Energy Ltd v Wellington City Council*:[45]

> It is essential that there is no uncertainty about the approved proposal and what the consent conditions require, including the details to be approved as part of the certification process in the future. The conditions referred to the process for approval of management plans which were intended to provide environmental protections. Meridian sought that if it did not hear back from the Council as to approval of a management plan within a specified time period then the management plan was deemed to be approved. This approach is not sound environmental management (or we suspect good project management), and we do not accept Meridian's approach.

[127] The principle is the same for the approach advanced by NZTA for management plans and their amendment. It is not the risk to NZTA that is of concern, it is the risk to the environment. Given the risk to the environment we find it better to require the independent check of the outline plan and related documents and the certification process before work commences. We have a real concern about the persistence of NZTA that the Environment Court should authorise NZTA to proceed without that regulatory check.

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42 Legal Submissions of NZTA in reply to the Councils' Closing Submissions 8 December 2023 at [19].

43 We note that the planning conditions rebuttal evidence of NZTA's witness Ms McLeod refers to 'deemed certification' as where 'the management plan is considered to be certified in situations where no response is received from the Regional Councils in the specified timeframes' and a 'deemed certification pathway'. See McLeod Rebuttal at [128].

44 Acknowledging this may result in the Regional Council requiring a plan to be resubmitted for certification after works have commenced.

45 *Meridian Energy Ltd v Wellington City Council* [2011] NZEnvC 232 at [402].

[128] We direct that Schedule 10 Certification process is to be amended to delete from the flow chart the pathway with no response received (within the working days in Table SCH10-1) and then construction activities may commence (Construction activities may commence ahead of certification in accordance with the Final Plan as submitted). There are also consequential amendments to be made to those conditions that cut across Regional Council certification of management plans or amendments to them as a pre-requisite to commencing activities.

[129] In final closing NZTA informed the Court that NZTA has a particular concern about the conditions proposed by the Regional Councils requiring:[46]

- Specific initial 'drafting meetings', 'on-site meetings' and 'walkovers'; and
- Provision of initial drafts for comment, with the Regional Councils being given 60 working days to provide any comments. NZTA's position was that the 'draft for comment' scheme is only justified if the conditions also enable construction to commence where timely certification is not forthcoming.

[130] We accept the points made by NZTA. While the approaches proposed by the Regional Councils could all be of some benefit in some circumstances we see it as unnecessary and potentially counterproductive to prescribe them. We note that all the Councils supported the Project and anticipate that NZTA and the Councils will work closely together to ensure the delivery of the Project outcomes in accordance with the conditions. That is likely to involve setting up Project management structures, protocols and other measures to promote and foster good working relationships between NZTA and the regulators. If any issues as to timeliness arise there are other avenues to pursue such as elevating matters within the respective organisations.

[131] In the light of this direction, we are neutral as whether the draft Plan (and its timeframe) now in the conditions are retained. NZTA is to consult with the regional

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46 NZTA Submissions in reply to the Councils' Closing Submissions at [21].

councils on this matter.

Exemptions

[132] We also do not agree with the exemption proposed in condition DGA6 Revision of an outline plan for the Construction Environmental Management Plan to provide updated information or reflect changes in design or construction methods without the need for a further outline plan where the potential effects on the environment as a result of the amendment are positive. We find that broad exemption for a positive effect is too uncertain.

[133] Importantly too we have a major concern about who decides what is a positive effect without there being any parameters specified for the nature and magnitude of what could be considered a positive effect. In addition, an assessment of a positive effect should not override conditions set for avoidance, mitigation, offsetting or compensation for adverse effects on an integrated basis across the Project. Such an approach is too uncertain and leaves too much discretion to NZTA. There is no independent check by the District Councils.

[134] It follows that we do not accept similarly drafted conditions on ecology in Condition REM3 Amending the Ecology Management Plan and Condition RAQ7 Air Quality. Accordingly, those exemptions for "positive effects" are to be removed from the conditions so that the independent check by the Regional Councils remains.

Annual report and monitoring

[135] Condition RGA3 requires that for each year for the duration of construction activities and in the year following the road being open for public use, an annual report for 12 months ending 30 April must be provided to the Regional Council by 31 July of that year. That annual report must include (along with an assessment and analysis of the monitoring data and a summary of any non-compliances and reasons for them and measures put in place to prevent a recurrence of the same incident):

> recommendations on any alterations to the monitoring to be implemented in

> the subsequent year, including the measures necessary to implement the recommended alteration: and
>
> an overview of the construction activities anticipated in the subsequent year, including any activities to reduce adverse effects on the environment.

[136] That annual report must be provided to the Regional Council, but there appears to be no feedback loop on what is described as "recommendations". In the case of a certified management plan that feedback loop may be through the need for NZTA to amend and have certified a revised management plan to provide for a different monitoring regime and mode of operation.

[137] We see no sound reason to have this exception in conditions RAQ7 a)ii. (air quality management plan) or (erosion and sediment control plan) RES 4)ii. and direct that these exceptions be removed, and any consequential changes, to provide for an independent check by the Regional Councils.

Site Specific Management Plans

[138] Ms McLeod gave evidence-in-chief on why some of the Site Specific Management Plans were not required to be certified in the first set of conditions put in front of us. She said that the Site Specific Erosion and Sediment Control Plans are to be certified so that the Council can confirm that the details of the physical works comply with the relevant standard and conditions. She referred to the Site Specific Noise and Vibration Mitigation Plans as supplementing the Construction Noise and Vibration Management Plan and to be provided to the Council for information only, with Mr Smith confirming that this is standard practice.

[139] Condition DNV4 now has the Site Specific Construction Noise and Vibration Mitigation Plans giving the District Council five working days before the commencement of construction for comment, and if no response within two days a 'deemed' pathway for the requiring authority to commence work in accordance with the provided document. We conclude, as we have elsewhere, that the Site-Specific Noise and Vibration Mitigation Plans should have improved oversight by the District Council. The requiring authority is not to be able to commence work until the District Council provides comment (which may be to the effect that it has no

comment) and otherwise once the requiring authority provides the District Council with the rationale for not amending the Site Specific Noise and Vibration Mitigation Plans as requested by it. A 10 day time frame for comment from the District Council seems reasonable to us. We direct that appropriate condition amendments are to be provided to give effect to that direction after consulting with the District Councils.

Noise and Vibration

[140] We have discussed the conditions concerning the noise and vibration effects of the Project in the Effects section below. We have made comprehensive directions in that section for reconsideration of the conditions. Some of the issues to be addressed are fundamental, and so we are not in a position to make a finding on the Project's treatment of the noise and vibration effects that will occur. The key theme in the Court's directions is to ensure that conditions are clear, certain and enforceable, on their face.

Effects

[141] We now turn to considering the effects on the environment under ss 104(1)(a) and 171(1). The current environment is of relevance and so we deal with that as appropriate when considering the effects.

[142] A detailed assessment of the potential effects of the Project was provided in the Assessment of Effects on the Environment (AEE), the supporting technical reports submitted with the notice of requirement and resource consent applications, and the evidence presented at the hearing. A comprehensive combined planning report under ss 87F and 198D of the RMA was presented on behalf of the territorial authorities in relation to the notices of requirement and under s 87F on the regional consent applications on behalf of the regional councils.

Positive Effects

[143] NZTA submitted that the positive effects of the Project outweigh any adverse effects, with the positive effects of the Project including:

- Significantly improved safety for road users and travel times;
- Improved network resilience;
- Safer property access to residences;
- Improved connectivity for pedestrians and cyclists; and
- Improved quality of stormwater discharge to waterways; and
- Planting of indigenous vegetation in parts of the riparian area; and
- Ecological enhancement and offsetting.

[144] There was no argument as to the nature and extent of the positive effects, with the focus during the hearing being on the setting of conditions to ensure adverse effects are adequately mitigated and positive effects secured.

Potential adverse effects

[145] The expert evidence of NZTA is that any adverse environmental effects from the Project would be low, provided the proposed mitigation measures are implemented. We now address these potential adverse effects and how they can be mitigated along with the conditions that would secure the necessary outcomes.

Transport

The Evidence

[146] Evidence on Transport was provided by Mr Peet for NZTA, Mr Tim Kelly for HDC and Mr David Dunlop for KCDC.

[147] In addition, Mr Peet was the author of Technical Assessment A Transport in NZTA's application documents, Mr Kelly the author of the s 198D Transport Report for HDC and Mr Dunlop the author of the s 198D Transport Report for

KCDC.

[148] The experts met and produced a Joint Witness Statement (JWS) dated 23 July 2023.

The Existing Highways

[149] The rural sections of the existing state highways SH1 and SH57 between north of Ōtaki and north of Levin are heavily trafficked two lane roads without median barriers with almost 40 intersections and over 400 accessways.

[150] These highways have a very high safety risk with KiwiRAP[47] star ratings of 2 (out of 5) with a history of high numbers of serious and fatal crashes culminating in 72 DSIs in the five year period from 2017-2021 (an average of 14.4 per year) and then in the following year 2022 when there were 26 DSIs.

[151] Travel times between Ōtaki and north of Levin on the existing SH1 vary depending on travel periods but on average take 26 minutes in the evening peak and as well there are no safe ways available to walk or cycle between Ōtaki and Levin.

[152] In the period from 2017/2018 to 2021/2022 there was an average of 5 unplanned closures per year (28 overall) on SH1 mostly from crashes with an average closure time for each of around four hours. When this section of the highway is closed, the alternative route for travelling from Wellington to Levin is via the Wairarapa with an increased journey time of around two hours.

[153] Five bridges on SH1 have been identified as having high or significant earthquake disruption risk with four of these being located between Ohau and Manakau.

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47 KiwiRAP is a safety rating system used to identify the most dangerous sections of the road network. A 2 star road means that there are major deficiencies in some road features such as poor roadside conditions and/or many minor deficiencies such as insufficient overtaking provision, narrow lanes and/or poorly designed intersections at regular intervals.

[154] SH1 is also subject to surface flooding with two large scale events in recent years having closed the highway between Ohau and Manakau, one for 90 minutes and the other for over 24 hours.

The New Highway

[155] The concept design for the new highway has been developed to address the fundamental safety and travel time issues impacting the current transport network. It will have a KiwiRAP 4 star rating.

[156] On completion, some 35 DSIs have been predicted to be saved over the first five years of its operation which when added to the online safety improvements to be undertaken on the existing highways will result in a total of 60 DSIs being saved.

[157] The forecast travel time savings in the evening peak between Ōtaki and the north of Levin are predicted to be 11-15 minutes less than under the current situation.

[158] A shared use walking and cycling pathway is to be provided over its full length.

[159] The engineering design principles for the new highway with its proposed resilience related features include:

- Four traffic lanes with a three barrier safety system;
- A design speed of 110km/hr with the vertical and horizontal alignments of the new highway being designed to suit;
- High quality pavements with open graded porous asphalt surfacing of the highway;
- Site specific probabilistic seismic hazard analyses have been undertaken to inform the seismic parameters to be used in designs;
- Liquefaction assessments have been undertaken to inform the design of ground improvements to limit deformations and achieve Waka

Kotahi - NZTA's Bridge Manual performance requirements during earthquakes;

- A 1:1,500 return period design earthquake;
- A design storm of 1% AEP plus allowance for future climate change.

Connections From the New Highway

[160] There has been a detailed evaluation of alternative locations and forms of connections from the new highway to the local road network. For example, in Stage 4 of the alternatives process, evaluations were undertaken of both grade-separated and at-grade connections at many locations along the length of the new highway with inputs and feedback from a wide range of affected parties.

[161] In addition to the connections from the new highway to the local road network, some ten local roads are to be either realigned, extended or newly constructed.[48]

Shared Use Pathway

[162] A north-south cycling and walking shared pathway is to be built over the full length of the new highway.

[163] A number of equestrian groups have requested that this SUP be made available to provide for equestrian use.

[164] NZTA's response to this request is set out in a separate section of this decision.

The Southern Interchange

[165] The Ō2NL highway connects with the recently completed PP2Ō highway at the southern interchange with the layout of this interchange having been chosen by NZTA following detailed consideration during the alternatives assessment process.

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48 Povall EIC 4 July 2023 at [15(g)].

[166] Having reviewed this layout, Mr Dunlop proposed an alternative layout.

[167] Subsequently, KCDC proposed a different layout from that proposed by Mr Dunlop with Mr Dunlop preparing an indicative design based on the Council's proposed layout.

[168] Mr Peet's response to this KCDC/Dunlop layout was that it could not be developed without significant cost and adverse effects and that he also had safety concerns about its configuration.

[169] In its opening submissions, NZTA advised that, following discussions with KCDC, the NZTA design had been accepted by KCDC with the proviso that there be a condition which allowed flexibility for an alternative arterial connection in the vicinity of Taylors Road to be considered in the Outline Plan.

[170] In its Brief Statement of Position dated 23 October 2023, KCDC advised the Court that it was no longer pursuing this condition and that instead, NZTA and the Council had reached an agreement under which the provision of an alternative connection would be investigated at the detailed design stage. At that time, they said that an agreement between them on this approach was close to being finalised.

[171] We do not recall having seen confirmation of this finalised agreement and have not found any reference to it in the conditions.

[172] The Parties are to confirm with the Court that they have finalised and signed this agreement.

Tara-Ika and the East West Arterial

[173] NZTA's Opening Submissions addressed concerns about access from Levin to Tara-Ika.[49]

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49 NZTA Opening Submissions at [75]-[80].

[174] Plan Change 4 to the Horowhenua District Plan promotes the residential development of land at Tara-Ika immediately to the east of SH57 as it passes Levin.

[175] This plan change and its associated structure plan envisage connections across the Ō2NL corridor including an East-West Arterial (EWA) and two strategic cycleways.

[176] While NZTA has offered to fund the construction of the EWA as it crosses the Project alignment, it has not proposed authorising the EWA (or any other crossings into Tara-Ika) through this Ō2NL designation and consenting process.

[177] For the Council, Ms Helen Anderson confirmed that a commercial arrangement being put in place between the Council and NZTA for this was an appropriate mechanism for the delivery of the EWA and associated strategic cycleways.

[178] JML and Mr Daly both made submissions on the issue of this access to Tara-Ika.

[179] Following discussions among NZTA, HDC and JML, NZTA advised that JML had accepted the approach of the proposed commercial arrangement between NZTA and the Council and had advised that it did not intend to participate further in the Ō2NL process.

[180] In addition to the issue of access to Tara-Ika, in his written and oral submissions Mr Daly raised a number of other issues. We have responded to all of the issues he raised in the *Submissions* section of this decision.

Other Submissions on Transport

[181] Mr Windleburn sought that the new highway be elevated over the Kimberley Road/Arapaepae Road intersection area thereby maintaining the current road infrastructure in the context of the planned growth in this area.

[182] In his s 198D Report on Transportation Issues, Mr Kelly responded to Mr Windleburn's submission.

[183] He pointed out that vehicle movements associated with the development of the area between Tararua Road and Kimberly Road (east of Arapaepae Road) will be primarily accommodated by Tararua Road and its intersection with the new highway. Other movements will be accommodated by the proposed service road which runs along the eastern side of the new highway in this area.

[184] Existing movements along Kimberley Road (east) and Arapaepae Roads will be required to make a deviation following the construction of the new highway.

[185] Mr Kelly said that he agreed with NZTA that the provision of an overbridge in this area could not be justified based on the relatively small number of vehicle movements involved.

[186] Mr Roger McLeay and Mr Errol Christiansen questioned whether the northern SH1/SH57 intersection should be grade separated as opposed to the at-grade roundabout which has been proposed by NZTA in its Concept Design.

[187] Mr Peet responded that while a grade separated interchange had been considered during the alternatives' evaluation process, it had been discounted for a number of reasons. These included the need to provide for long-term adaptability and flexibility if, as anticipated, SH57 needed to be upgraded in the future; a roundabout would cost significantly less and still provide similar and acceptable levels of service; a roundabout would have less environmental impact as it would require a substantially smaller footprint and a roundabout would also integrate efficiently with the highway alignment and existing local road connections.

[188] Ms Wendy McAllister-Miles, Mr Dion Miles and Ms Janice Jakeman raised concerns about access to their properties at 195 and 197 Muhunoa East Road.

[189] Mr Peet responded that access to their properties would not be restricted when the Project had been built. He added that Muhunoa East Road is being

realigned and that after this realignment, access to the two properties in question would be from a stub piece of the existing Muhunoa Road East which will connect into the realigned Muhunoa Road East.

[190] He said that during construction there could be small delays for the submitters when accessing their properties from Muhunoa Road East with stop/go traffic controls in place to accommodate contractor vehicles using the road.

[191] Dakin and Ally Bramwell were concerned about traffic volumes and their impact on access to their property at 289 Tararua Road.

[192] Mr Peet's response was that that once the Project had been constructed, there would not be any increase in current traffic volumes past their access although, as for Muhunoa East Road, there could be some disruption during construction with stop/go traffic controls in place at times.

[193] Emma and Carl Chalmers were concerned about limited walking connectivity across the new highway in the vicinity of Kimberley Road.

[194] Mr Peet acknowledged that while walking distances would be increased for what is currently a short trip between Kimberley Road to the west and Kimberley Road/Muhunoa East Road to the east, following construction of the new highway, very limited demand would not justify the cost of providing a grade separated walking connection at this location.

Discussion and Finding on Transport

[195] Subject to NZTA confirming with us that it has signed agreements in place with KCDC on the agreed outcome to be followed for finalising the layout of the southern interchange and the future provision of the Tara-Ika access(es), we accept the appropriateness of the concept design which has been proposed for the transport component of the new highway.

[196] We accept NZTA's responses to the issues raised by submitters.

[197] All of this is consistent with our findings on the adequacy of the consideration of alternatives for the Project with the Project as proposed being reasonably necessary for achieving the Project objectives.[50]

Landscape, visual amenity and natural character effects

[198] Evidence for NZTA on these topics was provided by landscape architect Mr Lister (who also prepared Technical Report D: Landscape, visual amenity and natural character). Landscape architect Ms Julia Williams prepared reports on landscape, visual amenity and natural character effects under ss 87F and 198D RMA on the notice of requirement and resource consent applications and gave evidence on behalf of the District and Regional Councils. Mr Graeme McIndoe prepared a s 198D report and gave evidence on the urban design aspects of the notice of requirement for both territorial authorities. All these experts were involved in joint witness conferencing. There are specific Landscape and Visual conditions for designations (DLV) along with Natural Character conditions for resource consents. Issues at large between the District Councils and NZTA (and Forest and Bird) on these conditions were resolved between the parties without these experts needing to appear at the hearing.

Methodology

[199] Mr Lister considered a new highway through a landscape such as Horowhenua would unavoidably have some adverse landscape, visual, and natural character effects. He assessed those effects applying a methodology consistent with *'Te Tangi a te Manu Aotearoa New Zealand Landscape Assessment Guidelines'* (2022).

[200] In particular Mr Lister assessed landscape and visual effects by reference to the six landscape character areas traversed by the Project, and his estimate of visual effects on individual dwellings across the Project area. He said there were no effects on the outstanding natural landscapes or features identified in the District Plans. He advised that natural character over six catchments was assessed through workshops that provided specialist input on relevant matters.

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50 See paras [1066]-[1165] below.

[201] Mr Lister gave evidence that work since the application was lodged involved updating the Planting Concept Plans for the Project and the Cultural and Environmental Design Framework (CEDF) in response to matters raised in submissions. He also responded to the Councils' s 92 requests on natural character restoration concerns outside the designation. NZTA's response was to propose the riparian planting depicted outside the designation on the Planting Concept Plan as far as practicable. This would require offering landscape planting to private landowners and entering into private agreements with them to undertake the planting.

[202] Overall he considered the potential adverse landscape, visual, and natural character effects had been avoided to a substantial degree by the selection of the proposed route. In his opinion for any unavoidable remaining adverse effects, the measures proposed using a whole-of-landscape approach (including through the CEDF) would effectively mitigate such adverse effects. Moreover, he said that the whole-of-landscape approach would have some positive landscape outcomes.

[203] Key to his assessment is landscape planting which is shown on the Planting Concept Plans: Indicative Typology and the Planting Concept Plans: RMA Purpose Type (and provided for in conditions). Mr Lister gave evidence that mitigation measures are proposed to address specific landscape, visual and natural character effects as depicted on the Planting Concept Plans. Importantly, potential mitigation measures had been developed and coordinated through the CEDF.

[204] Mr Lister advised that the purpose of the CEDF was to provide the key principles to ensure continuity of design direction through successive phases of the Project as it develops at an increasing level of detail. He said that the CEDF intended to integrate the mitigation recommended by different disciplines to amplify the benefits of mitigation measures through a coordinated design.

[205] Mr Lister said that the CEDF would establish the key principles for the mitigation of the landscape and visual effects of the Project and illustrate potential design and mitigation options across different disciplines. The CEDF includes

cultural matters, stormwater design, stream diversion design, stream retirement planting, terrestrial ecological planting, earthworks contouring and rehabilitation, landscape restoration, and planting for mitigation of visual amenity effects. It also follows a whole-of-landscape approach intended to result in an overall landscape outcome that is greater than the sum of the parts. The key principles of the CEDF are to 'soften' the Project, help tie it into the landscape and improve the landscape's biophysical processes and patterns.

[206] The District Councils had two issues relating to condition drafting in respect of condition DTW5 which had not been resolved at the start of the hearing, but had been since resolved:

- In terms of the CEDF, Ms Williams and Mr McIndoe had recommended changes to ensure greater certainty in terms of the CEDF and NZTA's Guidelines. Changes were made to provide greater comfort to the District Councils in respect of the relationship between the CEDF and the relevant NZTA Waka Kotahi Guidelines; and
- In terms of the design review audit process, Ms Williams and Mr McIndoe recommended the involvement of (respectively) a landscape architect and an urban designer in the design and audit process. Mr Lister and Ms McLeod agreed with the intent except the explicit reference to various disciplines as being unnecessary. This is reflected in the updated set of conditions.

[207] Condition DGA5 c)vi. now requires an outline plan to include where relevant to the particular location, design or construction matters a report describing how landscape and urban design elements of the Project are informed by the design guidance in Section 4 of the *'NZTA Landscape Guidelines'* (March 2018) and Parts 2 and 3 of *'Bridging the Gap, NZTA Urban Design Guidelines'* (October 2013). Where there is inconsistency between these Guidelines and the *'Cultural and Environmental Design Framework' '*(Consent Version, dated October 2022), the *Cultural and Environmental Design Framework'* is to prevail. This report is to be prepared by a suitably qualified person.

Relationship between ecology, landscape and natural character planting

[208] For completeness we need to address the relationship among the above topics. We find it helpful to reference the Planting Concept Plans: Indicative Typology and Planting Concept Plan: RMA Purpose Type in the designation and resource consent conditions. These are foundation plans fundamental to securing the required ecology, landscape and natural character planting outcomes.

[209] Conditions DLV1 and RFE2 state that except as modified by conditions that follow, the Project must be undertaken in general accordance with the drawings specified, which are included in 'Volume III Drawing Set' of the designation application documents and listed in the Schedule 1 Referenced Drawings.

[210] Schedule 1 includes the following referenced drawings and plans in Table SCH-1-1:

Drawing	**Condition Reference**
Planting Concept Plans: Indicative Typology	DLV1, RFE2, RWB3
Planting Concept Plans: RMA Purpose Type	DLV1, RFE2, RWB3
Ecology Plans	RCM4, RTE1, RTE6, RTE7, RTE8, RTE9, RTE10, REM8

[211] Firstly, looking at the Planting Concept Plans: Indicative Typology, the legend on each of the plans in Volume III drawing set includes:

Trees	Tree Avenues Tree Stands at Intersections
Ecology Mitigation and Offsetting	Terrestrial Offsetting Sites Wetland Offsetting Sites Riparian/Freshwater Offsetting (additional areas to be confirmed) Riparian/Freshwater – mitigation planting (additional areas to be confirmed) Terrestrial Buffer Planting
Restoration* (beyond Project Earthworks)	Low Vegetation Tall Screen Planting

	Re-established Tall Forest Wetland Re-vegetated Scarp Riparian Margin Wet Forest Planting Enrichment Planting
Rehabilitation* (over Project Earthworks)	Grass Low Vegetation Tall Screen Planting Re-established Tall Forest Swale Planting Naturalised Stormwater Pond Material Supply Sites

[212] There is also a note on the legend that states "To address landscape, visual and natural character effects … offset + natural character planting is subject to landowner approval". It is unclear what this applies to. Does it refer to additional areas to be confirmed?

[213] Secondly, looking at the legend to the sheets that are part of Planting Concept Plans: RMA Purpose Type there are Purpose Types (with subsets listed) and areas shown. There is again a note on the legend that states "offset + natural character planting is subject to landowner approval".

[214] For the RMA Purpose Type of "Ecological Mitigation and Offsetting Sites" (with a total area of 63 ha) there are the following subtypes shown on the plans in different shades:

- Terrestrial Offsetting Sites;
- Wetland Offsetting Sites;
- Terrestrial Buffer Planting;
- Riparian/Freshwater Offsetting Sites; and
- Riparian/Freshwater – Mitigation Planting.

[215] For the RMA Purpose Type of "Landscape and Visual Planting" the following subtypes are shown in different shades on the plans:

- Rehabilitation Planting (within footprint) (area 105 ha);

- Stormwater Wetland Planting (19 ha); and
- Restoration Planting (outside footprint) (22 ha).

[216] Also listed are:

- Grass Rehabilitation (57 ha);
- Natural Character Planting (40.6 ha);
- Material Supply Sites Planting (38 ha);
- Trees – No. 1782 (Larger grades 2-4 metres at Planting);
- Indicative Swale.

[217] Finally there are the Ecology Plans. More detail on Ecology Mitigation and Offsetting is dealt with under the Ecology Effects heading.

[218] In rebuttal Mr Lister gives reasons for the approach taken to separately dealing with these effects and topics.[51] He explains that the detailed landscape plans, specifications, and management methods would be submitted as part of the Outline Plan. The reason is that the landscape planting (including that which is labelled 'natural character planting') relates primarily to the designation and Outline Plan. The ecological planting, on the other hand, is a separate workstream and relates to the regional consents.

[219] He elaborates that the landscape planting is designed to complement the ecological workstream (and other workstreams) to maximise the overall benefits of the Project, but it is different from, and additional to, the ecological planting that is required to address ecological effects. Landscape planting covers a different range of purposes and situations. For instance, the landscape planting addresses visual amenity and landscape character, and entails rehabilitation of engineered earthworks as well as restoration of natural ground. The landscape planting is also guided by the CEDF.

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51 Lister rebuttal 10 October 2023 at [13]-[15], [17].

[220] Finally he says that the complementary approach between ecology and landscape is most pronounced with the proposed rehabilitation of stream banks. Landscape planting – labelled 'natural character planting' – is designed to extend the areas identified for ecological offset restoration further along streams. Some is also proposed beyond the designations to further emphasise the natural pattern of streams perpendicular to the highway.

[221] Ms Williams accepted that[52] the landscape planting within the designation also provides mitigation for ecological effects (and refers to ecologists Mr James Lambie and Mr Nick Goldwater as agreeing). She accepted that the reality is that ecological mitigation and off-setting sit within a different framework that requires a more rigorous set of establishment and management conditions. Ecological planting is also undertaken on sites with existing ecological attributes and values, uses a complex range of plant species and frequently requires on-going planting in the form of enrichment planting that in turn extends the maintenance regime. She said that in contrast, the bulk of the proposed landscape planting occurs on sites within the earthworked footprint, using broad planting patterns and a palette that reflects rather than replicates the natural groupings of plants and ecosystem types.

[222] Ms Williams also said:[53]

> The Planting Concept Plan shows natural character planting, mostly wetland forest and riparian typologies, located in existing grassed/pasture alongside waterways, wetlands and stormwater ponds. I might have preferred to have this planting included in the Ecological Management Plan and implemented in conjunction with the ecological planting[54] but have come to understand Gavin Lister's position that the natural character planting was always conceived as a sub-set of the landscape planting, and the production of two sets of Planting Concept Plans, one labelled *'Indicative Typology' and one labelled 'RMA Purpose Type'* was deliberately designed to show the purpose and location of the types of landscape planting, and the differentiation between landscape and ecological plantings.

[223] There was agreement between Mr Lambie, the ecologist for the Councils, and Mr Goldwater the terrestrial ecologist for NZTA, that it is not necessary to

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52 Williams EIC 26 September 2023 at [32].

53 Williams EIC at [42].

54 (In her s 87F Report Ms Williams wrote that the RC has a role in managing the natural character plantings and that natural character plantings should be included in the Ecological Management Plan, together with the offset planting.)

apply the same standards to landscape and natural character planting that are to be applied to ecology offset planting, as initially sought by Forest and Bird (but not pursued in its opening submission).[55]

[224] We accept this approach as reflected in the conditions on these matters.

Landscape character and amenity values and the conditions

[225] Mr Lister gave evidence that the proposed designation follows what he considered the best fit from a landscape perspective at a district level. In his view the Project also fits landscape patterns at a finer scale within the constraints of engineering geometry for a road. Nevertheless he considered there would be some residual adverse effects on landscape character and amenity values, most notably at 'Manakau Downlands'[56] and the area on the north-east outskirts of Levin.

[226] Mr Lister said a range of mitigation measures are proposed for each landscape character area, with key measures providing for various forms of rehabilitation along the highway margins including planting (for screening, 'softening' and integration), and naturalising key Project elements – particularly earthworks and stormwater infrastructure – to provide a more natural landscape fit. He also mentions the restoration of stream banks and wetlands perpendicular to the highway to tie the highway into the landscape and restore natural character.

[227] Mr Lister also referred to landscape and visual measures recommended to integrate the design of the Project and that of the intended future urban development to address amenity and connectivity.

[228] With the proposed mitigation, Mr Lister considered the effects of the Project on landscape character and amenity values as ranging from 'low' to 'moderate-high' (on the 7 point scale used in the methodology in the *'Te Tangi a te Manu Aotearoa New*

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55 Goldwater rebuttal 10 October 2023 at [8] – [18] where he refers to the EIC of Mr Lambie.

56 Manakau Downlands is one of the 'landscape domains' (landscape character areas) identified in the Horowhenua District Plan. It is the area south and east of Manakau village including Manakau Heights Drive, Mountain View Drive, and Eastern Rise.

Zealand Landscape Assessment Guidelines' (2022)).

[229] We note the following condition under the heading landscape and visual on landscape planting in the designation:

> DLV1 Landscape planting
>
> a) Subject to landowner agreement where the planting is on private property, the landscape planting shown on the Planting Concept Plans: Indicative Typology and the Planting Concept Plans: RMA Purpose Type listed in Schedule 1 must be undertaken:
>
> i. where practicable, prior to commencement of construction activities; or
>
> ii. as soon as construction works are completed in the relevant area and seasonal conditions are appropriate; and
>
> iii. within eighteen (18) months of the Project being open for public use.
>
> Landscape planting must be implemented, maintained, monitored and replaced to achieve a 90% survival rate and 80% canopy coverage of the ground at five (5) years following the date that initial planting commenced; and
>
> b) The landscape planting must consist of plant material sourced from the rohe in which it is to be planted or be otherwise sourced from the ecological district of the site.

Visual effects

[230] In terms of visual effects Mr Lister considered the fit of the Project with landscape character patterns is key to the visual effects on public views, as are the mitigation measures to soften and further integrate the Project into the landscape. In terms of private views, while minimising adverse effects on amenity values from individual properties was a factor in selecting the preferred alignment, the Project would unavoidably require the removal of some dwellings and have significant adverse visual effects on others.

[231] Further, Mr Lister gave evidence that tabulated assessments estimating the likely visual effects from individual properties were prepared (largely from aerial photographs and views from roads) and included in tables as Appendix D.3 Technical Assessment D. These tables record distance of the edge of the concept

highway design from each dwelling, an assessment of the nature and degree of visual effect, and the recommended mitigation in those instances where the adverse visual effects for a dwelling are likely to be 'moderate' or greater. He said that mitigation would be largely provided through the broad scale planting proposed within the designation for landscape, visual, and natural character reasons, but there are instances where additional specific mitigation is required.

[232] Condition DLV2 Visual effects specifies that:

a) The requiring authority must undertake a revised assessment of visual effects of the Project on occupied dwellings to identify any occupied dwellings where the residual visual effects are assessed to be greater than moderate.

b) The assessment of visual effects required by clause (a) must:

i. assume that the landscape planting required by Condition DLV1 is in place;

ii. be completed in a manner consistent with the methodology in Schedule 6 to these conditions;

iii. be provided as part of the outline plan required by Condition DGA5.

c) Where the assessment of visual effects required by clause (a) concludes that the adverse visual effects on a dwelling are greater than moderate the requiring authority must consult with the owners of the dwelling and offer to develop and implement a plan for mitigation of visual effects of the Project on the affected property to further screen views of the Project.

d) The consultation required by clause (c) must be undertaken within twelve (12) months of the commencement of construction activities or as soon as practicable after the implementation of the landscape planting required by Condition DLV1.

e) The requiring authority has complied with Condition DLV2 if:

i. the owner of the dwelling agrees to the offered mitigation and the planting is completed;

ii. the owner of the dwelling does not agree to the offered mitigation;

iii. an alternative agreement for the mitigation of visual effects is reached and implemented between the requiring authority and the dwelling owner.

f) The requiring authority must provide the District Council with a description of mitigation offered and implemented under clauses (c) and (e) as soon as practicable following the implementation of the offered mitigation.

[233] Mr Lister gave evidence that the concentration of moderate or greater adverse visual effects in the area between the north end of the Project and Queen Street East reflects the clusters of rural residential properties on the outskirts of Levin (especially in Sorensons Road, and Waihou Road) and the designation's large curve around the north-east corner of Levin which cuts across the landscape patterns. The concentration of adverse visual effects in the Manakau Heights area also reflects that location's cluster of rural residential properties.

[234] All of the landscape conditions on the designation were resolved between NZTA and the Councils. Forest and Bird, at the time of filing written submissions, sought that landscape and natural character planting be subject to additional standards (more akin to the ecology offset planting). In its opening submissions at the hearing, Forest & Bird confirmed it was not pursuing this matter.

Natural character of stream catchment

[235] Assessments of the existing natural character values of each stream catchment traversed by the Project, along with effects of the Project on those values, were carried out in expert workshops. Later restoration and rehabilitation measures were also proposed, including planting to restore wetlands and vegetation along stream banks.

[236] The river, streams and wetlands crossed by the highway range between low-moderate and moderate-high natural character value (on the 7 point scale used in the methodology in *'Te Tangi a te Manu Aotearoa New Zealand Landscape Assessment Guidelines'* (2022)). Following the workshop process Mr Lister considered the natural character in each of the six main river or stream catchments would be maintained having regard to existing natural character, the modified context, the functional need for the highway to cross the water bodies, the consequentially unavoidable effects of the highway on perceptions of naturalness in the vicinity at such locations, and measures proposed to rehabilitate and restore the natural characteristics and qualities along the streams and wetlands. He said the proposed measures would continue to increase the natural character of the main stream over time.

[237] The natural character planting condition (RWB3) for the resource consents agreed between the parties achieves the same outcome as that contained in the designation planting condition (DLV1), but for works in the bed of water bodies.

Evaluation

[238] Other than where we have indicated the need to amend Condition DGA6 a)ii. Revision of an outline plan we accept the evidence on the landscape, visual and amenity natural character topics (returning to the assessment of the Project in terms of the regional and district policy documents later in this decision) and that the conditions deal satisfactorily with the effects.

Terrestrial and wetland ecology and freshwater ecology

[239] In relation to terrestrial ecology Mr Goldwater prepared Technical Assessment J: Terrestrial Ecology accompanying the application. He prepared evidence (and rebuttal) on terrestrial and wetland effects. The experts for the Regional Councils (Mr Lambie) and District Councils (Mr Bryn Hickson Rowden) who prepared the Reports for the Councils also prepared evidence. The terrestrial ecology JWS demonstrated a high degree of alignment between the experts.[57] The only outstanding matter raised by Mr Lambie and Mr Hickson Rowden in their evidence was resolved during negotiations between the parties that occurred during the hearing. None of these witnesses gave evidence or were required to answer questions at the hearing.

[240] On freshwater ecology Dr Alex James prepared Technical Assessment K: Freshwater Ecology accompanying the application, giving evidence and rebuttal responding in detail to the Report and evidence of the witness for the Regional Councils, Mr Logan Brown. Engagement between the experts, including in expert conferencing[58] and evidence exchange, substantially narrowed issues. Neither of these witnesses were required to answer questions at the hearing.

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57 The JWS Terrestrial Ecology, 7 August 2023 was signed by Mr Goldwater, Mr Lambie, Mr Hickson Rowden, Ms Kairaitiana on behalf of MTA and Mr Parr on behalf of the hapu of Ngāti Raukawa.

58 The JWS Freshwater Ecology, 7 August 2021 was signed by Dr James, Mr Brown, Mr Hickson Rowden, Ms Karaitiana, Mr Parr.

[241] In closing, NZTA pointed out that at the time opening legal submissions were filed, there were outstanding matters between the Councils and NZTA in respect of:

- The long-term management of pest plants at terrestrial and freshwater offset planting sites; and
- A possible requirement for a 25-year post-planting inspection at the offsetting sites (now included in Condition REM19 to provide for a final 25 year inspection of offsetting sites, if the 15 year inspection indicates that is warranted).

[242] In relation to the long-term management of pest plants at terrestrial and freshwater offset planting sites the NZTA ecology witnesses considered that:

- The offsetting scheme does not rely on the permanent and complete control of pest plants in order to achieve the intended outcomes;
- The Horizons Regional Pest Management Plan 2017-2037 sets out pest plant management obligations for Horizons and landowners; and
- There is no precedent for a permanent pest control requirement in conditions in NZTA projects (arguably rather outside the field of the ecology experts and more of an advocacy point).

[243] The latter matters have now been resolved, with the relevant conditions agreed between the Councils and NZTA. Forest and Bird also confirmed in its opening submissions that it was no longer seeking any condition changes in respect of ecology matters other than in respect of the approach advanced by NZTA to deemed certification (which we referred to under the scheme of and approach to Conditions and also consider further here).

[244] We now look at the assessments and the conditions to secure the measures to deal with adverse effects and ensure positive effects.

[245] We note that while the ecological evidence frequently referred to an offsetting and compensation package of measures, there are ecology conditions that

relate to measures to offset residual adverse effects (and are otherwise silent or unclear as to what offsetting and compensation involve).

[246] Under the heading of Ecology Management Plan Offset and Compensation, the following conditions refer to compensation:

- REM13 Sites for offset and compensation measures
  a) refers to compensation and offset measures required by Conditions REM7, 8, 9 and 11 (none of which refer to compensation); and
  b) only refers to offset requirements.
- REM17 Review of measures to offset residual adverse effects on terrestrial and wetland ecology
  a) refers to a review of compensation measures required by Conditions REM7, 8 and 9 (none of which refer to compensation); and
  b) only refers to offset requirements.
- REM18 Review of measures to offset residual effects on freshwater ecology
  a) refers to environmental compensation ratio methodologies; and
  b) only refers to offset requirements.
- REM19 c)iii. under the heading Offset Monitoring also refers to "Stream Ecological Valuation Environmental Compensation Ratio methodologies"
- Schedule 7 Ecology Management Plan (n) has a reference to both "offset" and "compensation".

[247] The conditions would be more certain if they clearly identified what was required in terms of biodiversity offsetting and biodiversity compensation respectively. We would appreciate a short statement on this point and consideration of whether there is a need to improve the clarity of certain conditions. That might also relate to the terminology and treatment of these approaches in the policy documents and in the evidence.

[248] Firstly we deal with terrestrial and wetland ecology, secondly freshwater ecology and finally in more detail the ecology management offset and compensation regime including the central role of the Ecology Management Plan (EMP) which relates to all types of ecology.

Terrestrial and wetland ecology

[249] The Project passes through the Horowhenua lowlands, which have been almost entirely converted to intensive agriculture following European settlement. The evidence was that consideration of alternative Project routes made it a priority to avoid remaining higher value ecological habitats.

[250] Mr Goldwater gave evidence that as a result over 95% of the indicative Project construction footprint comprises pasture and cropping land, houses and gardens, and quarries, road and rail corridors. He said that all 'High' and 'Very High' value forest habitats have been avoided but that the Project would, unavoidably, pass through:[59]

- Areas of 'Low' to 'Moderate' value terrestrial habitats; and
- Wetland habitat, most (but not all) of which is grazed, exotic-dominated and of relatively low ecological value.

[251] Mr Goldwater gave evidence that the avoidance and minimisation measures proposed include:[60]

- Physical delineation, biosecurity and seasonal clearance protocols;
- Salvaging and relocating lizards and snails where clearance is to occur, and other tailored measures to reduce fauna mortality during construction and once the Project is operational;
- Remedial restoration of habitats within the construction buffer, and measures to minimise 'edge effects'; and
- Direct transfer of vegetation from the higher-value impacted

59 Goldwater EIC 4 July 2023 at [14]-[15].
60 Goldwater EIC at [18]-[21].

wetland sites to other sites within the proposed designations (this measure is alongside the wetland restoration offset discussed below).

[252] Mr Goldwater gave evidence that there would be residual adverse effects on ecological values after those avoidance and mitigation measures are implemented. Mr Goldwater described the development of an offset and compensation approach to address those effects. He applied the Biodiversity Offset Accounting Model (BOAM) to inform a regime which would deliver an overall 'net gain' for terrestrial and wetland ecology. (We note that assessing net gain outcomes for freshwater ecology is done with reference to the Stream Ecological Valuation Environmental Compensation Ratio methodologies, as referenced in Condition REM19 c)iii.).

[253] The approach to dealing with the residual adverse effects includes:[61]

- Approximately 7.5 ha of terrestrial vegetation offset planting (broken down into specific categories as in Condition REM7);
- Replacement planting of specific trees to be removed from treeland habitats, at ratios of between 1:1 and 50:1 (as in Condition REM8);
- 4.9 ha of wetland restoration and 0.48 ha of open water creation (as in Condition REM9); and
- The establishment of a lizard relocation area, protected by a predator-proof fence (as in Condition REM10).

[254] Indicative sites have been identified for these offset and compensation measures, including:

- Terrestrial offset planting is to be carried out at pasture sites within the proposed designations;[62]
- Wetland restoration and open water sites creation is to be carried out

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61 Goldwater EIC at [23] – [29].

62 Refer to the Planting Concept Plans: updated versions attached to EIC, Mr Lister at Appendix A. See also Goldwater EIC at [154].

through a combination of:[63]

(i) Rehabilitation of up to three proposed material supply sites, near the Waikawa Stream and Ohau River; and

(ii) Restoration planting at Te Ripo O Hinemata wetland at Koputaroa (six km northeast of Levin).

[255] There is a suite of conditions on the resource consents that specifically deal with terrestrial and wetland ecology to secure these outcomes. We also note the cross references in these conditions to habitats and habitat types, including those in tables and those shown on plans and referred to in schedules, given their importance in the delivery of the ecological outcomes advanced in evidence.

[256] Conditions under terrestrial and wetland ecology cover:

- Forest and treeland retention (indigenous terrestrial forest, indigenous terrestrial treeland, exotic terrestrial forest (Arapaepae Bush only) and mixed indigenous-exotic terrestrial forest) identified and mapped on the Ecology Plans (listed in Schedule 1) with vegetation removal limited to pest plants and for health and safety reasons (Condition RTE1).
- Forest and wetland total removal area limitations by habitat type within the habitat type identified and mapped on the Ecology Plans (Condition RTE2). Areas are to be delineated physically where practicable or distinguished through digital mapping before removal.
- Direct transfer of wetland vegetation under Condition RTE2 is to include the translocation of specified wetland habitat types within total areas to wetland restoration sites (Condition RTE3). If that fails entirely or in part replacement planting with eco-sourced plant species is to be undertaken the following spring.
- Where bridge abutments and associated construction activities result in the loss of gravelfield habitat identified and mapped in the Ecology

63 Explained in more detail in Technical Assessment J: Terrestrial Ecology at [272] – [294].

Plans, the area lost must be confirmed and addressed in accordance with REM17 by the direct transfer of gravel habitats to other parts of the river or the restoration of adjacent gravelfield through weed control and appropriate indigenous planting (RTE4).

- Measures to identify and protect nesting birds and active nesting sites of 'At Risk' or 'Threatened' braided river bird species[64] in gravelfield habitat (Condition RTE5) and 'At Risk' or 'Threatened' wetland bird species in wetland habitat identified and mapped on the Ecology Plans (Condition RTE6).
- Measures to protect New Zealand pipit habitat and active nesting sites in areas identified on the Ecology Plan prior to and during the breeding season (Condition RTE7).
- Prior to clearing vegetation in identified and mapped lizard habitats on the Ecology Plans there is to be a pre-construction lizard survey and salvage to identify, capture and relocate lizards to the lizard relocation area created under Condition REM10 (Condition RTE8).
- Prior to clearing vegetation in identified and mapped habitat types on the Ecology Plans a preconstruction survey must be undertaken to identify, capture and relocate 'At Risk' or 'Threatened" indigenous invertebrate species (Condition RTE9). In addition specific invertebrate species must also be captured and relocated. 'At Risk' and 'Threatened' species are to be relocated to the lizard relocation area required by Condition REM10, while all other invertebrate species are to be relocated to the closest similar and suitable habitat.
- Subject to landowner agreement where indigenous buffer planting is on private property, indigenous buffer planting shown on the Planting Concept Plan: Indicative Typology and the Planting Concept Plans: RMA Purpose Type listed in Schedule 1 must be provided where the Project is adjacent to habitats listed, identified and mapped on the Ecology Plans (Condition RTE10). There are also requirements for a minimum planting width of 10 metres except where unavailable

64 'At Risk' or 'Threatened' bird species as defined by the Department of Conservation NZ Threat Classification System.

because of existing tracks, existing roads or the area of construction within the Project area and for species reaching a similar height to the adjacent indigenous vegetation. Planting is to be undertaken before commencing construction activities where practicable and before the end of the first planting season following the Project being open to the public. Sourcing of indigenous plant material is to be from the rohe in which it is to be planted or otherwise from the ecological district. Consideration must be given to fencing this planting in order to exclude livestock.

- Bat roost surveys for potential habitat listed and mapped on the Ecology Plan listed in Schedule 1 to identify the presence of roosting bats with the results provided to the Regional Council prior to the construction activities (RTE11). Where the surveys identify the presence of roosting bats, the requirements of Condition REM5 'At Risk' or 'Threatened' flora and fauna discovery protocol apply.

Freshwater Ecology

[257] In relation to freshwater ecology Dr James gave evidence on his assessment of the values of the five stream catchments traversed by the Project, the effects on those values, and the measures proposed to address effects.

[258] For all effects other than permanent habitat loss and modification, Dr James assessed that once mitigation measures are applied the adverse effects would be no greater than "Low" (and in some instances would be positive). Stream habitat loss / modification effects would be "Very High" without effects management, but that the offsetting scheme is designed to achieve no net loss / net gain.

[259] The evidence of Dr James was that construction effects would be minimised by:

- A combination of avoiding works during fish migration periods, the capture and relocation of fish and macroinvertebrates before works, and providing for appropriate fish passage through temporary culverts

/ diversions;

- Appropriate erosion and sediment control measures;
- Safeguards to minimise contamination from machinery and construction materials; and
- The cautious approach that is proposed to water abstraction.

[260] With these measures in place, Dr James assessed construction adverse effects as "Very Low" or "Low", except for sedimentation effects on Stream 17 and Stream 19, which he assessed as "Moderate".[65]

[261] The evidence of Dr James was that operational adverse effects would be minimised by:[66]

- The use of bridges to cross the Ohau River, Waikawa Stream, Manakau Stream and Waiauti Stream;
- Providing appropriate fish passage through all culverts;
- Implementing appropriate stormwater management measures, as discussed above; and
- Limiting operational highway lighting to intersections only (therefore limiting any effects on freshwater taxa).

[262] However, there would be an unavoidable permanent loss and modification of freshwater habitat for culvert installation and stream reclamation. While stream diversions would reduce the overall stream length lost, there would be residual effects that need to be offset.[67] The offsetting proposed is a riparian fencing and planting scheme, to be undertaken along existing streams in the affected catchments.

[263] As with the terrestrial and wetland ecology actions, all the proposed freshwater ecology actions are secured by conditions, with detailed methodologies to be set out in the EMP.

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65 James EIC 4 July 2023 at [18] – [25].
66 James EIC at [26] – [31].
67 James EIC at [28] – [29].

[264] Conditions under Freshwater Ecology cover:

- Fish removal or recovery (RFE1) –measures to avoid construction in a reach of a stream or wetland when migratory fish species could be expected to be passing through where practicable; measures to deter, remove or recover fish, kōura and kākahi prior to beginning construction activities and capturing and relocating them prior to the decommissioning of any temporary diversion channels; and a record of the species and number of individual fish recovered provided to the Regional Council on a quarterly basis.
- Artificial lighting is not to result in any direct light spill onto the surface of a stream or wetland, which may be achieved by lighting design or through riparian planting and subsequent canopy closure as shown on the Planting Concept Plans: Indicative Typology and the Planting Concept Plans: RMA Purpose Type (RFE2).
- Fish passage during construction with fish passage to be maintained at all times in Kuku Stream, Ohau River, Stream 27.1, Waikawa Stream, Manakau Stream and Waiauti Stream (RFE3).
- Permanent fish passage is to be provided through new permanent culverts listed as requiring fish passage in the 'Catchment Culvert, Swale and Pond/Wetland Schedule' listed in Schedule 1 when the culvert is livened, with maintenance and monitoring to ensure fish passage provision does not reduce over time (RFE4).
- Information about culverts and fish passage required by regs 62, 63 and 68 of the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 must be collected and provided to the Regional Council within 20 working days of installation of a culvert and each time a significant natural hazard affects the structure (RFE5). Within 20 working days of a new permanent culvert referred to in RFE4 being livened written confirmation that each fish passage structure has been constructed in a manner consistent with the stream simulation method set out in the design principles contained in the

'New Zealand Fish Passage Guidelines: For structures up to 4 metres, 2018' must be provided to the Regional Council.

- Freshwater ecology monitoring during construction (RFE6) and freshwater ecology monitoring post construction (RFE7) requirements. For both a summary report of the monitoring undertaken must be included in the Annual Report required by Condition RGA3. Records of freshwater ecology monitoring must be made available to the Regional Council and Project Iwi Partners on request.
- Condition RFE6 freshwater ecology monitoring during construction requires baseline monitoring, and in each catchment when construction activities are being undertaken routine monitoring and trigger rainfall event-base monitoring where the trigger rainfall event is set out in a certified Erosion and Sediment Control Plan required by Condition RES2, post-construction monitoring and include where practicable an upstream and downstream location for each identified site. Baseline and routine monitoring during construction must include monthly monitoring of pH, deposited sediment, algal cover, water depths, water velocity, wetted channel width, water clarity and photos of stream bed and quarterly monitoring of macroinvertebrates and fine sediment. There are also different requirements for where only downstream monitoring is undertaken and where paired upstream and downstream monitoring is undertaken in terms of a threshold for increase in median fine sediment or decrease in median Quantitative Macroinvertebrate Community Index (QMCI) or median average score per metric (ASPM) compared to baseline data triggering the response actions set out in the Ecology Management Plan and Erosion and Sediment Control Plan must be implemented so that the trigger levels are no longer exceeded.
- Except where no change is observed during routine monitoring of a waterbody RFE7 requires freshwater ecology monitoring post construction to be done on a quarterly basis for 12 months unless the Regional Council agrees to a shorter period. Where only downstream monitoring is undertaken and where paired upstream and downstream

monitoring is undertaken and identifies exceedances of a threshold for increase in median fine sediment or decrease in median QMCI or ASPM compared to baseline data (incorporating construction period routine monitoring data excluding trigger event data) that persists at a site for one year or more, then the Ecology Management Plan must be revised to provide for further monitoring, mitigation or offsetting and certified in accordance with REM3.

Ecology Management Offset and Compensation

[265] The conditions under this section relate to both terrestrial and wetland ecology as well as freshwater ecology. Of particular moment is the *Ecology Management Plan* and we return to the issues around the concern of Forest and Bird to the approach taken by NZTA to it.

[266] Conditions REM1 (Ecology Management Plan), REM2 (Ecology Management Plan certification) and REM3 (Amending the Plan) provide for an Ecology Management Plan, its certification and amending it.

[267] Condition REM4 Biosecurity has constraints on activities to avoid the spread of hornwort, didymo and mosquito fish. It also has specific requirements to manage the risk of invasion by plague skinks, of myrtle rust and the spread of field horse tail and yellow brittlegrass.

[268] Condition REM5 'At Risk' or 'Threatened' flora and fauna discovery protocol applies to 'At Risk' or 'Threatened' flora and fauna if undertaking works authorised by resource consents and where the flora and fauna are not specifically addressed by the conditions of these consents. The consent holder must implement a course of action that may include the identification of areas where construction activities must cease and that references the framework for the management of indigenous vegetation, habitats and fauna in the Ecology Management Plan and takes into account the outcomes of any consultation with the Project Iwi Partners and DOC. Within 15 working days of a discovery the Regional Council is to be advised of the course of action implemented, including the programme for future

actions.

[269] Condition REM6 Measures to offset residual adverse effects on terrestrial and wetland ecology requires residual adverse effects of the works authorised by the resource consents to be offset to result in a net indigenous biological diversity gain. The measures required by Conditions REM7, REM8 and REM9 must be undertaken prior to commencement of construction activities or as soon as construction activities are completed in the relevant area and seasonal conditions are appropriate, and within 18 months of the Project being open for public use.

[270] Condition REM7 Offset planting deals with the quantum and nature of offset planting required to offset indigenous vegetation and habitat removal.

[271] Condition REM8 deals with replacement tree planting, requiring that for any tree species listed in the condition with a diameter at breast height of more than 10 cm removed from the indigenous treeland habitats identified in the Ecology Plans listed in Schedule 1, replacement planting must be undertaken at the specified ratios. Where any indigenous shrub species, poroporo plants over one metre in height are removed each plant must be replaced by planting at a ratio of 1:1 in one or more of the sites where the offset planting required by Condition REM7 is undertaken.

[272] Condition REM9 deals with wetland restoration offset, including the direct transfer of wetland vegetation required by Condition RTE3.

[273] The above conditions (REM7-REM9) have similar approaches with plant material used, or seed sourced from the rohe in which it is to be planted or otherwise eco-sourced, where it is practicable to do so (and where it is not practicable the EMP must set out a process of consultation with the project Iwi Partners and the Regional Council to confirm an alternative source).

[274] Condition REM10 deals with the lizards relocation area. Prior to the commencement of lizard surveys required by Condition RTE8, a predator-proof fence enclosing a minimum area of four ha of forest must be installed. Pest animal

management is then required immediately with performance targets included in the condition for various pests and monitoring of the enclosed area for pest animal incursions for the specified periods. Habitat within the enclosed area must be enhanced through the provision of natural or artificial refugia. The enclosed area must be managed in accordance with the Lizard Relocation Area Management Plan that forms part of the Ecology Management Plan.

[275] Condition REM11 contains the measures to offset residual effects on freshwater ecology. Residual adverse effects on freshwater ecology must be offset to result in no net loss of ecological function through:

- 2,179 m^2 of new stream channel constructed and planted to a maximum width of 20 metres and no less than five metres; and
- Riparian planting of 17,384 m^2 of existing streambed area with a width of between 3 and 20 metres on both banks where a waterbody has a bank to bank channel width of up to one metre and 5 and 20 metres where that width is greater than one metre.

[276] The offset measures must be completed within one year of the road being open for public use, as far as practicable, and fencing must exclude livestock. Stream creation and enhancement measures must be generally consistent with the design for stream diversions shown on the Stormwater: Typical Details Swales and Open Channels Plan listed in Schedule 1 and implemented within three years of the completion of construction. There is the same qualification for plant material as for terrestrial and wetland offsetting. Where the offsetting measures are subject to a 'Flood Control Drainage' value in Schedule B of the One Plan, consultation must be undertaken with the Horizons Area Engineer – Southern.

[277] Condition REM12 has offsetting performance targets that specify the measures to offset residual adverse effects required by Conditions REM7, REM8, REM9 and REM11 must be implemented to achieve the outcomes and performance targets to achieve a net indigenous biological diversity gain. Condition REM12 specifies the habitat type, restoration outcome and performance target for terrestrial offset planting, replacement tree planting, aquatic offset planting and wetlands offset

and mitigation planting.

[278] We note the following agreed condition (emphasis added) which is fundamental to securing the net gain that NZTA relies on:

> REM13 Sites for offset and compensation measures
>
> a) Vegetation clearance, water body diversions or water body loss authorised by these resource consents must not commence until the Regional Council has been provided with written confirmation that the consent holder has entered into enduring legal agreements or holds other authorisations necessary to allow entry onto land to carry out, continue and maintain all offset and compensation measures required by Conditions REM7 [to] REM11.
>
> b) The written confirmation provided under clause (a) must describe the specific enduring legal arrangements that have been entered into that provide for the planted and retired areas **to be retained in perpetuity**, and may include land purchase, agreement by providing for covenanting or similar registered title instrument.
>
> [emphasis added]

[279] Condition REM14 requires Ecology Offset Site Layout Plans for offset planting, replacement planting and wetland restoration (Conditions REM7, REM8 and REM9) and stream creation and riparian planting (Condition REM11). These must be prepared in consultation with the Project Iwi Partners and the landowners and contain at a minimum the offset measures, a site layout plan, programme for undertaking or implementing the measures, methods for the ongoing management of the offsetting measures and confirmation any necessary resource consents have been obtained. An Ecology Offset Layout Plan is then provided to the Regional Council for information prior to the commencement of the offsetting measures described in that Plan. An Ecology Offset Layout Plan may be amended by NZTA in consultation with the Project Iwi Partners and the landowners and then provided to the Regional Council within ten working days for information.

[280] Under the heading of offsetting oversight and implementation Condition REM16 requires person(s) to be appointed to oversee the implementation of the measures required by Conditions REM7, REM8 and REM9, REM10 and REM11, with their name advised in writing to the Regional Council and a report provided to

the Regional Council within 30 days of the implementation of measures to confirm their completion.

[281] Conditions REM17 and REM18 provide for a review of measures to offset residual adverse effects on terrestrial and wetland ecology and freshwater ecology respectively prior to the commencement of construction. The conditions require the recalculation of offset measures using the Biodiversity Offsets Accounting Model methodologies and attributes in Schedule 11 (Condition REM17) or the Stream Ecological Valuation and Environmental Compensation ratio methodologies (Condition REM18). Both conditions require a re-evaluation of the baseline assumptions of the recipient sites relative to the offsetting model calculations. This is to reflect any revision to the area of terrestrial and wetlands removed. Where the recalculation required results in offset requirements different to those required by Conditions REM7, REM8 and REM9, the revised offset requirements must be included in the Ecology Management Plan or through an amendment to the Ecology Management Plan.

[282] Offsetting monitoring in Condition REM19 requires monitoring reports for each of the ecology offset sites in the third, fifth and fifteenth year following the completion of the measures required by Conditions REM8, REM9 and REM11 as part of the Annual Report required by Condition RGA3. These must summarise the progress towards achieving the performance targets and provide information on incidents or pest plant infestation with an impact on progress towards that and any measures adopted to improve progress.

[283] Eight years after the completion of the measures required by Conditions REM7, REM8, REM9 and REM11, a monitoring report must be prepared and provided to the Regional Council. That must include:

(a) A summary of progress towards achieving the following performance targets in Condition REM12:

- 90% canopy cover at terrestrial, riparian and wetland offset sites
- Presence of 10 canopy plant species at terrestrial offset sites
- 80% canopy cover of raupō reedland following direct transfer

- 80% canopy cover of indigenous-dominated fernland and rautahi sedgeland following direct transfer

(b) Confirmation of whether net gain outcomes for terrestrial and wetland ecology have been achieved or are expected to be achieved with reference to the BOAM and attributes in Schedule 11;

(c) Confirmation of whether net gain outcomes for freshwater ecology have been achieved or are expected to be achieved with reference to the Stream Ecological Valuation Environmental Compensation Ratio methodologies; and

(d) If necessary, any additional measures that have been or are to be implemented to achieve a net gain outcome 15 years after the completion of the measures required by Conditions REM7, REM8, REM9 and REM11.

[284] If this report does not confirm that net gain outcomes for terrestrial, riparian and wetland ecology are achieved, or expected to be achieved, the EMP must be revised to provide for the new offset requirement to achieve the net indigenous biological diversity gain required by Condition REM6 and certified in accordance with Condition REM2.

[285] Between eight and 15 years from the completion of the measures requires required by Conditions REM7, REM8, REM9 and REM11 an annual check of all ecology offset sites must be undertaken to assess the overall condition of the offsetting measures, determine the presence of pest plant species that may require control and if necessary determine and implement any additional measures required to achieve a net gain outcome. A summary of the annual checks is to be included in the Annual Report required by Condition RGA3.

[286] The monitoring report required at 15 years must include confirmation of whether net gain outcomes for terrestrial ecology and wetland ecology have been achieved, or in the case of terrestrial ecology expected to be achieved, with reference to the Biodiversity Offsets Accounting Model and attributes in Schedule 11. If that monitoring report does not give that confirmation, the Ecology Management Plan

must be revised to provide for the new offset requirements to achieve the net indigenous biological diversity gain required by Condition REM6. In addition, there is to be to be an inspection of all ecology offset sites to assess the overall condition of the offsetting measures 25 years from the completion of the measures required by Conditions REM7, REM8 and REM11, with the outcome of that inspection recorded in a monitoring report and submitted to the Regional Council within 40 working days.

Evaluation

[287] In opening Forest and Bird submitted that the EMP is a crucial document and actual certification is necessary, stating:[68]

> The conditions rely heavily on the EMP to deal with ecological effects. Importantly the EMP will set out what the biodiversity offset will involve, and how and where it will be achieved. The provision of an offset that meets net gain is the key requirement in the conditions. REM12 sets out the performance measures to be met in order to achieve net gain, but the crucial detail will be left to the EMP.
>
> Mr Goldwater's evidence highlights the important role that the EMP will play in dealing with ecological effects. The EMP will play a crucial role in ensuring net gain is met. In response to Forest & Bird's submission that pest plant and animal control should be directly managed by conditions, Mr Goldwater responded that the EMP was where these matters were described.
>
> Forest & Bird is now comfortable with the approach of leaving the detail of the offset to the EMP. However, it means that the EMP is of central importance. In these circumstances it is critical that construction only commences once the Council has actually certified the EMP.
>
> Ms McLeod [the NZTA planner in rebuttal] states that the ecological issues for Te Ahu a Turanga were more significant. In response it is submitted that the Te Ahu a Turanga conditions setting out what was required for the ecological offset and mitigation were far more prescriptive than what is proposed for Ō2NL. In this case, the requirements for the offset are much higher level, meaning that most of the detail is left to the EMP.
>
> [footnotes omitted]

[288] We accept the submission from Forest and Bird concerning the central and important role and function of the EMP in securing the outcomes for ecology that the Project is based on.

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68 At [21]-[24].

[289] We have already identified that conditions relating to "deemed certification" of the EMP (including amendments) are unacceptable and directed changes to Schedule 10 and related references in conditions.

[290] A change is also to be made to Condition REM3 Amending the Ecology Management Plan as follows:

> a) The Ecology Management Plan may be amended or updated without the need for certification where:
>
> ii. an amendment has ~~a positive effect,~~ no effect or a de minimis effect on the environment;

[291] The first limb of ii. referring to "a positive effect" is not certain enough for a condition. It leaves too much discretion to NZTA and its contractors. The struck-out words "a positive effect" are to be deleted in line with our earlier findings.

[292] There is inconsistency in the treatment of amendments to the EMP, as we identified earlier. It needs to be clear that amendments are also to be prepared by a SQP and certified by the Regional Council.

[293] Otherwise we have questions about the approach to ecological effects and securing the ecological outcomes through the conditions noting the related policy in planning documents that witnesses consider supports it (and which we cover later in this decision).

Hydrology and Flooding

Experts

[294] Expert evidence on the hydrology and flooding effects for the new highway was provided by Dr Jack McConchie for NZTA, Mr Peter Kinley for the Regional Councils, Mr John McArthur for the District Councils and Mr Phil Jaggard for Kāinga Ora. These experts prepared a JWS on this topic at their conferencing which was held on 8 August 2023.

[295] In addition, Mr Andrew Craig prepared Technical Assessment Appendix F Baseline Flood Assessment Report in the AEE which had been relied on by Dr McConchie when he prepared his evidence.

[296] Mr Craig also prepared Rebuttal Evidence and at the Court's request further evidence dated 10 October 2023, 26 October 2023 (recorded as Exhibit F) and 2 November 2023 on the effects of flooding at individual properties along the route of the new highway.

[297] Dr McConchie prepared a Summary Statement dated 24 October 2023 and Mr Kinley a Summary Statement dated 1 November 2023.

[298] Mr Kinley and Mr McArthur prepared a second JWS dated 31 October 2023 which responded to Mr Craig's further evidence.

Background

[299] By the end of the hearing, almost all matters that had earlier been in contention between NZTA and the Councils had been resolved between the two parties.

[300] Still in contention, however, was the issue of how flooding caused by the Project on land outside the designation boundaries should be provided for in the conditions of consent for the Project.

[301] This is the key focus of this section of our decision.

The Topographic and Hydrological Environment

[302] Dr McConchie explained that the existing topographical and hydrological environment for the new highway was dominated by the Tararua Range to the east. High rainfall in these mountains gives rise to rapidly responding stream and overland flow paths which drain predominantly westwards towards the sea with the existing SH1 and SH57 highways and the proposed new highway all crossing many

of these watercourses and flow paths.

Design Storm Event

[303] The standard design rainfall/flood event for this type of project has traditionally been based on a 1% Annual Exceedance Probability (AEP) or in other terms a 100-year annual recurrence interval event (ARI). However, for this Project NZTA has chosen for this standard 100 year flood event to be adjusted upwards to include the predicted effects of climate change over the life of the Project (or until 2130). This uplift increases the magnitude of the standard 1% AEP design rainfall event by about 35%.

[304] This approach differed from that originally proposed by the Councils' experts which was based on the design event provided for in the MWRC's Regional One Plan. This was for a 0.5% AEP (200 years) rainfall event which allowed for the potential effects of climate change out to 2050 on the 1% AEP flood event.[69]

[305] Mr Kinley noted also that under Policy 9-5 of the One Plan, a precautionary approach was required when assessing the potential effects of climate change on both flood flows and rainfall by 2130. His assessment was that NZTA's application of an upward adjustment factor of 1.35 to the 1% AEP flood event was consistent with this precautionary approach.

[306] Dr McConchie said that he had undertaken comparisons of the two design events which showed that, using flooding in the Ohau River as an example, NZTA's proposed design event was significantly more conservative than the One Plan approach.

[307] By the time of their expert conferencing, all of the experts had agreed to adopt the 1% AEP plus climate change to 2130 as the design event.

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69 MWRC One Plan, Policy 9-2.

Flood Modelling

[308] There was agreement among the experts that the parameters chosen by Dr McConchie[70] for the flood modelling were all consistent with current industry best practice for assessing the actual and potential effects of flooding from the Project. These parameters included the hydrological and hydraulic modelling software used, the model boundary conditions, the level of detail adopted and the resolution of the model domain.

[309] The Project Concept Design was adopted as the basis for the "with scheme" and "without scheme" modelling or "with and without the Project".

Inundation Limits

[310] The Greater Wellington Regional Council's Flood Department informal guideline on flooding is that any increases in flood levels with and without the Project should be limited to 0.1 metres (100 mm) in rural areas and 0.05 metres (50 mm) in urban areas.

[311] While the starting point for both Mr Kinley and Mr McArthur had been that any increases in flood levels under the concept design should be constricted to apply only within the designation area, on reflection, having been provided with a copy of Mr Craig's hydraulic model for their review, they agreed that the GWRC limits should apply for areas outside of the designation.

[312] They agreed also that these limits would address any computational inaccuracies in the model.

[313] Mr Kinley and Mr McArthur were strongly of the view that the urban limit of 0.05 metres should apply not only to urban zoned land which had already been developed but also to all undeveloped urban zoned land.

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70 We note that the actual modelling had in fact been undertaken by Mr Craig and not Dr McConchie.

[314] Dr McConchie's evidence was that any effects from the Project on flooding would be limited to the vicinity of potential waterway crossings. This was because of the need to direct currently dispersed overbank flows across the flood plains of the various waterways through the culverts and bridges to be constructed for the Project.

[315] Where changes in water elevations *upstream* of crossings had been modelled to be greater than 0.05 metres relative to the baseline, Dr McConchie's evidence was that:

- No buildings would be affected;
- For the most part, increase in flood levels would be contained within the proposed designation;
- All increases in rural areas would dissipate to less than 0.1 metre within 50 metres of the proposed designation boundaries except for the Ohau River where the distance would be 70 metres;
- These distances were consistent within the landscape and land use context and the extreme nature of the design flood event;
- The modelling had also shown that the time period when there would be increased water levels would be less than 6 hours and therefore it was unlikely that there would be any material effects on pasture growth or crop recovery;
- Based on these parameters, he had assessed that the adverse effects under the design flood event would be 'less than minor' (which we come back to discuss later);
- For the 10% AEP (1 in 10 year) event, with current climate conditions, all changes in water levels would be contained within the proposed designation area except for the backwater (or upstream) on the Ohau River where the increase in water levels would dissipate to less than the rural 0.1 metre limit within about 50 metres of the proposed designation.

[316] For flooding *downstream* of the new highway:

- Design event flows would be redistributed laterally to the original floodplain pattern within about 100 metres of the designation boundary (or for the Ohau River within about 115 metres);
- For the 10% AEP (1 in 10 year) event the only locations to show possible increases in water levels downstream for the designations would be in the Ohau River, a tributary of the Waikawa Stream and the Manakau Stream.

[317] Having reviewed the outcome of the NZTA hydraulic modelling with Mr Craig and Mr McArthur, Mr Kinley identified that some 75 properties were potentially affected under the "with scheme" flooding. He said that these properties could be disregarded as these properties had been either purchased by NZTA, were within the margin of error in the modelling or had flooding of insufficient magnitude to warrant intervention.

[318] He identified 40 other properties where increases in water levels from flooding were above the agreed 0.05 metre (urban) or 0.1 metres (rural) limits. He did not identify which of these properties had dwellings or which were on urban or rural land other than to note they totalled over 69 ha of land outside of the designation boundary.

[319] He was concerned that the conditions of consent proposed by NZTA at the time he wrote his evidence did not provide sufficient incentive for NZTA to comply with the agreed limits for the modelled increases in water levels during flooding.

[320] In particular he recommended that the conditions should include a provision for the Regional Councils to receive independent confirmation that the final design for the Project would meet the agreed conditions on matters such as flood levels, building floor levels, flow velocities and compliance with any specified NZTA manuals and specifications, all of this before construction was allowed to commence.

[321] We come back later to consider the proposed designation and resource consent conditions proposed by NZTA and the Councils.

Effects of Inundation

[322] Drawing on evidence which he had read from the hydraulic assessment developed to support the consenting of the adjoining PP2Ō Expressway, Dr McConchie explained the concept of hydraulic neutrality which he said required the impact of flood hazards from the Project in general to be no worse than those which would exist without the Project.[71]

[323] He noted from this that on the PP2Ō Expressway hydraulic neutrality had been shown to be extremely difficult to achieve in practice if the required level of service for the highway was to be maintained.

[324] He said that if it was not possible to achieve hydraulic neutrality, then the "fall back approach" was to keep flood hazards away from residential properties through redirecting any flooding towards uninhabited rural areas.

[325] Even though the effects from flooding following construction of the PP2Ō Expressway were assessed as being significantly greater than those which he had assessed under the Ō2NL Project concept design, he said that the PP2Ō Expressway was consented on the basis of this "fall back approach".

[326] For the Ō2NL Project, he said that even though he considered that he had assessed the Project as maintaining hydraulic neutrality in a practical sense, while there would be adverse effects from flooding outside of the designation in a limited number of areas, it would be reasonable to regard any potential effects outside of the designation as "less than minor".[72]

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71 McConchie EIC 4 July 2023 at [183(c)].

72 McConchie EIC at [230].

[327] He had made his "less than minor" assessment for these affected areas for the following reasons:

- The areas are small and of limited extent;
- They are all pastoral areas;
- They are immediately adjacent to areas already prone to flooding;
- Any increases in water depths would be small (in the order of a few centimetres);
- Any increases in flood duration would be very short;
- Land recovery from increased inundation would be rapid;
- Extreme flooding events would be very infrequent.

[328] As examples, Dr McConchie provided details of the effects of the flooding from the Ohau River and from a tributary of the Waikawa Stream where in the context of the overall Project the adverse effects of flooding would be the greatest in terms of the extent and depth of the flooding.

[329] For the Ohau River, he provided hydrographs which plotted water surface elevations against time with no Project and with the Concept Design both within the river and for the area on the adjacent flood plain at the upstream edge of the designation.[73]

[330] These plots showed that when compared with the status quo without the Project, inundation under the Concept Design would commence about 5 minutes earlier and would persist for about 15 minutes longer resulting in the overall inundation lasting for a total of 20 minutes longer. There would also be a maximum increase in water depth of about 200 mm in an area which already floods. This time period and the depth of inundation would decrease rapidly with increasing distance upstream of the designation.

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73 McConchie EIC at Fig 18.

[331] For the tributary of the Waikawa Stream, Dr McConchie said that the topography of the area affected by the flooding included an overflow channel and a depression in the flood plain which resulted in a localised area where:

- There would be an increased depth of inundation of up to 0.5 metres between the "with scheme" and baseline;
- There would be an increase in the duration of inundation of about three hours over and above the baseline flooding;
- The affected area was a relatively narrow band which was about 25 metres wide upstream of the designation.

[332] Drawing on these examples, his overall assessment was that the adverse effects from the design flood would be "less than minor" given that the design flood was an extreme event and that in his opinion it would cause only small changes in both the depth and duration of the flooding, all limited to a few small areas.

[333] Having reached his "less than minor" conclusion in his evidence in chief, Dr McConchie qualified this in his Summary Statement of Evidence:

> In my opinion, the overall effects of the Project on flooding are less than minor in the context of the 24 km length of the proposed highway. This is not to say that at each location the effects are less than minor, although in my opinion, they are generally no more than minor when their scale, frequency, magnitude, and duration are considered in the context of the existing site factors e. g. land use and flood hazard.[74]

Submissions on Flooding

[334] Dr McConchie noted that of the 89[75] submissions received following the public notification of the Project 19 of these had identified concerns relating to either hydrology or flooding.

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74 McConchie Summary statement of Evidence 24 October 2023 at [31].

75 In its opening submissions NZTA (at [34]) referred to 90 submissions. Nothing hangs on this difference.

[335] His response on the submissions relating to flooding on individual properties was as follows:

- Sjaan Henry: 82 Waihou Road Levin is a property which is already affected by infrequent but persistent flooding with the response being that with the Project in place there would be no change in the status quo.
- Neil and Sherry White: 24 Koputaroa Road Levin who were concerned about an existing flood hazard from a bordering property with the response being that this property was to be acquired for the Project and as a result there would be no effect from the Project on the existing hazard.
- Gary Williams: 107 South Manakau Road where the modelling has shown that there will be no discernible adverse effect on the depth of flooding on South Manakau Road.
- Adam and Joanne McCullum: 213a Muhunoa East Road Ohau where the existing flood hazard on the lower terrace of this property has been shown through modelling to reduce with the Project in place.
- Louise Miles: Mokena Kohere Street Manakau where two well defined channels which flow through the property have been assessed as being unaffected by flooding from the Project.
- Glenys Anderson: 413 Arapaepae South Road Levin where modelling has shown that there will be no adverse effects on this property from either overland flow or run off from any new paved areas.
- John and Jenny Brown: 218 McLeavey Road Levin who are concerned about potential changes to both surface water and groundwater flow with the response being that there would be no adverse effects from the Project on the existing hydrology and flooding on this property.
- Cher McCartney: 1 Koputaroa Road RD5 Levin where road water and road pollution currently leaches onto this property with the response being that this is an existing problem which will not be affected by the Project.

- Carl and Emma Chalmers: 366 Arapaepae South Road Levin have concerns about the potential effects of the Project on a stream which flows through their property with the response being that there will be no increase in the frequency and magnitude of flooding in this stream and also that the existing flood hazard for their property will not be exacerbated by the Project.
- Alauta and Frederick Paul von Iddekinge: 679A SH1 Kuku Levin where the modelling has shown that with the measures proposed for the routing of flood flows in this location, the frequency and magnitude of the existing flood hazard on this property will not change with the Project in place.
- Sarah Hodge: 11 Ihaka Street Manakau where the modelling has shown that any existing flood hazard is low and will not change as a result of the Project.
- Chris Corke: 19 Avenue North Road Levin who is concerned about soil pollution from contaminant discharges from the new highway draining on to his property with the response being that runoff from the new highway will drain away from his property into a stormwater pond which is to be fitted with collection and treatment devices to capture and treat the runoff from the highway.
- Simon Austin: 63 Arapaepae Road Levin who is concerned about flooding of Kimberley Reserve with the response being that the Project will not affect flooding of this Reserve.
- KiwiRail, the Prouses and Kāinga Ora: whose concerns about flooding have all been resolved through direct negotiations with NZTA.

Effects of Flooding on Individual Properties not addressed by submitters

[336] At the Court's request Mr Craig prepared a table summarising from his modelling the area and depth parameters of flooding on individual properties all located in the rural zone adjoining the route of the new highway (with the additional 'Prouse' culverts in place). This was for the 1% AEP plus climate change flood event for properties where the increase in flood level with and without the Project

had been modelled to exceed 0.1 m.

[337] Also attached to the table was a set of plans identifying the locations of each these properties with, for some, a brief commentary on potential measures which might assist in reducing the extent of the flooding at that location.

[338] We note that apart from the owners of the Prouse property, (which was included in Mr Craig's table), none of the owners of the properties in Mr Craig's list appear to have made submissions on flooding. We are also unaware as to whether NZTA has consulted with the owners of each of these properties on the flooding issue.

[339] We do note that under both Conditions DGA5 and RGA7 (which we come back to below) there is a requirement for NZTA to consult with the owners of all properties where the flooding limits set down in the conditions have been modelled to be exceeded under the final design.

[340] From an overall perspective our understanding from Mr Craig's table is that:

- 24 rural properties would be flooded with depths exceeding the GWRC 0.1m limit ***with*** the Project in place totalling a combined area of about 25.5 ha.
- These same 24 properties would be flooded with depths exceeding 0.05m ***without*** the Project in place totalling a combined area of about 18.5 ha.
- The extent of the additional flooding for these properties with depths over the 0.1m limit with and without the Project would therefore be about 7 ha.
- Within this overall area of 7 ha, 2 of the 24 properties were identified from the modelling as having flood level increases within the range of 0.1-0.2m, 13 within the range of 0.2-0.5m, 7 within the range of 0.5-1m and 2 within the range of 1-1.5m

[341] In their Joint Statement of 31 October 2023, Mr Kinley and Mr McArthur noted from Mr Craig's plans attached to his table that there was a general theme of the need to review the information for all of the 24 properties in the table.[76] They noted also that it was difficult to comment on the impact of the flooding on individual properties without relevant inputs from the landowner /occupier.

[342] They said that it was their expectation that the flood level exceedances identified by Mr Craig would be able to be addressed satisfactorily in some way or form during the detailed design process.

[343] As an example, while we were not provided with details of the agreement reached between NZTA and the Prouses resolving the Prouses' concerns about flooding of their property, our understanding is that this had resulted from NZTA agreeing to modify the concept design by installing additional culverting in the vicinity of the Prouse property.

[344] Mr Kinley and Mr McArthur said that they had identified seven urban properties in the Levin town area where the 50 mm urban limit was likely to be exceeded and that this information had been passed to Mr Craig for his consideration.

[345] We are unaware of a specific response having been received from Mr Craig on these seven urban properties. However, in closing NZTA submitted that these properties were expected to be model error as they are located between approximately 450 metres and 1.9 km up and downstream of the Project. NZTA submitted that as well, the modelling had shown that no other properties in the vicinity between the Project and these properties would be affected by flooding.[77]

[346] Mr Kinley and Mr McArthur also commented that the proposed conditions should relate to the increases in flooding effects above those which had been modelled in Technical Assessment F in the application AEE as this was the information which had been notified to the public.

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76 The JWS also identified a further seven properties for investigation at [7(e)].

77 NZTA Closing Submissions at [71].

[347] They recommended that the conditions should require NZTA to report to the Councils where the modelling of the final design identified that there would be exceedances of the 100 mm and 50 mm limits and that this report should address such matters as inundation levels, extent, duration, context and setting and landowner involvement in the process.

The Inundation/Flooding Conditions

[348] There are two conditions on inundation, Designation Condition DGA5 Outline Plans and Resource Consent Condition RGA7 Inundation.

[349] We note that there are four councils involved, the two territorial or district councils for the designation conditions and the two regional councils for the resource consent conditions. We also understand the district councils to have an interest in the resource consent conditions in terms of their respective affected communities. Instead of referring to each of the four councils by their full titles throughout this discussion on the inundation conditions, for simplicity we have chosen to refer to them jointly as the "Councils".

[350] We note also that as NZTA and the Councils were unable to reach agreement on the content of a number of these conditions, the two parties prepared and submitted their own versions for the Court's consideration and decision.

Condition RGA7 Inundation

[351] The NZTA version of Condition RGA7 a) requires that any increases in water levels as a result of the Project under the design flood must not exceed 100 mm beyond the site (with the "site" being defined in the Definitions section of the conditions as being for the purposes of Condition RGA7 "the area within which the construction of the Project is undertaken, including the extent of land subject to the designations for the Project in favour of Waka Kotahi NZ Transport Agency, material supply sites and spoil sites").

[352] The Councils' version of this provision for rural flooding is similar except that it refers to increases in water levels outside of the designation as opposed to the

site.

[353] Both versions require that in the final design, there be further reductions in any increases in the water surface elevation difference as far as reasonably practicable when compared with:

- In the NZTA version, the maximum water surface elevation differences shown on the plans listed in Schedule 1 of the conditions;
- In the Councils' version, the drawings titled *Model Results, 1:100 AEP Water Surface Elevation Difference Scheme Minus Baseline* from Technical Assessment F.2 of the application documents.

[354] We note that the Schedule 1 plans referred to in NZTA's version is the set of plans attached to Appendix B of Mr Curtis' Rebuttal evidence dated 10 October 2023 which show the updated envelope of effects with the inclusion of additional culverts in the model for the Prouse property and just south of culvert 35.

[355] We return later to discuss which version of the plans is to be incorporated in the final condition set.

[356] The Councils' version of Condition RGA7 also requires that any increases in flooding levels of existing habitable floors under the design flood are to be limited to 10 mm.

[357] While this habitable floor provision is not included in NZTA's version of Condition RGA7 we note that it is included in its Condition DGA5.

[358] Notwithstanding the absence of the habitable floor flooding limit in the NZTA version of condition RGA7, there is no disagreement between the parties that this habitable floor flooding limit should apply.

[359] The Councils' version of Condition RGA7 requires that any increases in flooding levels pre and post construction on any land zoned General Residential or Future Urban (for land within the Kāpiti District) or Residential, Commercial, Open

Space, Industrial or Greenbelt Residential (for land within the Horowhenua District) is limited to 50 mm. (For simplicity in the balance of this discussion we refer to these zones using the collective term "urban".)

[360] The urban limit of 50 mm is not included in the NZTA version of condition RGA7.

[361] The NZTA and Councils' versions both provide for modelling tolerances to be taken into account in the assessment of the inundation levels.

[362] The Councils' version includes a requirement for a limit of no more than a 10% increase in flood hazard (defined as the product of flow depth and velocity) on local roads where the existing depth is greater than 0.3 metres or the existing velocity is greater than 2 m/s.

[363] There is no local road limit provided for in the NZTA version of the condition.

[364] There is a requirement in both the NZTA and the Councils' versions for the water surface elevation modelling when compared with the baseline modelling to be confirmed through modelling of the detailed design.

[365] Both versions require that at least 30 days prior to the commencement of construction activities a report is to be provided to the Council.

[366] The NZTA version of this condition requires that the report under c)i. confirms compliance with the 100 mm limit on increases in water surface elevations, or that under c)ii. it:

- Identifies any property beyond the site where the Project through modelling of the detailed design results in an increase in water elevation greater than 100 mm (subject to modelling tolerance);
- Describes the modelled water level, the extent frequency and duration of the design flood, the context and setting in which the increase

> occurs, the steps to reduce and then minimise the potential impacts of the increase and the outcomes of consultation with the landowner.
>
> [our underlining]

[367] The Councils' version adopts similar wording except that it uses the conjunctive and instead of or between c)i. and c)ii. and that the report is also to include:

- Discussion of any increases over the 50 mm limit on urban land, and
- Information on options and costs for the steps to reduce and then minimise the potential impacts of the increases, and
- Information on whether the properties identified in the report have been the subject of a report to the relevant territorial authority as part of the Outline Plan process and any outcome of that (if known).

[368] We note that there is a requirement under Conditions DGA8 and RGA6 for this report to be prepared by a Suitably Qualified Person as had been recommended by Mr Kinley.

Condition DGA5 Outline Plans

[369] Apart from some immaterial differences in the way that the conditions are worded, the NZTA version of Condition DGA5 is for all intents and purposes the same as its version of Condition RGA7 except that Condition DGA5 also includes the 10 mm limit on increases in flood levels for habitable floors.

[370] The NZTA justification for including this habitable floor level limit in Condition DGA5 and not in Condition RGA7 is that the habitable floor limit is a matter for District Council's consideration and therefore sits more appropriately in the designation conditions.[78]

[371] There is different wording in NZTA's Condition DGA5 compared with its Condition RGA7 with respect to the use of the terms outside the designation (in

78 NZTA Legal Submissions 8 December 2023 at [11(g)].

Condition DGA5) and beyond the site (in Condition RGA7).

[372] The Councils' versions of the two conditions refer to outside the designation except in its condition RGA7 c) where it refers to beyond the site.

Discussion on the substantive differences between the NZTA and the Councils' versions of the two conditions

[373] Putting to one side the differences in the ways in which some of the wording of the different conditions has been expressed, we discuss next the substantive differences we have identified between the NZTA and the Councils versions of the two conditions and our findings on each.

Additional Information in Conditions DGA5 and RGA7

[374] Starting with Condition DGA5 c)vii.D (in the NZTA version) and Condition DGA5 c)vii.F (in the Councils version) and the equivalent clauses in Condition RGA7 c)ii. (NZTA) and Condition RGA7 c)ii. (Councils), if the 100 mm (and 50 mm) limits on the water level increases are proposed to be exceeded at any property, a report is be prepared by the consent holder for the Councils to include the information listed in common in both versions of the condition.

[375] In addition, in the Councils' version the following additional information is to be provided:

- In Condition DGA5, for information to be included on options and costs for steps to reduce and then minimise the potential impacts of the increases; and
- In Condition RGA7, whether the properties identified in the report have also been the subject of a report to the relevant territorial authority prepared as part of the outline plan process as well as any outcome of this (if known).

[376] On the basis that the flooding on some 24 (or more) private properties will increase the level of inundation to varying degrees with and without the Project and

potentially also at the seven urban properties identified by Mr Kinley and Mr McArthur, we agree that the additional options and costs information proposed by the Councils should be included in the report to demonstrate that the flood mitigation measures proposed in the final design have taken adequate account of these matters.

The 50 mm limit on Urban Land

[377] Apart from the seven urban properties identified by Mr Kinley and Mr McArthur, we do not recall sighting any other evidence on the extent of urban land (either developed or undeveloped) which would be inundated under the Councils' proposed 50 mm limit and therefore the potential effects which could arise from this.

[378] Dr McConchie was strongly opposed to including the 50 mm limit pointing out for example that large portions of the Levin urban area are already flood prone and that these areas would be inundated during the design event even without the Project.

[379] And as we have noted above, he pointed out also that downstream of the new highway (where we have assumed that most if not all of the undeveloped urban zoned land would be most likely to be located) flood flows would be redistributed laterally to the original floodplain pattern within about 100 metres of the designation boundary.

[380] He pointed out also that the additional time for the increased flood inundation post the construction of the highway to drain away would be relatively short.

[381] Mr Kinley, in his Summary Statement wrote:

> A 50mm tolerance for increases in flooding on urban land is the standard that has been applied for recent linear infrastructure projects. It draws a balance between protecting communities from the effects of increased flooding which include damage to land, yards, gardens, roads and amenities, and can lead to increased uncontrolled wastewater discharges and damage to electricity and

> communications infrastructure while allowing designers more flexibility than a zero-threshold. In mentioning these effects, I am not suggesting Waka Kotahi should have included them in their assessment. Rather, I am highlighting the importance of controlling the effects of increased flooding. I have also noted that there are breaches in Levin town.

and from his evidence in chief that:[79]

> As a matter of good practice, I continue to support a 0.05m threshold for adverse effects on urban land that is not occupied by a building.
>
> (a) The same 0.05m threshold is applied or is proposed to be applied through resource consent conditions on other current projects, including Airport to Botany and Drury to Pukekohe in Auckland.
>
> (b) GWRC use the same 0.05m threshold, as a guideline when assessing flood effects.
>
> (c) A threshold of 0.05m is sufficient to accommodate tolerances relating to model accuracy.
>
> (d) The nature of the predominant land use in urban areas – being residential, and the infrastructure that supports it – necessitates a far lower tolerance of flood level exceedances.

[382] Both Mr Kinley and Mr McArthur were confident that there would be design solutions available to reduce the impact of currently modelled flood level increases under the Concept Design and that imposing a 50 mm limit on flood level increases on all urban zoned land (as well as 100 mm in rural zones) would act as an incentive for NZTA to optimise its final design so as to minimise flood level increases.

[383] We note also that even if the hydraulic modelling of the final design was to establish that the urban limit would be exceeded in some locations, both NZTA and the Councils' Conditions DGA5 and RGA7 provide for this to be accommodated.

[384] Having reached this point, we do not consider that we have been provided with sufficient information on the potential overall and individual effects of the flooding of urban land for us to reach a definitive decision one way or the other as to whether, as proposed by Dr McConchie, the effects of flooding on urban land would be "less than minor" or not.

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79 Kinley EIC 26 September 2023 at [40].

[385] Therefore, we prefer the evidence of Mr Kinley and Mr McArthur that a 50 mm inundation limit should apply on all urban land as has been provided for in the conditions proposed by the Councils.

Inundation of Local roads

[386] The Councils have proposed a condition limiting the degree of inundation on local roads. In response, in its legal submission dated 8 December 2023 NZTA opposed the inclusion of this condition on the basis that, other than recommending the inclusion of the condition, the Councils did not produce any evidence justifying this inclusion.

[387] We agree with NZTA that without supporting evidence, this condition on local roads proposed by the Councils should be excluded.

Which Version of Modelling Plans?

[388] With respect to the version of the modelling plans to be included in Schedule 1 of the conditions, we agree with Mr Kinley and Mr McArthur[80] that these plans should relate to the increases in flooding effects over and above those which were modelled in Technical Assessment F in the application AEE as this was the information which was notified to the public. The plan reference in Schedule 1 of the NZTA conditions is to be amended to suit.

Extent of Flooded Areas

[389] As we have noted, there is different wording in the NZTA and Council versions of Condition DGA5 and Condition RGA7 with respect to the use of the measures outside the designation and beyond the site.

[390] There needs to be clarity in the conditions as to the locations of the areas where these flooding limits are to apply. We note that the designation area is clearly defined on the plans whereas the extent of the "site" is not.

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80 Joint Statement of hydrology and flooding experts for Regional Councils and District Councils, 31 October 2023 at [16(b)].

[391] NZTA and the Councils are invited to respond on why they have differentiated between the two measures in their versions of the two conditions.

[392] Once we have received and considered these responses we should then be in a position to decide on which measure should apply.

Councils' Responses to NZTA Reports

[393] Both NZTA and the Councils conditions require a report to be prepared by NZTA for the Councils for the locations where the modelled increases in water elevation exceed 100 mm in rural areas (and 50 mm in urban areas).

[394] Under Designation Condition DGA5 this report is to be prepared as a part of the outline plans under s 176A of the RMA.

[395] As provided for in s 176A, having received the report, the territorial authority may request the requiring authority (NZTA) to make changes to the report and then, if the requiring authority decides not to make the requested changes, the territorial authority may appeal against this decision to the Environment Court.

[396] While both NZTA and the Councils have included a condition requiring NZTA to prepare an equivalent report for the Regional Councils under Condition RGA7, we note that, unlike that provided for under s 176A in Condition DGA5, the Condition RGA7 report is for information only as there is no mechanism provided for the Regional Councils to respond.

[397] In this context, we would anticipate that experts from all of the Councils would have been involved in the evaluation of the report to be prepared under Condition DGA5 so that by the time the Condition RGA7 report is submitted to the Regional Council there should be no outstanding issues, noting also that this report is to be prepared by a SQP.

[398] As a footnote, in its Joint Submissions responding to the final set of conditions of 1 December 2023, counsel for the District Councils noted that they

had been unable to locate any reported decision from the Court addressing an appeal under s 176A(5).[81]

Discussion and Finding on Inundation/Flooding

[399] We summarise here our findings on the designation and resource consent conditions where we have identified substantive differences in the versions proposed by NZTA and the Councils.

[400] In particular we find that:

- A 50 mm inundation limit is to apply on all urban land as provided for in the Councils' version of the conditions;
- The plan reference in Schedule 1 of NZTA's proposed conditions is to be that from Technical Assessment F of the application AEE;
- The Councils' proposed condition for limiting inundation on local roads is to be omitted in both conditions DGA5 and RGA7;
- In the relevant clause(s) of both conditions DGA5 and RGA7 the more extensive Council requirements are to be preferred in the report to be prepared for each property where the modelling of the detailed design identifies that the water surface elevation will exceed 100 mm;
- The choice between the two measures "outside the designation" and "beyond the site" in both conditions DGA5 and RGA7 will follow our consideration of the responses from NZTA and the Councils on this matter.

[401] Subject to the last point, we prefer the Councils' wording of both conditions DGA5 and RGA7 which for the avoidance of doubt we set out here in full.

Condition DGA5

…

vii a report:

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81 Joint submissions of counsel for the District Councils responding to the final set of conditions, 1 December 2023, in the table at [3] on page 6.

A. Confirming, through modelling the detailed design, that the Project will be in general accordance with the water surface elevation difference shown on the plans *entitled "Model Results, 1:100 AEP Water Surface Elevation Difference, Scheme Minus Baseline"* contained in Appendix F.2 (With Scheme Modelling Report) to Technical Assessment F: Hydrology and Flooding dated 14 October 2022 and lodged with the notice of requirement;

B. Confirming, through modelling the detailed design, that the Project will not result in an increase in internal flooding level of an existing habitable floor by more than 10mm for the 1% AEP (annual exceedance probability) design event including the effects of climate change RCP 6.0 to 2130;

C. Confirming, through modelling the detailed design, that the Project will not result in a water surface elevation difference (being the difference between the modelled baseline water surface elevation (i.e. pre-Project or without the Project) and the water surface elevation with the Project (detailed design)) that is greater than:

- 100mm for the 1% AEP design event including the effects of climate change RCP 6.0 to 2130; and/or

- 50mm for the 1% AEP design event including the effects of climate change RCP 6.0 to 2130 for any land zoned General Residential or Future Urban (for land within the Kapiti Coast district); or Residential, Commercial, Open Space, Industrial or Greenbelt Residential (for land within the Horowhenua district);

subject to modelling tolerance, at any property outside the designation except where clause (vii)(E) applies;

D. Describing how any increase(s) in water surface elevation as a result of the Project is or are further reduced in comparison to the maximum water surface elevation difference shown on the plans entitled "Model Results, 1:100 AEP Water Surface Elevation Difference, Scheme Minus Baseline" contained in Appendix F.2 (With Scheme Modelling Report) to Technical Assessment F: Hydrology and Flooding dated 14 October 2022 and lodged with the notice of requirement as far as reasonably practicable; and

E. Identifying, through modelling the detailed design, any property outside the designation where the Project results in a water surface elevation difference that is greater than a 50mm or 100mm increase, as described in clause vii(C), and describing (at a level of detail commensurate with the scale and extent of the increase identified):

1. the modelled water level, extent, frequency and duration for the 1% AEP (annual exceedance probability) design event including the effects of climate change RCP 6.0 to 2130;

2. the context and setting in which the increase occurs;

3. the steps to reduce, and then minimise, the potential impacts of the increase (including information on options and costs); and

4. the outcomes of consultation with the landowner and the regional council.

Condition RGA7

a) The Project must be designed to:

i. be in general accordance with the water surface elevation difference shown on the plans entitled *"Model Results, 1:100 AEP Water Surface Elevation Difference, Scheme Minus Baseline"* contained in Appendix F.2 (With Scheme Modelling Report to Technical Assessment F: Hydrology and Flooding dated 14 October 2022 and lodged with the resource consent applications;

ii. not result in an increase in internal flooding level of an existing habitable floor by more than 10mm for the 1% AEP (annual exceedance probability) design event including the effects of climate change RCP 6.0 to 2130;

iii. not result in an increase in water surface elevation difference (being the difference between the modelled baseline water surface elevation (i.e. pre-Project or without the Project) and the water surface elevation with the Project (detailed design) that is greater than:

- 100mm for the 1% AEP (annual exceedance probability) design event including the effects of climate change RCP 6.0 to 2130; and/or

- 50mm for the 1% AEP design event including the effects of climate change RCP 6.0 to 2130 for any land zoned General Residential or Future Urban (for land within the Kapiti Coast district); or Residential, Commercial, Open Space, Industrial or Greenbelt Residential (for land within the Horowhenua district);

subject to modelling tolerance, at any property outside the designation except where c)(ii) applies;

iv. reduce increases in water surface elevation as a result of the Project in comparison to the maximum water surface elevation difference shown on the plans entitled "Model Results, 1:100 AEP Water Surface Elevation Difference, Scheme Minus Baseline" contained in Appendix F.2 (With Scheme Modelling Report) to Technical Assessment F: Hydrology and Flooding dated 14 October 2022 and lodged with the resource consent applications as far as reasonably practicable.

b) Water surface elevation and internal flooding levels of existing habitable floors must be confirmed through modelling the detailed design of the Project for the 1% AEP (annual exceedance probability) design event, including the effects of climate change RCP 6.0 to 2130

c) At least thirty (30) working days prior to the commencement of construction activities authorised by these resource consents, a report must be provided to the Regional Council that:

i. confirms compliance with the clause (a); and

ii. identifies any property beyond the site where the Project, through modelling the detailed design, results in a water surface elevation difference that is greater than a 50mm or 100mm increase, as described in clause (a)(iii) for the 1% AEP (annual exceedance probability) design event, subject to modelling tolerance and describing (at a level of detail commensurate with the scale and extent of the increase identified):

A. the modelled water level, extent, frequency, and duration for the 1% AEP (annual exceedance probability) design event, including the effects of climate change RCP 6.0 to 2130;

B. the context and setting in which the increase occurs;

C. the steps to reduce, and then minimise, the potential impacts of the increase (including information on options and costs); and

D. the outcomes of consultation with the landowner.; and

E. whether the properties have been the subject of a report to the relevant territorial authority as part of the outline plan process and any outcome (if known).

[402] We accept the opinions of both Mr Kinley and Mr Arthur that with these conditions in place, there should be design solutions available to reduce the impact of the currently modelled flood level increases under the Concept Design and that imposing a 50 mm limit on flood level increases on all urban zoned land (as well as 100 mm in rural zones) will act as an incentive for NZTA to optimise its final design

so as to minimise the flood level increases over the full extent of the Project.

Abstraction of Surface Water

The Evidence

[403] Expert evidence on the proposed abstraction of surface water from streams and rivers as well as a Joint Witness Statement was provided by Dr McConchie for NZTA, Mr Mike Thompson for GWRC, Ms Michaela Stout for Horizons, Ms Siobhan Karaitiana for Muaūpoko, Ms Janelle Tamihana for Ngāti Raukawa and Mr Logan Brown for GWRC and Horizons.

[404] Dr McConchie was the author of Technical Assessment G Hydrology and Groundwater in the application AEE, Mr Thompson the author of the associated GWRC s 87F report and Ms Stout the author of the associated Horizons s 87F Report.

Overview

[405] Dr McConchie listed a range of activities where water will be required during construction of the Project. These include:

- Dust suppression;
- Optimising compaction of pavements and fills;
- Manufacturing concrete and hydrating and activating cement for pavement stabilisation;
- Lubricating machine rollers.

[406] While the priority sources of water for these activities will be from existing consented takes, there will also be the need to source water from rivers and streams where minimum flows will need to be maintained.

[407] Dr McConchie said that while there was considerable uncertainty about the volume of water which will be required for construction, estimates had been made for an average daily requirement of 2,350 m^3 and a daily maximum of 3,900 m^3 to be

sourced from five rivers and streams in the Project area with abstraction from any specific stream being consistent with the requirements of the relevant planning policies and rules.

[408] He described the strategy for water use which had been developed to reflect the core principles developed for the Project in the CEDF. This included:

- Minimising water requirements (*Tiaki – preserve what we have*);
- Reusing available water collected from the erosion and sediment control devices (*Whakaora – restore to whenua where resource was derived*);
- Using water sourced from roof collection and from bores (*Whakaora – restore to whenua where resource was derived*);
- Take water from streams and rivers as a last resort and on the following basis:
    i. Low rates of abstraction to storage facilities to meet residual Project requirements (*rangātiratanga and kaitiakitanga*);
    ii. Store water for use during the dry periods so as to be able to continue working during the summer (prime construction season) (*rangātiratanga and kaitiakitanga*);
    iii. Allow water to be taken only when there is available resource, i.e., no abstraction below minimum flow so that there is enough water remaining to not adversely affect mauri of the waterways (*kaitiakitanga*);
    iv. Take water using methods that avoids effects on fish (including risk of pollutants entering watercourses) (*kaitiakitanga*);
    v. Use water in the catchment derived (as far as practicable) (*Whakaora – Restore to whenua where resource derived*).

[409] He advised that the application of these principles and strategy had led to the proposal and draft consent conditions which had been included in the application documents.

[410] The s 87F reports identified that while NZTA's requested volume of water was available from within both the core allocation and as a supplementary allocation

in the relevant regional plan, additional constraints should be imposed to reduce any potential adverse environmental effects.

[411] These additional constraints were identified as including the distinctive characters of various rivers and streams including reaches that gain and lose water and the distance of the flow recorders from the point of abstraction.

[412] As a result, abstraction regimes were proposed which would in combination provide sufficient water for construction, be consistent with the agreed principles and strategy, be clear and easy to implement, be transparent and provide for straightforward compliance monitoring.

[413] In his rebuttal evidence Dr McConchie noted that following various discussions including two expert conferences a high level of agreement had been reached with Ms Stout for MWRC regarding the avoidance and management of effects from the abstraction of water to support construction from the identified rivers and streams.

[414] Issues still outstanding between them at that time related to conditions for standard water measurement and reporting; the expiry date for the abstraction consent; the use of data from MWRC's new hydrometric site on Koputaroa Stream at Tavistock Road and the minimum flow when abstraction must cease on Waikawa Stream.

[415] We respond to each of these in turn.

Standard Water Measurement and Reporting

[416] The issue in contention here was whether there should be a reference in the Project's conditions to the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010.

[417] In its Closing Submissions NZTA advised that agreement had been reached to include these regulations as had been provided for in Condition RWT1 i).[82]

The Expiry Date for the Abstraction Consent

[418] Ms Stout proposed that the consent to abstract water should expire after either 10 years or at the end of the actual construction period whichever came first.

[419] In its Closing Submissions NZTA advised that agreement had been reached with the Regional Councils for the standard 10 years to apply for the terms of the water take consents as has been provided for in Condition DGA4 Lapse Period.

The use of Data From MWRC's New Hydrometric Site

[420] Dr McConchie advised that he had been unaware that MWRC had recently installed a new hydrometric site in the Koputaroa catchment at Tavistock Road and that he supported the adoption of the hydrometric data and other information from this site for the Project.

[421] This has been incorporated as the measuring site in Table RWT-1.2 for Koputaroa Stream in Condition RWT1 b).

The Minimum Flow For Abstraction to Cease on Waikawa Stream

[422] Condition RWT1 Surface Water Extraction provides for the extraction of water for construction purposes from five streams/rivers, the Koputaroa, Waikawa, Manakau, Waiauti and Waitohu.

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82 NZTA Closing Submissions at [32(a)] (Condition RWT1 Surface Water abstraction).

[423] In brief, the condition sets out the following requirements:

- The total daily annual average and maximum extraction volumes from the "core allocation" for the combined five streams/rivers (Condition RWT1 a));
- Maximum daily abstraction volumes from the "core allocation" for each stream/river (Table RWT-1.1);
- Maximum daily abstraction rates from the "core allocation" for each stream/river (Table RWT-1.2);
- When flows in individual streams/rivers exceed the median flows the volumes and rates in Tables RWT-1.1 and Table RWT1-2 can be exceeded subject to the maximum abstraction rates specified in Table RWT-1.3 (Supplementary Allocation) and the parameters set out in Table RWT-1.4 (Supplementary Allocation);
- The abstraction of surface water under the supplementary allocation in Table RWT-1.4 must not reduce the residual flow below the median (Condition RWT1 d));
- The abstraction of surface water must occur at the locations shown on the Accommodation Works Plans listed in Schedule 1;
- The abstraction of surface water from each stream/river must cease in the circumstances set out in Table RWT-1.5;
- Flow meters with dataloggers and telemetry units must be installed to measure water takes (Condition RWT1 g));
- Intake velocity restrictions apply (Condition RWT1 h));
- Measurement and reporting to be in compliance with the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 (Condition RWT1 i)).

[424] There has been agreement between NZTA and the Regional Councils on all of the conditions for the abstraction from each of the rivers/streams except for the Waikawa Stream.

[425] For this stream we note that two abstraction sites have been indicated on the Accommodation Works Plan 310203848-01-500-C1011 at Sheet 12.

[426] In her evidence[83] Ms Stout explained that she had established a flow relationship in the Waikawa River between the North Manakau Road hydrometric site and the proposed extraction sites by comparing a series of gaugings taken at the North Manakau hydrometric site which is upstream of the abstraction sites and the SH1 hydrometric site which is downstream of the proposed abstraction site.

[427] From this analysis, she had estimated that the flow at the abstraction sites (in simplified form) was 0.9 of the flow at the North Manakau hydrometric site.

[428] She said that her analysis had likely overestimated the streamflow losses that would occur between the North Manakau Road hydrometric site and the abstraction sites and that this would result in a more conservative approach for managing the abstractions.

[429] She pointed out that NZTA had not proposed any alternative flow relationship and that her proposed simplified relationship of 0.9 had been agreed to in the Water Allocation and Planning JWS.

[430] She advised that she had also used this relationship to recommend an alternative cease take flow to give effect to the position recorded in the Freshwater Ecology JWS for protecting the ecology of the Waikawa Stream at the abstraction sites.

[431] This was for the cease flow take at the North Manakau hydrometric site to be set higher than the One Plan minimum flow of 0.220 m^3/s. Based on her proposed simplified 0.9 relationship, she proposed that a cease take flow of 0.244 m^3/s (0.220/0.9) should apply at the North Manakau hydrometric site.

[432] In response Dr McConchie advised that the experts had all agreed that to provide for the loss of surface flow to groundwater over the reach of the Waikawa

83 Stout EIC 26 September 2023 at [37] – [48].

Stream between the North Manakau hydrometric site and the abstractions sites the Project would abstract only 9% of any flow above the minimum flow and not the 10% adopted for some other rivers and streams.

[433] This had been reflected in the maximum daily abstraction rate for the Waikawa Stream in Table RWT-1.2.

[434] He said that Ms Stout's proposal to increase the minimum flow by 10% was in his opinion double counting the mitigation, noting that all other consent holders who take water from the Waikawa Stream were required to cease their takes when the One Plan minimum flow was reached.

[435] His understanding was that setting a bespoke minimum flow for the Project as proposed by Ms Stout would be unique in the MWRC region.

[436] The Regional Councils in their closing legal submission proposed that if a cease take flow of 0.244 m^3/s was accepted by NZTA then they would be agreeable to increasing the maximum rate of abstraction in Table RWT-1.2 from 9 % to 10 %.

[437] We note that in NZTA's Final Version (Clean) of the conditions, in Table RWT-1.5, the cease take limit for flow measured at the North Manakau hydrometric site has been set at "at or below 0.245 m^3/s", or at the higher level proposed by Ms Stout and the Regional Councils.

[438] On the other hand, in this condition set, the maximum rate of abstraction in Table RWT-1.2 has been left at 9%.

[439] Dr McConchie suggested two possible approaches to address the uncertainty of instream flow, the first to adopt the current minimum flow as applies to all other consent holders in conjunction with reducing the maximum rate of extraction from 10% to 9% in Table RWT1-1.2 (as had been agreed by the water experts in their JWS).

[440] His alternative was to raise the minimum flow by 10% (noting that this would establish a unique minimum cut-off flow for NZTA) in conjunction with setting a maximum rate of abstraction in Table RWT-1.2 of 10%.

[441] In their Closing Legal Submission, the Regional Councils advised that their proposed higher cease take flow had been recommended to manage the effects of water takes on freshwater values during low flows as opposed to median flows.

[442] Their closing position was that their proposed cease take flow should be adopted in conjunction with the late advice from their experts that the 9% maximum rate of abstraction in Table RWT-1.2 could be increased to 10%.

Discussion and Finding on the Waikawa Stream Abstraction Conditions

[443] Having first set out this background, we now move on to evaluate which version of the conditions is to be preferred when setting the limits for the extraction of water from the Waikawa Stream for construction purposes.

[444] The positions of the Regional Councils and NZTA may be summarised as follows:

Condition	Regional Councils	NZTA
Table RWT-1.2	Agree to rate of abstraction not exceeding 10% as opposed to 9% if Council's cease take condition in Table RWT-1.5 is accepted.	NZTA notes the Regional Council's agreement to 10% in Table RWT-1.2 if its bespoke cease take condition is accepted
Table RWT-1.5	Bespoke condition for flow measured at North Manakau hydrometric site to cease at a flow at or below 0.244 m3/s	Adopt the One Plan minimum flow of 0.220 m^3/s

[445] The Regional Councils' position for supporting its proposed cease take flow is amplified in their Closing Submissions as follows:[84]

> The Regional Councils' position, informed by the advice of the freshwater ecologists in the consenting process, has sought to protect the instream values of the Waikawa Stream and manage any adverse ecological effects to these values. In short:
>
> (a) Mr Brown and Dr James' evidence and the joint witness statement of freshwater ecologists (signed by Mr Brown and Dr Alex James for Waka Kotahi and iwi representative) recognised the high freshwater values of the Waikawa Stream. Nine species of fish were detected and a macroinvertebrate community composed of a high proportion of pollution-sensitive taxa. The entire mainstem of the Waikawa catchment is also a Site of Significance – Aquatic for the high native fish biodiversity that it holds.
>
> (b) The streamflow losses and flows required to maintain connectivity and protect the instream values in the Waikawa Stream were not well understood when setting minimum flows in the One Plan.
>
> (c) The rule framework provides the ability for the Council to impose conditions which avoid, remedy or mitigate any adverse effects in the values of the waterbody at and below the point of take.
>
> [footnotes omitted]

[446] We have not seen any evidence from NZTA on the potential consequences if the higher cease take flow was to be imposed. We surmise that it may be that larger North Waikawa and South Waikawa storage ponds[85] would need to be constructed to provide for increased storage to cover dry periods but this is only speculation on our part.

[447] We repeat here from Dr McConchie's evidence, an extract from the strategy for water use which was developed by NZTA to reflect the core principles developed for the Project in the CEDF:[86]

> Take water from streams and rivers as a last resort and on the following basis:
>
> i. Low rates of abstraction to storage facilities to meet residual Project requirements (*rangātiratanga and kaitiakitanga*);

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84 Closing Submissions at [14].

85 As noted on Accommodation Works Plan 310203848-01-500-C01011 Sheet 12.

86 McConchie EIC at [266(d)].

ii. Store water for use during the dry periods so as to be able to continue working during the summer (prime construction season) (*rangātiratanga and kaitiakitanga*);

iii. This approach allows water to be only taken when there is available resource, i.e., no abstraction below minimum flow so that there is enough water remaining to not adversely affect mauri of the waterways (*kaitiakitanga*);

iv. Take water using methods that avoids effects on fish (including risk of pollutants entering watercourses) (*kaitiakitanga*);

v. Use water in the catchment derived (as far as practicable) (*Whakaora – Restore to whenua where resource derived*).

[448] Both the freshwater ecological evidence from the Regional Councils and Dr McConchie's own evidence (as set out above) provide strong support for the need to take all reasonable steps to minimise the abstraction of water when flows in the Waikawa Stream are running low.

[449] Accordingly, our finding is to approve the cease take flow of 0.244 m^3/s in Table RWT-1.5 for the Waikawa Stream as proposed by the Regional Councils in conjunction with setting a maximum abstraction rate for the Waikawa Stream in Table RWT-1.2 of 10% (as opposed to 9%). We return to policy provisions in the regional plan that also support this finding later in the decision.

[450] The balance of the provisions in Condition RWT1 are approved.

Hydrogeology, Groundwater and Dewatering

The Evidence

[451] Expert evidence on hydrogeology, groundwater and dewatering was provided by Dr McConchie for NZTA and Mr Jon Williamson for the Regional Councils.

[452] These two experts met in a joint witness conference on 26 July 2023 when they produced a JWS of the same date.

[453] Dr McConchie was the author of Technical Assessment G Hydrology and Groundwater and Mr Williamson the author of Appendix 5 (Hydrology and Groundwater) in the Regional Councils s 87F Report.

The Hydrogeology and Groundwater System

[454] The groundwater system along the length of the Project contains both unconfined and confined aquifers and water bearing units.

[455] As part of its planning for the Project, NZTA undertook a comprehensive programme of ground water investigations underneath and adjacent to the alignment of the proposed highway.[87]

[456] From this programme of investigations, it was established that the water table along the alignment mimics the topographic surface ranging in depth from the ground surface to deeper than 20 metres with the deepest levels being east of Levin and the highest some 0.5 metres to 2 metres below the ground surface at locations near Queen Street East in Levin, east of Manakau Township and adjacent to Manakau Stream.

[457] The investigations established that despite its apparent complexity, the groundwater acts as an interconnected system.

[458] There is a strong relationship between groundwater levels and rainfall and flows in the rivers and streams.

[459] With the incorporation of appropriate hydrological and hydrogeological principles into the design Dr McConchie considered that potential adverse effects on the groundwater system could be avoided and that:[88]

- There will be no change in existing water balance and therefore no adverse effects on groundwater supported wetlands;

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87 This included 63 boreholes, 77 test pits, 36 Cone Penetration Tests, 57 monitoring bores, 10 hand augur holes, eight slug tests and nine soil infiltration tests.

88 McConchie EIC at [45].

- By constructing the highway above the maximum height of the water table wherever practicable, any direct interaction with groundwater should be avoided with this to be determined through comprehensive and detailed monitoring and modelling;
- Existing hydraulic connections will be maintained through the design of the stormwater system and surface hydraulic connections past the new highway;
- The loss of any hydraulic connection between surface water and groundwater under the immediate footprint of the new highway's sealed surface will be countered by the construction of stormwater swales and wetland treatment devices;
- There will be an improvement in water quality along the alignment of the new highway through a combination of the change in land use from pastoral farming and the specially designed wetlands which are to be constructed to treat run-off from the highway;
- The stormwater system is to be designed for no excess run-off onto adjacent land containing existing private bores, wetlands or streams.

[460] Sixty nine wetlands have been identified along the proposed highway alignment and from the assessments of the hydrological regime and sensitivity of each, seven of these wetlands or forest wetlands have been identified as being connected to groundwater and within a zone where road cuttings might intercept and reduce groundwater levels.

[461] Dr McConchie said that where there was the potential need for temporary dewatering at two sites to enable culvert construction, in his opinion the adverse effects from this would be temporary and "less than minor"[89] with mitigation to be provided using standard construction techniques.

[462] Temporary dewatering at these culverts has been assessed as having no effect on any bores or structures in the vicinity.[90] Construction of culverts requiring

89 McConchie EIC at [49].

90 Technical Assessment G at [190].

dewatering would also be programmed for late summer when groundwater levels were low and the need for dewatering was at its lowest.[91]

[463] Four borrow sites have been identified as potential sources for providing the 1.5 Mm^3 of additional fill material required to construct the new highway. Parameters considered in the selection process for these borrow sites included proximity to the Project, material suitability, effects on surface or groundwater water resources, flood hazard, environmental, cultural and economic criteria and any legacy outcomes.

[464] Dr McConchie said that at least two of these borrow sites had the potential to be rehabilitated as open water ponds and/or wetlands.

[465] Dr McConchie noted also that Mr Williamson had been concerned about the lack of detailed information about the potential borrow pits and that in response he agreed that a detailed Council certification process was required for the design and monitoring of these sites.[92]

[466] We note that the reports required under conditions RGW3 (groundwater monitoring) and Condition RGW4 (material supply site design reports) are to be prepared by a SQP (as required under condition RGA6 xiv)). The groundwater monitoring report is also to be included in the annual report to be prepared under condition RGA3.

[467] Each of these reports is to be submitted to the Regional Council for information only. We discuss these conditions in more detail later in this section of our decision.

[468] Dr McConchie advised that a search of both MWRC's and WRC's online data portals identified numerous existing bores most down-gradient of the Project with approximately 34 bores within the proposed designation and a further 104

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91 Technical Assessment G at [232].

92 McConchie EIC at [251].

within 250 metres.[93]

[469] Dr McConchie said that he had been unable to establish how many of these bores provided a water supply with few having an associated water permit which he said would be required for significant water extraction.

[470] Three community water supplies have been identified in the wider vicinity of the Project with one of these being located within the designation area.[94]

[471] Mr Williamson noted that the bores and groundwater supplies of two submitters (McAlister/Miles and Merie Cannon and Trevor Guy) may be subject to adverse effects from the Project.

[472] In response, Dr McConchie said that he was confident that there was a sufficient buffer between the construction works and the McAlister/Miles property for the avoidance of any potential effects on their groundwater supply. In any case he said that any eventuality of any adverse effects would be addressed through condition RGW2 (which we discuss below).

[473] For Ms Cannon and Mr Guy, he said that NZTA had reached agreement (in principle) to relocate their bore upgradient of the proposed highway.

The Conditions (RGW1: Dewatering, RGW2: Groundwater Standards, RGW3: Groundwater Monitoring and RGW4: Material Supply Site Design Reports).

Condition RGW1

[474] Condition RGW1 a) restricts the taking of groundwater for the purpose of dewatering during construction activities to locations which are more than 50 metres from a consented bore or a bore that is permitted by a rule in a Regional Plan or on any other property with the take period per dewatering installation not to exceed two months.

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93 Technical Assessment G at [86].

94 Technical Assessment G at [84]-[85].

[475] Dr McConchie's evidence was that while he did not consider that including the two month limit (which had been proposed by Mr Williamson) would provide any practical limitation on the potential environmental effects,[95] he did not oppose its inclusion in the condition.

[476] It is unclear to us whether the two months is intended to be for a continuous period of two months or two months in aggregate at any one location. The wording of the condition should be clarified.

[477] We ask also what the response would be if the specified time limit was to be exceeded and there were still outstanding construction works to be completed at that location?

[478] Condition RGW1 b) requires that where the Project is located below maximum ground water level any seepage is to be treated in *stormwater management devices*…and discharged naturally to the ground.

[479] Condition RGW1 c) requires discharge from dewatering is to be to a *sediment retention device* with the discharge to be manged by Condition RES1.

[480] It is unclear as to how these two conditions are intended to operate together. For example, what is the difference between a stormwater management device and a sediment retention device?

[481] In Condition RGW1 d), we note that the pH and clarity limits for the dewatering are the same as the triggers specified in Condition RES1 d) for erosion and sediment control.

[482] While the erosion and sediment control Condition RES1 g) requires the identification of responses where these triggers are exceeded as well as monitoring provisions for checking compliance with the triggers there are no equivalent provisions in the RGW conditions (notwithstanding that there are other unrelated

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95 McConchie EIC at [242] - presumably on the basis that the extent of potentially affected areas (for culvert construction) would be quite limited.

monitoring provisions in Condition RGW3.)

Condition RGW2

[483] We have made brief reference to Condition RGW2 above in response to the concern raised by Mr Williamson about the lack of detailed information about the potential borrow pits.

[484] In more detail, Condition RGW2 (a) requires that "construction activities authorised by these consents must not result in any adverse change to the existing quality, maximum quantity and maximum rate of abstraction for any community water supply or bore that is either subject to an active water permit or permitted by a rule in a Regional Plan".

[485] If there was to be an adverse change to one of these three parameters at a bore or community supply, we question whether there should be a condition setting out what the response should be - notwithstanding Dr McConchie's evidence that dewatering would have no effects on any bores in the vicinity.

[486] Condition RGW2 b) requires that authorised construction activities must not result in "any permanent more than minor adverse effects on any existing wetlands not removed or offset as part of the Project". Again, this begs the question of how a "permanent more than minor effect" is defined, how it is to be measured and if a "permanent more than minor effect" is detected what the response should be?

Condition RGW3

[487] Condition RGW3 a) requires groundwater monitoring to be undertaken for the duration of construction and then for up to a year following the opening of the highway for public use with the purpose being to confirm that there has been compliance with Condition RGW2.

[488] At least one piezometer is to be installed within 100 metres of any material supply sites or site where active dewatering using pumping is occurring with an initial sampling interval of 15 minutes.

[489] A summary report of the monitoring is to be provided to the Regional Council as a component of the annual report required under Condition RGA3. This summary report is to describe the programme of groundwater monitoring proposed for the following year commensurate with the scale, intensity and duration of the construction activities with the piezometers being located to monitor the greatest potential magnitude of effects anticipated and the rationale for the piezometer location.

[490] What is not defined in this condition are any requirements for assessing whether there have been any adverse effects arising from dewatering. For example, should dewatering cease during dry spells when groundwater levels drop below defined limits?

[491] As well, no parameters have been defined for assessing the effects of dewatering as part of the monitoring and sampling nor has the frequency of sampling required after the initial sampling interval of 15 minutes been defined nor the timeframe for this initial period.

[492] The annual report to be prepared under this condition (by a SQP as provided for under Condition RGA6) should also include details of any actions which were undertaken during the reporting year to respond to any non-compliances which might have arisen under Conditions RGW1 and RGW2.

Condition RGW4

[493] Condition RGW4 requires that a Material Site Design Report be prepared (by a Suitably Qualified Person) for each material supply site and provided to the Regional Council for information prior to the commencement of excavation at the site. The report is to be prepared in consultation with the Project Iwi Partners and is to include an assessment which confirms that the excavation of material complies with Condition RGW2.

[494] We note also that the development and operation of all of the material supply sites will need to comply with the relevant erosion and sediment control

conditions and suggest that these conditions should therefore be cross referenced in Condition RGW4.

Discussion and Finding on Hydrogeology, Groundwater and Dewatering

[495] We accept the evidence of the two experts on hydrogeology and groundwater, noting in particular the extensive and comprehensive investigation and analysis undertaken by Dr McConchie on these two topics as set out in Technical Assessment G.

[496] We note also Dr McConchie's advice that dewatering for construction was anticipated to be required to enable construction at the locations of the culvert construction sites and also at some material supply sites.

[497] We add that it may well be that if the final design was to incorporate more culverts to reduce the adverse effects of flooding outside of the designation, the number of sites requiring dewatering could increase.

[498] While NZTA and the Regional Councils have agreed to the potential adverse effects from dewatering being managed through the agreed Conditions RGW1 to RGW4, before we are in a position to approve these conditions, we require that they be reviewed and amended where necessary to take account of the observations and comments we have made above, following which the amended set is to be submitted for our further evaluation and decision.

Productive land

[499] Dr Iain Grant had identified the highly versatile soils which would be affected by the Project in his Technical Assessment N Productive Land but was not involved in the hearing process.

[500] While there were no issues between NZTA and the Councils in relation to the loss of productive land, NZTA made the following arguments in its opening

submissions:[96]

> (a) The Project has a potential adverse effect on productive land through the loss of production on, and fragmentation of, land parcels and may have an impact in terms of the economies of scale of existing productive uses and physical disruption or impediments to the operation of productive properties.
>
> (b) A minimum of 229.5ha and a maximum of 358.7ha of highly productive land will be affected by the Project. The difference between the minimum and maximum area of productive land that could be lost is about 134.3 ha (in reality much of this 134.3 ha area will be brought back into production following the completion of construction and reduction of the designation boundaries).[97]
>
> (c) …
>
> (d) It is not possible to avoid the loss of productive land (including highly productive land), given the nature of the Project and the rural environment it traverses, however the Project has been assessed as consistent with the National Policy Statement on Highly Productive Land (**NPS-HPL**).[98]
>
> (e) Any measures necessary to address effects on individual properties will be dealt with through the land acquisition process for the Project under the Public Works Act 1981.

[501] NZTA also submitted that from a district perspective, the area of highly productive land that would no longer be available for productive use as a result of the Project is small, given there is about 43,766 ha of highly productive land in Horowhenua. We find this argument does not adequately deal with the issue of the incremental loss of the high quality soil resource and the associated adverse cumulative effects that was a policy rationale for the NPS-HPL, which we address elsewhere in this decision.

[502] We note there are policy provisions in the lower order plan provisions but consider there is no need to visit these in any detail, given the recent issue of the NPS-HPL which is unlikely to have been given effect to in the District's lower order policy documents.

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96 NZTA Opening Submissions at [218].

97 We note that the difference between 358.7 ha and 134.3 ha is 129.2 ha as opposed to 134.3 ha, but nothing hinges on this small difference.

98 We cover this later in our decision.

Contaminated Land

[503] Ms Kathryn Halder's evidence for NZTA explained the purpose of Technical Assessment I: Contaminated Land which involved a Preliminary Site Investigation (PSI) over the full extent of the Project, looking at historic and current land uses on properties along the proposed designation and within its vicinity which might be affected, and in particular the footprint of the new road where disturbance of soil will occur. As required under the NESCS she identified potential Hazardous Substances and Industries List (HAIL) sites where use or deposition of hazardous substances has or may have occurred historically. She based that assessment on current and historic land uses and from historical photos. She then also assessed the actual and potential impacts on human health and the environment from the Project due to soil disturbance that has the potential to cause migration of contaminants. This was in large part to inform a future application for resource consents for the Project under NESCS which Ms Halder found was required given the PSI could not at that stage state that is "highly unlikely that there will a risk to human health if the activity is done to the piece of land". There are also Regional Plan rules that address contaminated soil issues.

[504] All issues relating to site contamination were resolved by confirming that the resource consents for contaminated land have not been applied for as part of the proposal before the Court but will be applied for separately in due course. Both Ms Sarah Newall who gave evidence for the Councils and Ms Halder considered this was an appropriate course of action.

Erosion and Sediment Control and Water Quality

The Evidence

[505] The experts for erosion and sediment control and water quality were Mr Gregor McLean for NZTA (Erosion and Sediment Control), Mr Keith Hamill for NZTA (Water Quality), Mr Logan Brown for MWRC (Water Quality and Aquatic Ecology), Mr Kerry Pearce for the Regional Councils (Erosion and Sediment Control), Ms Justine Bennett for the District Councils and Mr Quentin Parr for

Ngāti Raukawa.

[506] As well as providing evidence:

- Mr Hamill was the author of NZTA's *Water Quality Technical Assessment Report*,
- Mr McLean was the author of NZTA's *Erosion and Sediment Control Technical Assessment Report (ESC Report),*
- Mr Brown the author of the *Water Quality and Sediment Control Appendix to the Regional Councils' s 87F Report,*
- Mr Pearce the author of the *Erosion and Sediment Control Appendix to the Regional Councils' s 87F Report* and
- Ms Bennett the author of *Stormwater and Water Quality Appendix of the District Councils' s 198D Report*.

[507] The experts produced a JWS dated 8 August 2023.

Background

[508] Indicatively, earthworks for the Project will include stripping and stockpiling of topsoil, bulk excavation for cut and fill including potential conditioning of material prior to placement and temporary stockpiling of earthworks material for potential reuse in pavement construction.

[509] The Project construction footprint will extend over an area of around 580 ha and there is a predicted volume of cut material of around 5 million cubic metres made up of a combination of cut to fill, borrow to fill and cut to waste.[99]

[510] For comparison, we note from a NZTA media release dated 11 March 2022 that the construction of Transmission Gully involved more than 11 million cubic metres of earthworks.

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99 Design and Construction Report July 2022.

[511] The Ō2NL Project will also cross five major catchments including tributaries of[100] the Waitohu Stream; the Waikawa Stream (including the Manakau Stream and the Waiauti Stream); the Ohau River; the upper groundwater catchment of Punahau/Lake Horowhenua; the Koputaroa Stream (which is located in the Manawatū River Catchment) as well as multiple sub-catchments.

[512] The water quality in these streams ranges from generally high (in the Ohau River and Waikawa Stream) to poor (in the Koputaroa Stream and tributaries of the Waitohu Stream).[101]

[513] Mr McLean said that his erosion and sediment control design approach for the Project had been based on the *Auckland Council Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region* (GD05) and NZTA *Erosion and Sediment Control Guidelines for State Highway Infrastructure, September 2014* (NZTA ESC Guidelines).[102]

[514] The assessment of potential effects from the discharge of treated sediment laden runoff to the freshwater receiving environment has been based on estimates of sediment yield for various parts of the Project using the Universal Soils Loss Equation.[103]

[515] The management of erosion and sediment control (ESC) for the Project is addressed in an *Erosion and Sediment Control Plan* (ESCP) which describes the overall principles and methodology to be followed. In turn the ESCP is supported by a range of management plans and procedures which include ESC drawings, a Chemical Treatment Management Plan, and an Erosion and Sediment Control Monitoring Plan which defines the details of the monitoring and maintenance of the ESC measures to be implemented during the construction of the Project.

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100 McLean EIC 4 July 2023 at [12].
101 McLean EIC at [12].
102 McLean EIC at [14].
103 McLean EIC at [15].

[516] For specific areas of the Project, these ESC measures are to be implemented through *Site Specific Erosion and Sediment Control Plans (SSESCPs).*

[517] While the experts in their evidence offered differing advice on some aspects of how erosion and sediment control should be managed during construction of the Project, by the time they had concluded their expert conference, there was agreement among them on the content of the proposed conditions of consent and the associated contents of the ECSP in Schedule 8.

[518] In this section of our decision, our focus therefore, has been on the proposed conditions (RES1 to RES10) and the associated ESCP in Schedule 8 and how these have responded to various issues raised by the experts in their evidence.

The Conditions

[519] Erosion and sediment control has been addressed through Conditions RES1 to RES10 the content of which we summarise here.

Condition RES1 Erosion and sediment control standards

[520] As a general comment on the use of the term "standards" in the heading of the condition, we note that a)i. refers to "sediment control measures" and in a number of other places the term used is "triggers". Should the use of "standard" in the heading be amended to suit?

[521] This condition requires that sediment losses to a natural water body from construction activities must be minimised through control measures in accordance with Sections A to G of *Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region June 2016/005 Version 2 (GD05) except where a higher standard is referred to in the Erosion and Sediment Control Plan or a certified Site-Specific Erosion and Sediment Control Plan* in which case a higher standard applies and where practicable undertaking works when streams are dry.

[522] During the hearing the Court questioned how the material in Sections A to G of GD05, a document of just over 300 pages would apply to the Project. It also

asked whether greater direction would mean greater certainty to the consent holder and the regulator, and for enforcement action, as to what was to be followed. That certainty is important if there is the potential for conflicting guidance and requirements within and across the documents. While there was a suggestion during the hearing that it might be possible to be more specific on those parts of the external guideline document incorporated into the conditions by reference, counsel for the Regional Council came back and said that the officers wanted the flexibility of having the whole guideline document referenced.

[523] There is a requirement for all sediment laden run-off to be treated in sediment retention structures, devices or measures established and maintained in accordance with certified SSESCPs with all of these to be designed and operated to achieve the performance triggers specified in condition RES1 d). NZTA accepted that request in closing.

[524] If the specified performance triggers are not achieved, an investigation is required to identify the reason(s) for the non-compliance following which response measures must be developed and implemented for achieving compliance within five working days of the non-compliance unless a longer period is agreed to by the Regional Council.

[525] Escalated response measures are required where the performance triggers have not been achieved in two or more rounds of consecutive monitoring or where there have been three or more exceedances within a six month period.

[526] Where there has been an exceedance, an investigation and response measure report must also be prepared and provided to the Regional Council within five working days of the exceedance. It appears that there is a gap in RES1 with no similar reporting mechanism for (g) in relation to the escalating response measures. We direct that a follow up condition on this matter be added to RES1.

Condition RES2 Erosion and Sediment Control Plan

[527] Under this condition an ESCP must be prepared in consultation with the Iwi Project Partners in accordance with the content described in Schedule 8 of the conditions.

[528] We provide a brief overview of the ESCP at the end of this section on the conditions.

Condition RES3 Erosion and Sediment Control Plan Certification

[529] The ESCP prepared under Condition RES2 must be certified in writing by the Regional Council in accordance with the process set out in Schedule 10 (noting the changes we have directed to Schedule 10 in the Scheme of and Approach to Conditions section of this decision). Schedule 10 is referred to in several of the ESCP and Site Specific ESCP conditions.

Condition RES4 Amending the Erosion and Sediment Control Plan

[530] This condition sets out the process to be followed for the certification of amendments to the ESCP including details of circumstances where certification is not required.

[531] We have a concern about removing the need for certification where the amendment is part of an annual review of monitoring activities for the reasons set out in the preliminary issues on conditions section. We direct that this exemption be removed. In line with our earlier directions on the approach to certification, condition RES4 a)iii. is to be deleted. We also conclude that the conditions need to make it clear that amendments or updating (aside from the exception for an administrative change, including nominating personnel) are to be prepared by a SQP.

Condition RES5 Site Specific Erosion and Sediment Control Plans

[532] This condition sets out the requirements for the preparation and certification of SSESCPs which must be prepared for all areas of earthworks and land

disturbance in consultation with the Project Iwi Partners.

Condition RES6 Site Specific Erosion and Sediment Control Plan Certification

[533] This condition requires that the SSESCPs must be certified in writing by the Regional Council with the certification based on whether the plan meets the requirements of the relevant conditions of the resource consents or as set out in Schedule 5 (we assume that this should be Schedule 8). We note the changes we have directed to Schedule 10, and that (c) should have the words 'or as set out in Schedule 10 to these conditions of resource consent' deleted.

Condition RES7 Amending certified Site Specific Erosion Sediment Control Plans

[534] Condition RES7 a) sets out three situations under which an amendment to a certified SSESCP is not required to be certified before certain works can be undertaken. The SSESCP is then to be retrospectively amended and provided to the Regional Council within 10 working days and that then within five days of having received the amended plan the Council can advise the consent holder that certification is required as set out in Schedule 10.

[535] Condition RES7 b) lists six further situations under which an SSESCP may be amended without certification and prior to the commencement of any works to which the amendment relates, unless the Regional Council advises the consent holder within five working days of having received the revised SSESCP that the revision is required to be certified in accordance with the process set out in Schedule 10.

[536] Condition RES7 c) requires that where amended SSESCPs are not exempted under the terms of conditions RES7 a) or b), these must be submitted to the Regional Council with the certification process in Schedule 10 to apply.

[537] Exception a) has as a pre-requisite that compliance with GD05 continues to be achieved. It then contains protective works that can be undertaken without

certification and prior to a SSESCP being retrospectively amended and provided to the Regional Council within ten working days. Those protective works are:

- The addition of silt fences and super silt fences;
- Changes to the dimension or configuration of a sediment retention pond or decanting earth bund; and
- Construction of additional erosion and sediment controls where devices do not affect erosion controls that are installed.

[538] Exception b) has a different approach. An amended or updated SSESCP need not be certified prior to the commencement of related works in specified circumstances. However, that is on the basis that revised Plan is provided to the Regional Council and within five working days of its receipt the Regional Council has not advised in writing that the amendment must be certified.

[539] The specified circumstances are where the amendment:

- Is an administrative change, such as a change in contact details (which could be made subject to an exception as done for other Management Plans);
- Is to the location of an erosion and sediment control where each control is sized for the captured area and shown on as-built plans in the new location and compliance with the Guideline Document is maintained;
- Provides additional lay down areas within the Plan's area and does not impact on existing controls:
- Changes bund or diversion construction, excluding changes to dimension and capacity or does not result in a new erosion and sediment control being located in the bed of a river;
- Does not result in earthworks or land disturbance occurring during the period 1 May to 30 September inclusive.

[540] In addition Condition RES7 d) refers to certification, or withholding certification, as based on whether the amended SSESCP continues to meet the requirements of the relevant conditions of these resource consents and the measures in GD05.

[541] Given the limits on the nature of the works and effects that are not to occur provided for under this condition as an exception are specified, along with the potential need for immediacy of preventative and remedial action such as in an extreme weather event, we have accepted the approach in RES7. We also anticipate that the Regional Council will be undertaking careful oversight over situations and actions where those exceptions are provided for in terms of any adverse effects.

Condition RES8 As-built Plans

[542] This condition requires that prior to the commencement of earthworks for the Project (excluding the earthworks required to build the erosion and sediment control measures or the implementation of a new control), a certified statement and as-built plans must be provided to the Regional Council to demonstrate that all of the control measures have been constructed in accordance with the certified plans.

Condition RES9 Erosion and sediment control monitoring

[543] Under this condition, all erosion and sediment control structures are required to be monitored against the performance triggers in Condition RES1 involving weekly inspections, prior to a trigger rainfall event identified in the certified ESCP required under Condition RES2 and after each trigger rainfall event.

[544] After a rainfall event or in circumstances where a performance trigger is not met, a summary report on the performance of the control measures must be provided to the Regional Council within ten working days of the event.

[545] The records of the monitoring and maintenance required under Condition RES9 are to be made available to the Regional Council and the Project Iwi Partners

on request.[104]

Condition RES10 Removal of erosion and sediment control structures

[546] Under this condition, erosion and sediment control measures may be removed only when the corresponding catchment area has been permanently stabilised or removal is in accordance with a certified SSESCP. Confirmation in writing is required from the Regional Council before control measures are removed with this being based on advice to the Council from the consent holder on the quality of discharged water and the receiving environment and the adequacy of the soil stabilisation and /or covering vegetation.

Schedule 8: The ESCP

[547] The purpose of the ESCP is described in Schedule 8 of the conditions as being "to identify the overarching erosion and sediment control principles and procedures to be implemented to achieve compliance with the standards included in the related Conditions".[105]

[548] The ESCP lists a series of supporting documents each with its own defined Purpose and Content, each cross referenced to the relevant condition(s) all as follows:

- Chemical Treatment Plan: (RES1 and RES9);
- Erosion and Sediment Control Monitoring Plan: (RES1 and RES9);
- Dewatering Management Procedure: (RES1 and RGW1 (Dewatering));
- Emergency Spill Response Procedure: (RES1 and RCM4 (Construction Management Standards));
- Stream Works Procedure: (RES1, RFE1 (Fish Removal or Recovery), RFE2 (Artificial Lighting), RFE4 (Permanent Fish Passage));
- Hazardous Substance Procedure (RES1 and RCM4);
- SSESCPs (RES1, RES2, RES5, RES10).

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104 Condition RES9 refers to clauses a) to d). Should that be a) to b)?

105 ESCP at commencement of Schedule 8.

[549] We could not find specific references to any of these Plans and Procedures (except for the SSESCPs) in the related conditions identified in the ESCP as noted above.

[550] We require suitable amendments or an explanation from NZTA of its rationale for not including specific cross references of the Plans and Procedures in the related conditions.

Earthworks and Land Disturbance

[551] There are three conditions REW1 to REW3 under the heading of Earthworks and Land Disturbance.

[552] The first of these requires that all imported material must be Cleanfill material.

[553] The second requires that all areas of earthworks and land disturbance including spoil sites must be progressively stabilised to prevent erosion.

[554] REW2 d) requires all areas of earthworks and land disturbance to be stabilised by 30 April each year in accordance with the provisions of GD05 unless agreed in writing by the Regional Council.

[555] No earthworks and land disturbance are to be undertaken in winter except where written confirmation has been provided by the Regional Council to a request for specifically identified works with a specific SSESCP to be prepared and certified for these works or for works which have been directed by the Regional Council to be undertaken for maintenance or stabilisation purposes.

[556] These conditions include the same provision as in a number of other conditions which we have identified in this decision where, if the Regional Council has not responded within 10 working days (or some other period) of a request to undertake the requested winter works, the works may commence.

Overview of Issues Raised by the Experts

[557] Mr Pearce confirmed that most of the issues which he had raised in his s 87F report had been addressed either by Mr McLean in his evidence, in NZTA's amendments to its earlier draft Conditions RES1, RES8 and RES9, or as agreed in the experts' JWS.

[558] In particular, one of his outstanding issues had been the applicability of NZTA *Erosion and Sediment Control Guidelines for State Highway Infrastructure, September 2014* specifically in relation to the sizing of devices and their performance.[106]

[559] Mr McLean responded that he had proposed that the NZTA guidelines be used for sizing sediment retention devices where the predominant soils were gravels (as applied in three of the five Geological Units along the Project) with GD05 being used for the balance (on the basis that GD05 had been developed primarily for Auckland's clay-based soils).

[560] Having said this, we could find no references in either the conditions or the schedule to the NZTA Guidelines. NZTA is requested to confirm whether this was intended or an oversight.

[561] With respect to chemical treatment, Mr Pearce said that chemically treated Sediment Retention Ponds (SRPs) and Decanting Earth Bund (DEBs) should be the predominant sediment control devices with SRPs being more efficient than DEBs. Mr McLean agreed and confirmed that where practicable, in the SSESCPs which were to be prepared as set out in Condition RES5, run-offs would be required to be diverted to the SRPs.

[562] Mr McLean confirmed that the Hazardous Substances Procedure would apply for addressing water borne contaminants from concrete works with Condition RWB2 (works in beds of water bodies) applying to the treatment of contaminants in the beds of water bodies.

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106 McLean EIC at [31].

[563] Contaminants from fuel or chemical storage would be addressed under Condition RCM4 (Construction Management Standards) and in Schedule 2 (CEMP).

[564] On the issue of visual clarity monitoring, Mr Pearce noted that repeated exceedances of the trigger for visual clarity monitoring would point to there being issues with the functioning of a sediment treatment device or in a contributing catchment and that these possibilities needed to be investigated. He recommended that there should be a requirement for an escalating response within Condition RES1, an issue which was also raised by Mr Brown in his evidence.

[565] We note that this has been provided for in Condition RES1 g).

[566] Mr McLean confirmed that where a sediment retention device failed to achieve the performance trigger of 100 mm clarity (as required under Condition RES1 d)) and related Conditions RES1 e) - g)), an investigation and report was required to be undertaken. As well, Condition RES9 requires that regular monitoring be undertaken to ensure that the performance targets in Condition RES1 are being met.

[567] He pointed out that the 100 mm clarity target was a trigger for action rather than a standard (or limit). Also, he clarified that this was not related to instream effects but to the correct operation of a DEB or an SRP. As well, he noted that the sediment detention devices would only be discharging during and immediately after rainfall when the receiving water bodies would also be subject to elevated flows, turbidity and reduced clarity.

[568] A further issue raised by Mr Pearce was the need for a specific condition to enforce the rapid stabilisation of completed areas. Mr McLean responded that this would be given effect to through the SSESCPs and under Condition REW2 which required that progressive and temporary stabilisation was required with completed areas to be stabilised within 14 days or less if provided for in an SSESCP.

[569] Ms Bennett in her s 198D report agreed that the proposed ESCP and operational controls were generally best practice although she expressed some

concern about how the proposed ESCP would evolve and adapt.

[570] Mr McLean responded that all earthworks would be subject to the development of an SSESCP with design, construction, operation and maintenance being undertaken in compliance with the GD05 and NZTA Guidelines.

[571] He noted also that under Condition RES9 a comprehensive range of monitoring was required to be undertaken.

Discussion and Finding on Erosion and Sediment Control

[572] In the earlier section of this decision covering issues with conditions we also made findings on and directed that certain amendments be made to aspects of the erosion and sediment control conditions. We have covered those changes in our consideration of the conditions put forward by NZTA. It is to be made clear in the conditions that amending or updating the ESCP where certification is required is to be done by a SQP.

[573] From our review of the evidence and the conditions including the ESCP, we are satisfied that these have been structured to minimise the potential for adverse effects resulting from sediment being discharged into the receiving environment during the construction of the Project subject to the amendments we have directed.

[574] We also request that NZTA respond to

- The two potential editorial corrections which we have identified in Conditions RES6 and RES9;
- Whether the Plans and Procedures identified in the ESCP should be referenced in the relevant condition(s).

Operational Stormwater Management

Evidence

[575] Expert evidence on operational stormwater management was provided by

Mr Nicholas Keenan for NZTA, Ms Bennett for the District Councils, Mr Stuart Farrant and Mr Logan Brown for the Regional Councils and Mr Jaggard for Kāinga Ora. In addition, there was a submission by Mr John Bent on this topic.

[576] Mr Keenan was the author of NZTA's *Stormwater Management Design Technical Assessment* in the application documents and in his s 92 Report he responded to a range of information requests about this document from the Councils' experts.

[577] As well as the experts meeting independently where they reached agreement on a range of issues including whether NZTA's proposed flood design event, treatment chain and monitoring and design guidance were all best practice, they also participated in a court facilitated expert conference following which they prepared a JWS dated 8 August 2023.

Overview

[578] Mr Keenan advised that NZTA's concept design for the Project had been "developed to consider and avoid, remedy or mitigate the potential stormwater effects on the receiving environment, including cumulative effects, based on understandings captured in current New Zealand industry best practice".[107]

[579] In particular, he said that this design:[108]

- Provided stormwater runoff treatment over approximately 95% of road surface area in the Project.
- Provided a treatment train approach that can capture and treat 75-90% of total suspended solids, oils and soluble metals (copper and zinc) from road runoff, for 90% of storm events. The treatment train includes vegetated batter slopes, treatment swales and constructed wetlands before discharge into the receiving environment.
- Managed flood risk through attenuation basins sized to decrease proposed road surface discharge rates from the road to preconstruction

107 Keenan EIC 4 July 2023 at [16].

108 Keenan EIC at [16].

rates. The basins will accommodate storms (up to the 1% AEP, 24-hour duration event with allowance for future climate), to buffer downstream flood risk impacts and receiving environments from an increase in peak flows and downstream flood levels. Ground soakage disposal will be used where feasible.

- Managed 90% of storm events in terms of water quality and 99% of storms in terms of water quantity (accounting in all instances for climate change). Exceedance events are relegated to the largest 10% of storms in terms of water quality but effectively still treat the "first flush" portion of even those events. In terms of water quantity, exceedance events are 1% of storms and the design will manage the first part of such an event before activating emergency bypass facilities which are designed to minimise erosion effects.

Stormwater System Performance Monitoring

[580] The experts agreed that the following current good practice documents should be adopted as the basis for the treatment of operational stormwater run-off ahead of the treated stormwater being discharged into the receiving environment:

- Waka Kotahi NZ Transport Agency 'Stormwater Treatment Standard for State Highway Infrastructure' dated May 2010;
- Water Sensitive Design for Stormwater (Wellington Water 2019);
- Waka Kotahi's NZ Transport Agency's P46 Stormwater Specification dated 2016 including the requirements for operation and maintenance.

[581] Mr Keenan advised that the Concept Design for the Project included 19 stormwater treatment facilities each with its own swale, a forebay, a wetland and flood attenuation and that from an operational perspective these facilities should be considered in the context of a wide range of other operational stormwater treatment facilities already in place along other sections of the state highway.

[582] Mr Farrant was concerned that the Regional Councils needed to be confident that the stormwater management system would deliver the outcomes anticipated by

the Concept Design. He requested that when the detailed designs for the stormwater system became available, these should be submitted to the Regional Councils for certification prior to construction and that an Operations and Maintenance Plan (OMP) should be prepared for certification by the two Councils.

[583] In his rebuttal evidence Mr Keenan responded that Waka Kotahi's P46 Specification already includes a requirement for an OMP to be developed for new highway infrastructure assets to include stormwater facilities and provisions for access and safety.

[584] He noted also that NZTA's *Stormwater Treatment Standard for State Highway Infrastructure 2010* sets out (for stormwater facilities) requirements for construction inspection forms, as built documentation and certification and operations and maintenance checklists.[109]

[585] Mr Keenan said that in agreeing at the expert conference for an OMP to be prepared, it had not been his intention that this should include the extensive review process requested by Mr Farrant nor that such a review process should be certified by the Regional Councils.

[586] Instead, it was his intention that once the OMP had been prepared it should be provided to the Regional Councils for information only.

[587] We come back to the issue of whether documentation is required to be submitted for information or certification later.

[588] Mr Keenan responded to what he had understood to be Mr Brown's concern that the OMP provisions in NZTA's P46 Specification focussed on the access to the stormwater treatment devices as opposed to addressing treatment efficiency and performance advising that this was not the case. Instead, he said that each of the reference documents listed in Condition RSW1 complemented each other in that they addressed safety and access as well as the efficient operation and performance of the stormwater facilities.

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109 Keenan Rebuttal 10 October 2023 at [20(b)].

[589] Mr Keenan advised that the NZTA P46 Stormwater Specification 2016 as provided for in Condition RSW1 was to be used for construction contract purposes and that this provided for local authority standards and guidelines to be followed.

[590] In this same context, Mr Dalzell the Project Director advised that an OMP developed as part of the Project would be handed over to NZTA's maintenance and operations team to implement through their network outcomes contracts. He said that this approach ensured consistency in the operation and maintenance of all of NZTA's stormwater facilities across the region.

[591] All of the experts agreed with Ms Bennett that post construction monitoring of the performance and maintenance of the Project's stormwater treatment facilities should be provided for in the consent conditions.

Spill Management

[592] Ms Bennett was concerned about the absence of any spill management references in the Concept Design for responding to a milk, petrol or chemical tanker overturning and leaking contaminants into the roadside drainage system.

[593] Mr Keenan's response to this was that the stormwater system for the Project would be designed to accommodate rainfall events with volumes well in excess of the volumes of any contaminant spills. In addition, he said that the system would also be designed to absorb spills in the swales or forebays prior to their capture and removal.

[594] In the wider context, he observed that none of these measures had been installed at stormwater facilities at other locations on the existing SH1.

Mr Bent's Concerns

[595] With respect to the stormwater management matters raised by a submitter and s 274 party, Mr Bent, Mr Keenan responded that any increased run-off from sealed areas would be addressed through the provision of swales and attenuation ponds and that any litter, oils and plastics not trapped within the stormwater

treatment facility of screens, grills and structures would be partially trapped with planting within the pond basins.

[596] The treatment pond forebays would also be fitted with baffles and screens for the gross capture of floating litter, lighter than water oils and hydrocarbons.

[597] In addition, litter and plastics would be removed through regular and routine maintenance as a requirement in NZTA's regional operation and maintenance contracts.

[598] In her evidence Ms Bennett also responded to Mr Bent's concern about the potential for conveyance of litter through the stormwater system and from there into the receiving environment. She said that Mr Bent's proposed condition for litter to be trapped through a submerged outlet to the treatment wetland was too prescriptive. Instead, she proposed that Condition RSW1 d) be amended to read "Stormwater treatment systems shall be designed and operated such that they avoid, as far as practicable, the discharge of litter to the receiving environment".[110]

[599] Mr Bent confirmed during the hearing that based on the final agreed wording of Condition RSW1 d) which was that proposed by Ms Bennett, his concerns had been resolved.

The Conditions

[600] As provided for in the agreed Final Condition set, operational stormwater is to be managed under Conditions RSW1 to RSW3.

[601] Condition RSW1 a) lists what the experts agree to be the current good practice documents that it is appropriate for the consent holder to follow in the treatment of operational stormwater.

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110 Bennett EIC 26 September 2023 at [29].

[602] This condition under the sub-headings b) to h) addresses:

- The design requirements for stormwater management devices where these are located on permeable land or if there is contaminated land with an impermeable surfacing in place;
- Preventing or controlling the discharge of hydrocarbons and litter to the receiving environment (which resolved Mr Bent's concerns);
- The containment of contaminants from emergency spillages;
- For the devices to be fully operational prior to the road being open for public use;
- For drawings to be prepared demonstrating that all of these requirements will be achieved; and
- For nominated drawings, documents and reports to be provided to the Regional Council for information.

[603] During the hearing we did question how the material in multiple documents (as we refer to in relation to the erosion and sediment control and water quality effects section) would apply to the Project and whether greater direction would mean greater certainty to the consent holder and the regulator as to what was to be followed. That certainty is important if there is the potential for conflicting guidance and requirements within and across the documents. NZTA and the Regional Council did not see this as an issue.

[604] Condition RSW2 sets out the requirements for the preparation and content of as-built plans to be submitted to the Regional Council and the Project Iwi Partners within 12 months of the road being open for public use.

[605] Condition RSW3 requires the preparation of a programme for the regular inspection and maintenance of the stormwater management system with this being provided to the Regional Council and in addition, if requested, for an annual report to be prepared summarising the inspections, remedial actions and maintenance works undertaken in accordance with this programme.

[606] Condition RGA6 a)xv. requires that the drawings required by Condition RSW1 g) and the information required under Condition RSW2 be prepared or undertaken by a SQP.

Discussion and Finding on Operational Stormwater

[607] We note that the agreed final conditions have responded directly to the agreed recommendations of the experts including:

- In Condition RSW1, for the inclusion of the three recommended documents (standard/specification/guideline);
- In Condition RSW1 d) for the inclusion of the wording proposed by Ms Bennett in response to Mr Bent's concern about hydrocarbon contamination and litter disposal;
- In Condition RSW2, for the inclusion of requirements for post construction monitoring of the performance and maintenance of the stormwater treatment facilities;
- In Condition RGA6, for identified plans and documents to be prepared by a SQP.

[608] With respect to the various documents to be provided to the Regional Council under RSW1, RSW2 and RSW3, we note that as provided for under Condition RGA6, these are to be prepared by a suitably qualified person and provided for information.

[609] We note that there has been full agreement between NZTA and the Councils on the content and wording of all of Conditions RSW1 to RSW3 (and Condition RGA6 as it applies to these conditions). In the light of that agreement we accept that these conditions provide an acceptable level of protection for the receiving environment from the effects of stormwater run-off during the operation of the new highway.

Noise and Vibration

The Experts

[610] Expert evidence on the effects of both construction and operational noise and vibration generated by the Project was provided by Mr Smith for NZTA, Ms Siiri Wilkening for the two District Councils and Mr Jon Styles for Kāinga Ora.

[611] The three experts produced a JWS following their participation in an expert conference held on 23 July 2023.

[612] Mr Smith was also the author of Technical Assessment B: Noise and Vibration which formed part of NZTA's assessment of effects on the environment in its NOR application and Ms Wilkening was the author of the Noise and Vibration s 198D Report for the two District Councils.

The Noise Conditions-Some Preliminary Issues

[613] Given the complexity of the issues around noise and vibration we set out some preliminary questions in a 31 October 2023 Minute issued during the hearing:

- What is intended by the definition of Best Practicable Option as "in accordance with *New Zealand Standard 6806: 2010 Acoustics-Road Traffic Noise -New and Altered Roads:"?*
- How are references to the Best Practicable Option in the conditions and the methodology it is based on to be understood and applied to both construction noise and vibration and operational traffic noise?
- How could the Best Practicable Option be defined and approached in the conditions to provide the necessary clarity, certainty and enforceability?
- How did the evidence of Mr Smith on WHO thresholds and health outcomes inform and relate to the noise conditions?
- What is the justification for including noise category C (the worst category) for operational road-traffic noise as an available option for Identified Protected Premises and Facilities in Schedule 9 in Condition

DRN3 (Design of Noise Mitigation Measures) given that Schedule 9 has none in that category?

Context

[614] Having set out this background on the concerns we raised at the hearing relating to both construction and operational noise we note to start that there are some 600 properties[111] along the 24 km length of the Project having been identified as being potentially affected by construction noise and then around 300 from traffic noise once the new highway opens.[112] This section of our decision is commensurately longer than some other sections which address more localised effects.

Construction Noise

Standards and Limits

[615] Mr Smith advised that there are no relevant National Environmental Standards for construction noise and that both district plans adopt the New Zealand Standard NZS 6803: 1999 Acoustics- Construction Noise[113] for this purpose.

[616] As provided for in condition DNV1 the most stringent LAeq and LAFmax long term limits in NZS 6803 have been adopted for construction noise with the noise being measured at the facades of dwellings and other sensitive locations.

[617] While there are different limits depending on the time of the day (or night) and the day of the week most of the evidence was on the effects of construction noise during daytime hours (0730 – 1800 hours) where the Monday to Saturday NZS6803 LAeq limit is 70 dB and the LAFMax limit is 85 dB.

[618] Mr Smith noted that construction activities generating noise at these NZS 6803 limits which are continuous or frequent for months or years are likely to be

111 Technical Assessment B at Table B.15.

112 Schedule 9 Identified PPFs (Protected Premises and Facilities) of the Conditions of Consent.

113 NZS 6803:1999 Acoustics – Construction Noise.

intolerable and unreasonable and may require mitigation.

[619] On the other hand, he said that in some circumstances noise above these limits might be accepted as being reasonable provided it is of limited duration, for a clearly defined purpose and the need for the noise is well communicated to affected residents.

[620] He noted also the following management methods recommended in NZS 6803 to mitigate construction noise include:

- Selecting construction methods and equipment which minimise the generation of noise (and vibration);
- Physical screening;
- Restricting hours of work with respite periods;
- Good communication with occupants of affected properties;
- And, as a final step, the offer of temporary relocation for occupants of affected properties.

[621] We come back to consider these methods and the proposed mitigation measures in our evaluation of the proposed conditions of consent and the associated construction noise and vibration management plan (CNVMP).

Construction Vibration

Standards and Criteria

[622] New Zealand does not have any national standards for construction vibration nor are there any relevant rules on vibration in the HDC and KCDC district plans.

[623] Instead, in the absence of national standards, NZTA has developed its own construction vibration criteria based on overseas standards for the categories of occupied Protected Premises and Facilities (PPFs), other occupied buildings and all

other buildings.[114] These criteria relate to both the perception of vibration resulting in disturbance for people and to the potential for vibration to cause cosmetic damage to buildings.

[624] In particular, the daytime criteria (0630 – 2000) for an occupied PPF under Category A inside a building are 1 mm/s ppv and under Category B 5 mm/s ppv.

[625] The night-time criteria are Category A 0.3 mm/s ppv and Category B 1 mm/s ppv.

[626] Mr Smith told us that in terms of subjective response a vibration level of 0.3 mm/s ppv might be just perceptible in residential environments whereas 1 mm/s ppv is likely to result in complaints.

[627] With respect to the two categories A and B:[115]

> Construction vibration should be managed to comply with the Category A criteria where practicable. If measured or predicted vibration levels exceed the Category A criteria then a suitably qualified expert should be engaged to assess and manage construction vibration to comply with the Category A criteria as far as practicable. Following the expert's assessment, initial building condition surveys should be carried out for properties that might exceed Category A. If the construction vibration exceeds the Category B criteria, then construction activity should only proceed if there is monitoring of vibration levels and effects on those buildings at risk of exceeding the Category B criteria, by suitably qualified experts. Final building condition surveys should be carried out for all properties exceeding Category A.

Construction Noise and Vibration Modelling

[628] Mr Smith's construction noise and vibration modelling was based on the consideration of the operation of a range of construction equipment with source levels for noise and vibration for this equipment being assumed as being at the upper end of typical values. In addition, he assumed that there would be continuous operation of this equipment at the closest footprint to dwellings without mitigation such as screening or muffling of equipment.

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114 We presume the PPFs being referred to here are those that are defined in the Definitions section of the Conditions. We query whether the locations for measuring construction noise should also be defined?

115 Waka Kotahi Technical Memorandum Noise and Vibration No 1: 27 November 2012.

[629] For bulk earthworks based on the combined operation of 3 scrapers and an excavator, Mr Smith predicted that construction noise levels of 79 dB LAeq(15min) and 73 dB LAeq(15min) would be received at distances of 50 metres and 100 metres respectively from the source (both exceeding the NZS 6803 daytime limit of 70 dB LAeq(15min)) whereas at a distance of 200 metres the predicted level would be 67 dB LAeq(15min).[116]

[630] For minor earthworks involving one excavator and one dump truck, the noise levels at each of these three distances were predicted to be 63 dB LAeq(15min), 57 dB LAeq(15min) and 51 dB LAeq(15min).

[631] For paving and compaction, the predictions at these same distances were 63 LAeq(15min), 57 LAeq(15min) and 51 LAeq(15min).

[632] For mass hauls along the alignment the predicted noise level at 50 metres was 23 LAeq(15min) with no detectable noise at the greater distances of 100 and 200 metres.

[633] For bridge piling without mitigation, 75 PPFs were predicted to receive noise levels within the range from 60 – 70 dB with no PPFs predicted to receive noise levels above 70 dB.

[634] Mr Smith estimated the overall number of PPFs[117] which would be affected by these construction noise levels without mitigation would as follows:[118]

Activity	**60 – 70 dB**	**70 – 75 dB**	**>75 dB**
Bulk Earthworks	447	101	55
Minor Earthworks	81	19	0
Paving/Compaction	38	2	0
Mass Haul	23	0	0
Bridge Piling	75	0	0

116 We have queried in our evaluation of the construction noise conditions why the descriptor LAeq(t) has been used in the conditions. Should this be LAeq (15 min)?

117 There is a specific definition for PPFs in the construction conditions.

118 Technical Assessment B at Tables B.15 and B.17. The numbers in the table above were presumably those existing at the time this technical assessment was prepared which was sometime prior to October 2022.

[635] He predicted construction activities involving vibratory piling and compaction would result in vibration levels of 2.0 mm/s ppv at a distance of 50 metres from the activity and 0.7 mm/s ppv (from piling) or 0.8 mm/s ppv (from compaction) at a distance of 100 metres from the activity (with a 5% exceedance probability).

[636] These compare with the daytime criteria (0630 – 2000) for an occupied PPF under Category A of 1 mm/s ppv or 5 mm/s ppv under Category B.

[637] We could not find any information as to how many PPFs would be affected by these predicted levels of vibration.

NZTA Specification P40

[638] Mr Smith advised that NZTA had developed a specification for noise mitigation which it includes in construction contracts for capital projects. This is known as Specification P40.[119]

[639] This specification requires contractors to prepare a noise mitigation plan identifying how the designs of noise mitigation for the Project will comply with the designation conditions and any other related performance specifications.

[640] In brief, he said that under Specification P40, the noise mitigation plan is required to include:

- The predicted noise levels at each PPF, and confirmation that these levels will as a minimum be either maintained or enhanced during the detailed design process;
- Design drawings for any noise barriers including landscape treatment;
- Road surfacing specifications.

[641] Mr Smith also recommended that there should be a condition requiring that the P40 noise mitigation plan be reviewed by an independent acoustics expert at

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119 NZ Transport Agency (2014) NZTA P40 *Specification for noise mitigation*.

multiple stages during the Project design and construction process.[120]

[642] He advised that Specification P40 also includes a process for compliance verification which involves the as-built terrain contours and surveyed noise wall locations being imported back into the acoustics model to confirm that screening assumed in the assessment has been maintained. As well under Specification P40, acoustics and pavement specialists are required to verify that the installed mitigation measures match the specifications.

[643] Mr Smith also recommended that based on Specification P40, the provision of the following information should be made available for all identified PPFs within 3 months of construction starting and then again one month prior to road opening:

- Links to general background information on sound, road-traffic noise. noise effects and frequently asked questions;
- Summary of the designation conditions on noise and its mitigation;
- Summary of the noise mitigation options considered and reasons for the selected options;
- Details of the evaluation and approvals for the mitigation;
- Noise contours over the Project area;
- Noise mitigation to be implemented;
- Timing of implementation of noise mitigation including any reasons for delayed implementation such as for sequence of road surfacing;
- Specifications for road surfacing;
- A layperson's description of what change in noise levels residents might expect to hear;
- Details of post construction reviews of noise mitigation and reasons for not relying on predictions;
- Contact details for raising concerns about noise.

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120 We note that SSNVMPs (Condition DNV4) and the CNVMP (Condition DNV3) are required to be prepared by an SQP.

[644] We note that while a number of the matters set out above have been addressed in the proposed conditions, a number have not and there may be reasons for that.

[645] The conditions and CNVMP requirements as currently drafted should therefore be reviewed with reference to Specification P40 to ensure that there is consistency in the content of each of these documents where appropriate.

Construction Noise and Vibration Management Plan

[646] As well as Specification P40, Mr Smith provided detailed information for the process he has proposed for managing construction noise and vibration. These are listed in detail in his Technical Assessment B under the headings of *Strategy and Implementation*, *Preparation of Construction Work Packages* (with subheadings of *Good Construction Practices*, *Enhanced Design and Mitigation* and *Communications*) and then *Review and Refine*.[121]

[647] We note in particular, that where construction noise or vibration is predicted or measured to exceed the specified limits, and alternative methodologies are not available or appropriate at an individual PPF, Mr Smith recommended that a Schedule[122] or Site specific Construction Noise and Vibration Mitigation Plan (SSCNVMP), be prepared for that PPF to include:

- Feedback from the affected residents;
- Restrictions on the time of day and frequency of the activity to minimise disturbance and to provide respite;
- Consideration of temporary construction noise barriers or screens;
- Consideration of offering residents temporary relocation to suitable alternative accommodation (where appropriate).

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121 Technical Assessment B at Fig B.30.

122 In our decision, for clarity we have identified this Schedule as being a Site Specific Construction Noise and Vibration Management Plan (SSCNVMP).

[648] Mr Smith recommended that all SSCNVMPs be peer reviewed to verify that they met the objectives of the SSCNVMP and the CNVMP and the related designation and consent conditions.

[649] Also, in his opinion it would be misleading to specify physical mitigation measures for construction noise and vibration at this designation/consenting stage on the basis that as the final design is still to be undertaken, there is currently insufficient detail available to do this.

[650] Mr Smith noted that while the designation and consent conditions apply directly to NZTA, the actual works are to be undertaken by contractors[123] engaged by NZTA and that these contractors will be required to comply with all of the designation and consent conditions.

[651] While he recommended that the CNVMP be prepared by an acoustic specialist engaged by the construction contractors as this would enable the CNVMP to be targeted to the specific construction equipment and methodology proposed for use by the contractors, we note that Condition RGA6 requires that the CNVMP and the SSCNVMPs be prepared by an SQP.

Construction Noise and Vibrations Conditions

[652] We provide here an overview of the proposed construction noise and vibration conditions and the allied management plans[124] which (unless noted otherwise) we have found to be more or less consistent with the final recommendations made by Mr Smith as discussed in the introduction to this section on conditions.

Condition DNV1: Construction noise limits

[653] Except as provided for in Conditions DNV3 and DNV4, Condition DNV1

123 It is our understanding that more than one contractor could be engaged to undertake the construction of the new highway.

124 Based on the Draft Conditions (Closing Version: Clean).

sets out in Table DNV-1 the construction noise limits which are to apply to the Project which have been copied directly from NZS6803:1999 *"Acoustics -Construction Noise."*

[654] In the third column of the Table DNV-1 the noise measure is identified as LAeq(t). Based on our reading of Mr Smith's evidence should this be LAeq (15min)?

[655] The exception for DNV3 in Condition DNV1 is to be reconsidered in the light of the purpose of the CNVMP. We note that the purpose of the CNVMP in Schedule 2 does not directly refer to setting out measures that must be implemented to comply with conditions of the designations, which must be its starting point. A CNVMP is to set out how the limits in Conditions DNV1 and DNV2 are to be achieved. There is nothing to stop that Management Plan from setting out intentions to improve performance relative to the limits that have been set. However, the Management Plan is not a vehicle for setting a course that exceeds those limits.

[656] We note that if the limits in the table are predicted to be exceeded, then an SSCNVMP must be prepared as set out under Condition DNV4. That has a different starting point but may well involve some of the procedures that are set out in Schedule 2.

[657] On reflection, we also consider that the purpose and the approach in the content of Schedule 2 on a CNVMP including its references in a few places to the Site Specific Management Plan including to a (o)(i) "the matters listed in [a non-existent] Condition DNV3(b)" would benefit from further consideration.

<u>Condition DNV2: Construction vibration limits</u>

[658] Except as provided for in Conditions DNV3 and DNV4, Condition DNV2 sets out in Table DNV-2 the vibration limits which are to apply for the construction of the Project as well as listing the standard against which the measurement of construction vibration is to be undertaken.

[659] As for Condition DNV1, the reference to DNV3 needs reconsideration.

Condition DNV3: Construction Noise and Vibration Management Plan

[660] Under this condition a CNVMP must be prepared to achieve the purpose and include the content set out in Schedule 2 to the conditions, which we discuss further below. We referred to issues associated with the approach and content of Schedule 2 above and suggested that the matters to be covered would benefit from further consideration.

Condition DNV4: Site specific construction noise and vibration mitigation

[661] This condition sets out the requirements for site specific mitigation to be identified and adopted in site specific construction noise and vibration mitigation plans (which we have identified by the acronym SSCNVMPs) to be prepared for each property where construction noise or vibration is predicted or measured to exceed the noise limits in Condition DNV1 or the Category A vibration limits in Condition DNV2.

[662] The condition requires that the plans must include details of the nature, location and duration of the construction activities causing the exceedances, the predicted noise or vibration levels, consultation undertaken with the owners/occupiers of the affected properties and proposed mitigation measures such as equipment selection, screens, enclosures, shrouds or mufflers, hours of operation, temporary relocation and monitoring details.

[663] There are also requirements for the plans to be provided to the District Council for comment and if comments are provided by the Council, for the plans to be either amended to respond to the comments or for the rationale for not amending the plans to be provided to the Council.

[664] There is also a requirement if measured or predicted vibration exceeds Category B limits for specified classes of buildings, that construction must cease until such time as the affected buildings have been assessed, monitored and mitigated as provided for in the CNVMP.

[665] We note in particular that the wording of b)iv. of the earlier version of this condition which referred to "best practicable option" has been replaced with "the proposed mitigation, which may include: the selection of equipment, screens enclosures, shrouds or mufflers, hours of operation or an offer of temporary relocation" as discussed above.

[666] This is consistent with Mr Smith's supplementary evidence on the final wording of this condition with our understanding being that the District Council did not have any concerns about this wording.

[667] The SSNVMPs provided for in Condition DNV4 are very important to those who may be affected by the adverse effects of noise and vibration from construction to the extent that a Site Specific Noise and Vibration Mitigation Plan supplementing the Construction Noise and Vibration Management Plan is to be prepared.

[668] As we said earlier in the Scheme of and Approach to Conditions section, Condition DNV4 now has the SSCNVMPs giving the District Council five working days before the commencement of construction for comment, and if no response within two days a 'deemed' pathway for the requiring authority to commence work in accordance with the provided document.

[669] We conclude that the SSNVMPs should have improved oversight by the District Council. The requiring authority is not to commence work until the District Council provides comment (which may be to the effect that it has no comment) and otherwise once the requiring authority provides the District Council with the rationale for not amending the SSNVMP as requested by it.

[670] The 'deemed pathway' is to be removed from Condition DNV4 dealing with SSNVMPs. A 10 day time frame for comment from the District Council seems reasonable to us. We direct that appropriate condition amendments are to be provided to give effect to that direction.

The CNVMP

[671] Schedule 2 of the Conditions requires that a CNVMP for the Project be prepared in general accordance with the requirements of Annex E2 of NZS 6803:1999 and must include, but not limited to, the requirements listed under items (a) to (p) of this section of the Schedule.

[672] With respect to this list of requirements, we make the following observations which should be read in conjunction with Condition DNV4.

- In (e) "accommodation" should read "accommodate";
- In (g) "criteria" should be replaced with "limit';
- In (g), the content should be better aligned with the content of Condition DNV4 b);
- In (j) the content should be better aligned with the content of Condition DNV4 f).
- In (k), the frequency for monitoring and reporting should be identified and included in Condition DNV4;
- In (o) it is unclear why the full list of considerations has not been included in Condition DNV4 rather than being split, some in Condition DNV4 and others in the CNVMP.
- (o)(i) also refers to a non-existent Condition DNV3 b) which must be an oversight.

[673] In addressing the exception for DNV3 in DNV1 and DNV2 we indicated that there would be benefit in reconsideration and clarification of the approach in Schedule 2. That would inform consideration of the above observations.

Communications Plan

[674] In response to many of the concerns raised by these submitters on noise, we note from *Schedule 5: Purpose and content of the Communications Plan* of the conditions:

- Under topic of communication a)iii).B in this Schedule, this Plan is required to incorporate information on proposed routes for construction vehicles, including the total number of vehicles, proportion of heavy vehicles and the times of day these routes will be used;
- Under topic of communication a)iii.A, information is to be included in the Plan on the proposed hours of construction activities outside of normal working hours or on weekends and public holidays including night-time heavy vehicle movements;
- Under communications platform a)iv.F there is also to be targeted notification and consultation with individual property owners and occupiers with premises/dwellings within 100 metres of active construction activities, including all of the PPFs identified in Schedule 9.

Operational Noise

Standards and Criteria: NZS 6806

[675] NZS 6806[125] defines a range of operational noise criteria for both *new roads* and *altered roads.*

[676] The evidence of NZTA was that the criteria for "new" and "altered" roads to be constructed under this Project are based on a three category hierarchy as follows:

Category	**Location**	**New Road Criteria[126]**	**Altered Road Criteria**
A	External Façade of	57 dB LAeq(24h)	64 dB LAeq(24h)

125 NZS 6806:2010 Acoustics - Road traffic noise - New and altered roads.

126 Based on a predicted traffic volume of 2000 to 75,000 ADT at the design year.

	PPF		
B	External Façade of PPF	64 dB LAeq(24h)	67 dB LAeq(24h)
C	Internal Within PPF	40 dB LAeq(24h)	40 dB LAeq(24h)

[677] The evidence of NZTA was that Categories A, B and C in NZS6806 are to be applied as follows:[127]

> - Where consistent with the best practicable option for the mitigation of road-traffic noise, the criteria in Category A shall apply;
>
> - Where it is inconsistent with the adoption of the best practicable option to achieve the criteria of category A, the criteria of Category B shall apply;
>
> - Where it is inconsistent with the adoption of the best practicable option to achieve the criteria of Category A or Category B and where the internal noise levels of any habitable space would be greater than 40 dB LAeq(24h) the criteria of Category C should apply;
>
> - Where it is inconsistent with the adoption of the best practicable option to achieve the criteria of Category A, B or C, the internal noise levels of any habitable space shall be mitigated to the extent that is practicable.

[678] We disregard the direction on the application of Categories A, B and C given it refers to the "best practicable option" in the guidance document NZS6806. As discussed earlier in our decision, in a Minute issued before the hearing commenced, we sought an explanation of what the "best practicable option" means given that the conditions then in front of us defined "Best Practicable Option" as:

> For the purpose of DRN3 the Best Practicable Option in accordance with *New Zealand Standard 6806: 2010 'Acoustics – Road traffic noise – New and altered roads'*.

[679] We received no satisfactory explanation during the hearing of how the "Best Practicable Option" references in NZS 6806 applied, notwithstanding a long list of factors and many other matters that might inform it contained in that copyright document.

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127 NZS 6806:2010 at 6.1.2.

World Health Organisation Guidelines

[680] In addition to applying the road traffic noise criteria from NZS 6806, Mr Smith said that he had also considered World Health Organisation (WHO) Guidelines.[128]

[681] While these WHO guidelines had been prepared for managing environmental noise in Europe, recent NZTA research has shown that the noise response curves for annoyance in these guidelines were broadly appropriate for application in New Zealand albeit that the New Zealand population might be slightly more sensitive.

[682] The WHO guidelines recommend that policy makers reduce road-traffic sound below a range of values. Converting these values based on the approach recommended in the guidelines would give a health based performance standard or limit of 50 dBLAeq(24h).

[683] In response to a question from the Court on the application of these guidelines, in his supplementary evidence Mr Smith advised that the WHO threshold has been used both as a screening tool to consider whether mitigation should be considered and as an objective test of how effective the mitigation has been. He said that in the context of Condition DRN3 (the design of mitigation measures) it will not affect these as the WHO threshold is well below the category A value.

UK Planning Guidance Document 005

[684] In addition to the limits from NZS 6806 and the WHO guidelines, Mr Smith also took account of the guidance on subjective responses in terms of a range of amenity outcomes based on UK Planning Guidance Document 005.[129]

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128 World Health Organization, Environmental Noise Guidelines for the European Region, 2018.

129 UK Planning Guidance 005 Reference ID: 30-005-20190722.

[685] These subjective responses cover the following range:

- Not present;
- Present and not intrusive;
- Present and intrusive;
- Present and disruptive;
- Present and very disruptive.

[686] In his supplementary evidence Mr Smith amplified that the subjective assessment in the UK Planning Guidance had not been used as part of the mitigation design process but instead for checking residual effects primarily on an area basis as opposed to specific buildings.

[687] Mr Smith said also that while Ms Wilkening had questioned the usefulness of including the WHO guidelines and the UK Planning Guidance Document in the assessment of effects, she had agreed with the mitigation that he had selected including for the residual effects for the scale of the Project.

Operational Vibration

Standards and Criteria

[688] For operational road traffic vibration there is no relevant National Environmental Standard, no relevant New Zealand Standard and no relevant district plan rules although KCDC Policy 11.33 c ii requires the avoidance of unacceptable vibration effects.

[689] NZTA's policy is to apply the Norwegian Standard NS8176 Class C criterion of 0.3 mm/s vw.95 which is said to correspond to satisfactory vibration conditions for a large proportion of the exposed population.

Existing Sound Levels

[690] Short and long term noise measurements undertaken along the length of the Project identified that *natural sounds* were all in the order of 45 – 50 dB LAeq(24h).

[691] *Existing noise levels* from anthropogenic sources were also assessed at properties in a number of affected communities along the route of the new road as opposed to Project specific locations.[130]

[692] For comparative purposes for this existing noise level assessment, we note that if the NZS 6806 Category A criterion was to apply, the lowest threshold would be 57dB LAeq (24h).

[693] For the ***North-East Levin Area***, the existing noise environment for dwellings located along the existing SH1 is dominated by road-traffic with some intermittent rail noise. There is a group of dwellings along Sorensons Road where individual vehicle noise is audible at times with sound levels measured at between 45 – 55 dB LAeq(15min) during the day and 35 – 45 dB LAeq(15min) at night. The 24 hour sound level is likely to range between 50 – 55 dB LAeq(24h).

[694] The ***Levin East Area*** is on the urban edge of Levin and includes a combination of standard size residential properties and larger rural sections. Traffic using Arapaepae Road (SH57) is a dominant source of noise. To the east of the proposed highway, measured sound levels are in the range of 45 – 55 dB LAeq(15min) during the day and between 35 and 45 dB LAeq (15min) at night with 24 hour sound levels ranging between 47 – 52 dB LAeq(24h).

[695] To the west on Queen Street East there are dwellings on rural sections (including the Prouse Homestead known as Ashleigh) as well as on residential sections. Sound levels measured at Redwood Grove in this area are below 40 dB LAeq(15min) at night with a 24 hour level within the range from 40 – 50 dB LAeq(24h).

[696] The ***Ohau East Area*** extends south of Kimberley Road to Kuku Road East with dwellings located mainly on rural sections. Close to SH57 road traffic is a significant contributor to noise with levels ranging between 50 – 55 dB LAeq(15min) during the day and 35 – 45 dB LAeq(15min) at night with a 24 hour

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130 These communities were identified as North-East Levin, Levin East, Ohau East, Manakau, and Ōtaki North (Technical Assessment B at [149]).

sound level within the range of 47 – 53 dB LAeq(24h).

[697] South of SH57, the influence of road traffic progressively decreases with ambient noise levels ranging between 40 – 45dB LAeq(15min) during the day and at night, with no traffic noise, between 35 – 40 dB LAeq(15min) with a 24 hour sound level between 40 – 45 dB LAeq(24h).

[698] The ***Manakau Area*** covers a wide expanse with differing property densities and topographies.

[699] North Manakau comprises dwellings on rural sections mostly on plains with some undulations. With SH1 road traffic noise being heard as a distant rumble, daytime noise levels in this area have been measured at between 40 – 45 dBLAeq(15min) with daily average levels predicted to be in the range from 40 – 50 dB LAeq(24h).

[700] Mr Smith notes that rail traffic also contributes to intermittent periods of elevated noise in this area.

[701] The western slopes of Manakau Village comprise residential sections which overlook and are exposed to noise from traffic using the existing SH1. Daily average sound levels have been measured in the range from 50 – 55 dB LAeq(24h) at the closest properties.

[702] While the eastern area of the village will overlook the new highway, existing traffic noise in this area is less prominent than natural sounds. Daytime sound levels have been measured at between 40 – 50 dBLAeq(15min) with night-time levels between 35 – 45 dB LAeq(15min) with daily average sound levels predicted to be between 40 – 50 dB LAeq(24h).

[703] In the elevated areas of Manakau Heights and Eastern Rise there are dwellings on rural sections on undulating terrain with SH1 traffic visible and audible. Sound levels have been measured at between 40 – 50dB LAeq(15min) during the day and between 35 – 45 dBLAeq(15min) at night with daily average levels of

between 40 – 50 dBLAeq(24h).

[704] The ***North Ōtaki Area*** is where the new highway will connect with the recently completed PP2Ō expressway. The connection point will be north of the Ōtaki urban area such that noise from the construction and operation of the new Ō2NL highway will not impact on the Ōtaki urban area.

[705] As can be seen, all existing daily average sound levels measured at properties along the route of the new highway are less than the Category A limit of 57dB LAeq (24h).

Mitigation of Project Operational Noise

Building Modifications

[706] Mr Smith said that the preferred approach for operational noise control was to implement to the greatest extent possible mitigation measures within or adjacent to the road reserve in preference to undertaking building modifications or other mitigation works on the properties of affected landowners.

[707] He added that even with this approach, building modifications to reduce noise levels would still be required for a small number of PPFs (which we come back to later). Typically, these would include double glazing windows, keeping windows closed and providing mechanical ventilation – although we note that these measures would not improve outdoor amenity away from the PPF buildings.

[708] Mr Smith's advice was that the investigation of such building modifications was not recommended at the consenting phase of the Project as noise levels could reduce once detailed design of the Project had been undertaken.

Mitigation Measures Within the Road Reserve

[709] In terms of identifying the most suitable "within the road reserve" noise mitigation measures, a series of multi-disciplinary workshops were held to evaluate options along the 24 km length of the new highway. These workshops involved

discipline experts for noise, engineering, safety, landscape and visual, planning, property, cultural, heritage, ecology and social impacts – on the basis that the selection of noise mitigation measures also needs to take account of the impacts on these other measures.

[710] Noise mitigation options considered at these workshops included:

- As a minimum, surfacing the new highway with standard open graded porous asphalt low-noise surfacing comprising 30 mm thick-porous asphalt with 10 mm grade aggregate which would reduce road traffic noise by around 6 -7 dB LAeq(24h) compared with a chip seal surface;
- In some locations, surfacing the new highway with high performance surfacing comprising 50 mm thick porous asphalt with 7 mm aggregate which would further reduce road noise by 2 dB;
- Constructing road-side concrete safety barriers instead of wire rope barriers;
- Constructing 2 or 3 metre high noise walls;
- Constructing 3 metre high earth bunds;
- Designing road layouts and approaches to roundabouts and interchanges to minimise noise generated by the rapid acceleration and/or braking of vehicles.

[711] The evidence was that the new highway should be surfaced with chip seal to provide a waterproofing layer for up to 18 months before the low noise asphaltic surfacing is laid.

[712] Mr Smith advised that the two low noise road surfaces proposed for the Project were the best currently available for minimising traffic noise although he added that by the time the Project was constructed, there was the prospect that alternative types of high performance surfacing might be available with improved noise or engineering characteristics.

[713] Mr Smith said that as most of the bridges on the Project which were located near dwellings were single span, these did not require to be fitted with potentially noisy mechanical expansion joints.

[714] Conversely, the bridges over the Waikawa Stream and the Ohau River were multi span and while these would need to be fitted with expansion joints, both were located remote from dwellings. In addition, Mr Smith said that NZTA had specific criteria for the installation of expansion joints on multi span bridges which had been developed to minimise the adverse effects of noise generated by traffic crossing these bridges.

[715] We note that under condition DRN4, a post construction review must be undertaken to confirm that all bridge mechanical expansion joints have been constructed and installed as detailed in the outline plan required under condition DGA5.

Operational Noise Prediction Modelling

[716] As set out in the Noise modelling Report in Appendix B.5 of Technical Assessment B, Mr Smith undertook operational noise modelling for the Project which included the proposed mitigation design process.

[717] In this Report he defined a comprehensive list of noise-sensitive receivers (PPFs) for which noise was assessed in the modelling.[131] This PPFs list is as follows:

- Buildings used for residential activities including:
  Boarding establishments;
  Homes for elderly persons;
  Retirement villages;
  In-house aged care facilities;
  Buildings used as temporary accommodation in residentially zoned areas, including hotels and motels, but excluding camping grounds;

131 Appendix B.5 at [1.2].

Marae

Spaces within buildings used for overnight patient medical care; and

Teaching areas and sleeping rooms in buildings used as educational facilities including tertiary institutions and schools, and premises licensed under the Education (Early Childhood Services) Regulations, and playgrounds which are part of such facilities and located within 20 metres of buildings used for teaching purposes.

- Types of buildings excluded from this list were:

  Residential accommodation in buildings which predominantly have other uses such as commercial or industrial premises;

  Garages and ancillary buildings

  Premises and facilities not yet built other than premises and facilities for which a building consent has been obtained but not yet lapsed.

[718] Mr Smith then points out that these are subject to 1.4.2 and 1.4.3. While we were unable to find a 1.4.3, we presume 1.4.2 is a reference to NZS6806. In this clause, the first part states that RMA authorisations obtained for the construction of a new or altered road should identify the PPFs affected by the new or altered road. It should include PPFs that have been built and any PPFs for which a building consent has been obtained which has not lapsed even if they have not been built. PPFs identified in the first RMA authorisations are to be the PPFs for all future applications of the Standard to the new or altered road.

[719] The addresses of each of the PPFs identified by Mr Smith were shown on a series of topographical maps extending over the full length of the Project. These were attached at Appendix A of the Appendix B.5 Report and carried through to Schedule 9 of the Conditions.

[720] We ask whether these could be made available for any owner or occupier of an affected PPF to sight if requested?

[721] Most importantly, we note that the conditions do not specify where (or how) road traffic noise is to be assessed in relation to any identified PPF in Schedule 9.

Schedule 9 contains an address but there are no details on whether the Criteria of A or B apply at the property boundary or to buildings and activities within the definition of a PPF existing at the time of the identification of the PPF status (or to something else). We direct that these matters that are to be clarified in the conditions.

[722] Mr Smith noted that NZS6806 specifies the distances from the road where road traffic noise should be assessed which he said varied depending on whether the area was rural (200 metres) or urban (100 metres).

[723] Notwithstanding these distances, he said that for conservatism, he had considered all dwellings within the 50dB LAeq(24h) contour for both the existing and do minimum scenarios as PPFs, noting that for areas with minimal topography this was roughly 300 metres from the road.

[724] In terms of NZS6806, the new Ō2NL road was identified as a "new" road other than where it tied in with the existing roads at North Levin and Ōtaki.

[725] Mr Smith added that at some areas in Levin East, road traffic noise from Kimberley Road and Arapaepae Road would remain as the dominant noise source and therefore for these locations, the "altered" road criteria of NZS6806 would apply. We note from Schedule 9 that there are 17 PPFs which fall under this "altered' road criteria.

[726] In terms of different traffic scenarios for the Project, Mr Smith undertook prediction modelling of road traffic noise received at PPFs under a number of these scenarios including:

- the new highway at road opening (2029) when the highway would be surfaced with chip seal prior to being over sealed with low noise asphaltic surfacing;
- the new highway in 2039 with the full range of "within the road reserve" mitigations installed.

[727] The modelling took account of traffic volumes, speeds, road surfacing, road geometry, and ground absorption (reflective or absorptive).

[728] Conversely, excluded from his modelling were variations in meteorological conditions, localised screening, fleet composition, vehicle braking and acceleration at intersections or noise from atypical vehicles.

[729] Operational noise mitigation options were evaluated for 16 discrete assessment areas along the highway each located within one of the five communities identified earlier, Levin North, Levin East, Ohau East, Manakau and Ōtaki North.

[730] For the northern end of **Levin North Area**, the proposed mitigation option was for a combination of a concrete safety barrier and standard asphalt surfacing under which all affected PPFs with these measures in place have been predicted to receive noise levels within the NZS 6806 Category A noise limits.

[731] For the southern end of this area, a standard asphalt surfacing has been proposed with roadside noise barriers being discounted as the affected PPFs overlook the highway. Three PPFs in this location (each to be eventually Crown owned) will be in Category B and therefore require investigation for building modifications.

[732] For **the Levin East Area**, high performance surfacing is proposed in association with Stone Mastic Asphalt surfacing[132] for the section of highway from Muhunoa East Road to the SH57 roundabout. In addition, a concrete safety barrier has been proposed between the SUP and the highway by the Waihou River.

[733] Two PPFs to the west of the highway in this area located within the designation will require investigation for building modifications if these PPFs are to remain in use.

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132 Stone Mastic Asphalt is used to provide enhanced traction to assist vehicles decelerating as they approach intersections and roundabouts.

[734] South of the Queen Street East area there are a number of PPFs including the Prouse Homestead and the Redwood Grove Properties. The installation of noise barriers including bunds have been discounted in this area as either providing little mitigation benefit or disrupting flood flow paths. Instead, the selected mitigation option is for high performance road surfacing.

[735] For the length of the Tara-Ika site to the east of the highway in Levin East, high performance surfacing is proposed with no noise barriers. There are no existing PPFs on this site although this site is slated for future development under HDC's Plan Change 4.

[736] We come back to discuss this site later when we address the submissions from JML and Mr Daly.

[737] The **Ohau East Area** was subdivided into four different assessment areas (F1, E1, E2, and D2).

[738] Area F1 comprises a cluster of houses on Arapaepae Road just south of the Kimberley Road intersection. Noise barriers in this location were discounted as they would offer only slight noise reduction. Instead, the preferred option is for the highway to have high-performance road surfacing to limit road traffic noise levels to within the range of 50 – 55 dBLAeq(24h).

[739] This option will result in four PPFs being in Category B in this area, three being Crown owned and one privately owned all needing to be investigated for building modifications.

[740] Areas E1 and E2 are located between McLeavey Road and Muhunoa Road. The evidence is that even with high-performance road surfacing in this area, three Category B PPFs will require investigation for building modification work.

[741] Area D2 is at Kuku East where a number of existing dwellings close to the highway are to be acquired and demolished and as well there is a caravan that is being used for residential living. High performance road surfacing is proposed in

this area and with this in place, two PPFs have been identified as being Category B and therefore requiring investigation for building modification work.

[742] There is one Category B PPF located on Tararua Road which has been recommended for building modification.

[743] For the **Manakau Area**, assessments were undertaken at six different locations identified as D1, C1-2 and B1-B3.

[744] For D1 (North Manakau) high performance road surfacing and noise barriers have been proposed with the noise barriers to be located at the top of cut slopes which double up as safety/security fences.

[745] For Area B3 which is near to the new Manakau Heights Drive, with the inclusion of high-performance road surfacing, predicted noise levels would be reasonable without noise barriers with the exception of two Category B PPFs both of which will require investigation for noise mitigation.

[746] For Area B2, extending the concrete safety barriers from the bridges over Waiauti Stream and South Manakau Road will provide noise mitigation benefits which in combination with high-performance road surfacing are predicted to give reasonable noise levels. As well, a concrete safety barrier on the western side of the highway will also provide noise mitigation benefits.

[747] For the **North of Ōtaki Area**, with high performance surfacing and an extended concrete safety barrier on the north bound lane, all PPFs to the west will receive Category A noise with one Category B PPF to the east requiring investigation for building modification.

Summary of Operational Mitigation Measures Proposed

[748] Aggregating the findings on the proposed mitigations from these individual area assessments, over the full 24 km length of the new highway, some 18 km of high-performance road surfacing in three sections is proposed in addition to some

4.2 km of 1.1 metre high concrete safety barriers at five different locations.[133]

[749] At the time Mr Smith's Technical Assessment B was prepared, a total of 21 PPFs were identified as requiring building modifications in response to the predicted adverse effects from operational traffic noise with the "within the road reserve" mitigation measures in place. Mr Smith said that 15 of these PPFs were currently Crown owned or within the designation corridor with the remaining six being either privately owned or located outside of the proposed designation corridor area.

[750] In addition, Mr Smith identified 167 PPFs which currently have little traffic noise where operational noise levels with the Project in place have been predicted to exceed the WHO guideline limit of 50 dB LAeq (24h), the level at which occupants may experience some degree of adverse health effects.

[751] As for subjective responses to new noise, Mr Smith predicted that there could be 143 PPFs where operational traffic noise could be *present but not intrusive*, 113 PPFs where noise could be *present and intrusive* and 20 where noise could be *present and disruptive* or *very disruptive.*[134]

[752] For the 20 PPFs where the subjective response has been identified as being present and disruptive or very disruptive Mr Smith said that the likely consequence was that the residents would need to change how they use their properties such as undertaking some activities inside. He said that these predicted effects were consistent with the expectations for PPFs assessed as being in Category B.

[753] He added that there was no direct mapping between the 21 Category B PPFs he had identified from his NZ6806 evaluation and the 20 PPFs he had identified from his subjective noise framework mapping for noise which could be present and

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133 Technical Assessment B, for road surfacing, in Table B.27 Selected Options - Road surfaces; for noise barriers, in Table B.28 Selected Options – Noise barriers; and for building mitigations, in Table B.29 Selected Options – Investigation for building modification.

134 Smith EIC 4 July 2023 at Table 4.

disruptive or very disruptive explaining why the totals do not match.[135]

[754] For all Category B properties, he said that NZTA will offer to provide building modifications such as alternative ventilation to allow for windows to be closed to reduce the internal noise levels.

[755] We note that building modifications for Category C properties have been provided for under condition DRN6. In his supplementary evidence Mr Smith said that if there were Category C buildings these would be likely to be within the designation and Crown owned during construction. They would then be on sold after construction was complete. In his opinion, it was appropriate for these buildings to be included as Category C PPFs.

[756] Mr Smith said he had discussed this with the Project team and the conditions have been amended to not allow Category C PPFs outside the designation. We are unclear as to how the conditions have been amended to achieve this. We also ask, how this would be achieved in practice?

[757] Mr Smith pointed out that with the Project in place, by 2039 there will be a lowering of noise levels on the two existing state highways with the number of Category C PPFs reducing from 105 to 23, the number of Category B and C PPFs combined reducing from 225 to 65 and the number of PPFs exceeding the WHO guideline reducing from 997 to 680.

[758] Mr Smith also made assessments of the number of people likely to experience potential health effects of noise from the Project which he said totalled 56.1 who would suffer annoyance and 17.7 sleep disturbance.

[759] We note that Ms Wilkening cautioned against placing too much reliance on this type of potential health effects assessment.

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135 Smith EIC at [44].

Operational Vibration From the Project

[760] Mr Smith advised that he had undertaken measurements of road vibration at SH1 in Porirua which had shown that the Norwegian Standard Class C criterion (0.3 mm/s vw.95) was readily achievable beyond 15 metres from the road edge on this well-constructed highway without unusual ground conditions or buried services.

[761] For the proposed new Ō2NL highway which would also be well constructed, he said that he was confident that operational vibration levels at all PPFs would be within this 0.3 mm/s vw.95 criterion and that there would be no adverse effects from vibration.

Operational Road Traffic Noise Conditions

[762] As for the construction noise and vibration conditions, we provide an overview of the proposed operational road traffic noise conditions.[136]

Condition DRN1 - Low noise road surfaces.

[763] This condition requires that all of the low noise road surfacing be installed at the locations identified in Table DRN1 within 18 months of the new highway having been opened for public use.

[764] The condition also sets out the locations and extent along the route of the new highway where different classes of low noise road surfacing are to be laid.

[765] While the District Councils considered that the low noise road surfacing should be installed within 12 months, Mr Dalzell's evidence was that a period longer than this was required to enable sufficient time for the proposed interim chip-seal surfacing to settle in and seal off the underlying pavement. By the time of the hearing, the proposed "within 18 months" period had been confirmed.

[766] A consequence of this is that many dwellings along the route of the new highway will be subjected to higher operational traffic noise (up to 8 dB higher at

136 Based on the Draft Conditions (Closing Version: Clean).

source) until such time as the low noise road surfacing has been laid.

[767] In this context, we note that Schedule 5: Purpose and content of the Communications Plan under topic of communication a)iii.F requires this plan to include "predicted noise levels and associated mitigations including … communication in respect of the rationale for, and anticipated temporary effects of, the interim road surfacing (prior to the low road noise surface required under Condition DRN1 being installed)".

Condition DRN2 – Noise barriers.

[768] This condition requires that all of the noise/concrete safety barriers identified in Table DRN2 be installed prior to the road being open for public use.

[769] We rely on the condition drafters having translated directly from Mr Smith's evidence the extent of the individual types of road surfacing (listed in Condition DRN1) and the locations and extents of the noise barriers (listed in DRN2).

Condition DRN3- Design of noise mitigation measure

[770] Condition DRN3 a) requires that the design of the low noise road surfaces and noise barriers are to be completed for the alignment of the Project selected in the Outline Plan (which is to be prepared under Condition DGA5).

[771] DRN3 a) appears to provide considerable scope for the redesign of noise mitigation measures specified in Conditions DRN1 and DRN2.

[772] Condition DRN3 b)i. provides for the length or type of noise mitigation to be altered where it is not practicable to implement the mitigation measures at the locations provided for in the tables in Conditions DRN1 or DRN2. In this situation, the alteration must achieve either the same category of noise or alternatively a change in category from Category B to A for each of the PPFs identified in Schedule 9.[137]

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137 Mr Smith notes that Crown owned buildings within the designation would have

[773] Alternatively, Condition DRN3 b)ii. provides for the situation where it is impracticable to implement the noise mitigation measures provided for in the tables in Conditions DRN1 or DRN2 and there is a change of category from Category A to B at any of the PPFs identified in Schedule 9. In this situation, the noise mitigation may be altered with the form of the altered mitigation to be evaluated in conjunction with the consideration of the consequential effects of the alterations on engineering, stormwater, visual and cultural matters.

[774] Condition DRN3 c) requires that a report be prepared setting out the final noise mitigation measures including:

> i. predicted noise levels at each identified PPF listed in Schedule 9 in 2039 including any change of Category of noise criteria;
>
> ii. design drawings for noise barriers;
>
> iii. specifications for road surfaces;
>
> iv. a description of the evaluation of revised mitigation measures identified under clause (b)(ii).

[775] This report is to be provided as part of the Outline Plan which is required under Condition DGA5. The final recourse for the community therefore would appear to be limited to relying on the Councils to take such alterations up with NZTA through the outline plan process.

[776] There are several questions that occur to us in relation to Condition DRN3.

[777] In opening NZTA referred to additional elements of the Project as: noise treatment measures including 18 km of high-performance low noise road surfaces and 4.2 km of 1.1 metre high concrete safety barriers.[138] We were not directed to the conditions that qualify the noise treatment measures to secure those elements specified in Conditions DRN1 and DRN2.

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building modifications before being on-sold (Condition DRN6).

138 The footnote refers to Smith EIC at [13] which simply summarises the methodology for the design and assessment of operational noise.

[778] We find Figure 42-4 – Location of Proposed Road-Traffic Noise Mitigation in the AEE that shows the location and extent of those barriers and high performance surface overlaid on an aerial instructive.[139] How likely is that to have been considered as a visual depiction of the Project by the community and submitters?

[779] We also note the evidence on the reasons for specifying the barriers and high-performance low noise road surface. That evidence includes the multi-disciplinary workshops held to evaluate options along the length of the new highways and the options considered.

[780] We have questions about what might result from Condition DRN3 b)i. and ii. as currently proposed?

[781] What is "not practicable to implement" intended to cover? What could it be considered to cover? Without parameters that clearly inform consideration and justification of alteration being specified it is unlikely that the District Council could even attempt to pursue the matter through the outline plan process. How could this condition be improved?

[782] Why does DRN3 b)ii.B list only relevant consequential engineering, stormwater, visual and cultural effects assessment? Why does the list not include consideration of the health and other effects for those at all the PPFs identified in Schedule 9 (at minimum)?

[783] Why is there no requirement to consult with potentially affected landowners (at minimum) to understand the use of the site and sensitivities including a description of the outcomes of that consultation and the requiring authority's response to those outcomes? Consequentially why does the report in (c) to accompany an outline plan include no consideration of health or other effects on potentially affected landowners, including such consultation.

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139 AEE at 230, attached to this decision as Appendix 1.

Condition DRN4 Post construction review of noise mitigation measures

[784] Condition DRN4 requires that post-construction reviews be undertaken of the noise mitigation measures to include the low noise road surfacing, the noise barriers and the mechanical expansion joints on bridges as well as any other road environmental treatments which are proposed for noise mitigation.

[785] The purpose of these reviews is to confirm that all of the noise mitigation measures have been constructed or installed as described in the design report prepared under Condition DRN3 d) and that the predicted noise levels at each identified PPF listed in Schedule 9 in 2039 will be achieved.

[786] A record of the post construction reviews is to be provided to the District Council(s) within 3 months of the highway being open for public use and for the low noise road surfacing, within 3 months of its installation. (Note: There appears to be an error in the numbering of the references in Conditions DRN4 c)i. and ii.)

Condition DRN5 Audio tactile profiled road markings

[787] This condition prohibits the use of audio tactile profiled road markings on any road surface within 200 metres of any PPF and at specified chainages at Manakau Village.

Condition DRN6 Building modifications

[788] This condition sets out the requirements where building modifications are proposed for those PPFs which are predicted to receive Category B or C operational traffic noise.

[789] We note that building modifications for Category C properties have been provided for under this condition. In his supplementary evidence Mr Smith advised that if there were Category C buildings these would be likely to be within the designation and Crown owned during construction. They would then be on-sold after construction was complete. He considered that it would be appropriate for these buildings to be included as Category C PPFs.

[790] We note Mr Smith's advice in his supplementary evidence that no Category C PPFs would be allowed outside of the designation. What amendments are proposed to achieve this? And, as we have noted above, how would this be achieved in practice?

[791] The process to be followed under this condition DRN6 is that prior to construction commencing, NZTA is to write to the owner of the Category B PPF to request access; where access is granted, for an SQP to inspect the PPF and undertake sound insulation testing in order to identify whether building modifications are required to reduce the internal noise; for NZTA to write to the owner with either the offer of options for building modifications where these have been recommended by the SQP or if no modifications have been identified as being necessary to achieve internal noise levels less than 40 dBLAeq(24h), to advise the owner of this; where noise mitigation modification options have been offered, for the owner to select a preferred option and then for NZTA to complete the installation of the preferred option prior to the new highway being opened for public use.

[792] Under this same condition, NZTA will be taken to have completed its obligations if the access request has not been responded to within 12 months of the request having been made or if the owner chooses not to select a mitigation option within 3 months of the offer being made or the two parties reach an alternative agreement for mitigation of the noise.

Assessments at Specific Properties

[793] In addition to his global assessment of construction and operational traffic noise, Mr Smith also responded to requests about the effects of operational noise and/or construction noise and vibration on specific properties which had been raised in submissions. We note that these assessments have been based on the Concept Design and that if there are any changes to this and the identified mitigation the assessments will need to be revisited as part of the Outline Plan process as provided for in Condition DRN3 c)iv.

[794] The assessment undertaken on these individual properties included (with Mr Smith's responses):[140]

- Nestbox/Summers, 217 Kimberley Road/345 Arapaepae Road where there is a free range egg farming business. Following a detailed assessment of this property to determine predicted operational noise levels, Mr Smith had concluded that there was no need for additional mitigation with the effects of construction noise and vibration to be managed through the proposed CNVMP process.
- Sjaan Henry, 82 Waihou Road who queried the accuracy of the noise predictions and the potential for hearing damage with a request for double glazing. As the operational noise was predicted to be within with NZS 6806 Category A limit at this property and with the predicted operational and construction noise levels being below WHO hearing damage thresholds, Mr Smith's response was that double glazing was not supported.
- Neil and Sherry White, 24 Koputaroa Road whose home is located 360 metres from a roundabout are concerned about noise from trucks braking as they slow down ahead of a roundabout. His response was that the noise at this location is predicted to be below 50 dB LAeq (24h) and as well, landscaping and specific highway design features are proposed in the location of the roundabout to encourage smooth braking and acceleration. No site specific mitigation has been proposed for this property.
- Wendy McAlister-Miles and Dion Miles, 195 Muhunoa East Road Ohau are concerned about construction noise affecting their outdoor amenity. Muhunoa East Road is proposed for use as a construction access. Mr Smith's response was that there will be periods during construction when high noise levels will mean that the residents of this property will not want to use their outdoor areas. Mitigation measures proposed for this property will focus on communication with the

140 Smith EIC 4 July 2023.

residents and scheduling activities to minimise disturbance. No site specific mitigation measures have been proposed.

- Helen Naylor, 45 Wi Tako Street, Manakau is concerned about construction noise. Mr Smith's response was that modelling had predicted that construction noise levels would be within the limits proposed at this residence and that the building modifications and temporary relocation being sought were not supported.
- Christine Wallis, 62 Kuku East Road, Manakau lives 240 metres from the edge of the highway where there is a predicted operational noise level of 51 dB Laeq (24h) compared with the existing level of 40-50 dB Laeq (24h) (and the Category A limit of 57 dB Laeq(24h)). While no physical mitigation has been proposed Mr Smith acknowledged that the perception of noise from the Project at this property was likely to have been heightened as a result of a tract of land from this property needing to be acquired for construction.
- Glenys Anderson, 413 Arapaepae Road is concerned about the effects of construction and operational noise on the rural lifestyle at her property and in particular for a family member who suffers from severe depression and anxiety. Mr Smith's response was that the 2039 operational noise level at this property is predicted to be 52 dBLAeq(24h) which compares with the existing noise level (mainly natural sounds) of 40 -50 dBLAeq(24h). While the predicted noise levels are within the guidelines for sleep protection for the general population, he acknowledged that the change in the noise environment at this property had the potential to be difficult to adjust to especially for the affected family member. He proposed that NZTA contact this submitter immediately prior to the opening of the highway to provide specific information about road traffic noise.
- Stephen and Miriam Main, 28 Mountain View Road, Ōtaki are concerned about construction noise and vibration particularly at weekends with a request for their existing double glazed windows to be triple glazed. Mr Smith's response was that with this dwelling being 150 metres from the construction footprint, the external operational noise

levels will be within the proposed noise limits. In addition, he noted that works are to be limited to core working hours unless there is a specific operational need. The response noted also that triple glazing is primarily designed for thermal performance. The request for triple glazing was not supported.

- Maria Storey, 24 Arapaepae Road is currently affected by significant road traffic noise and vibration from heavy traffic using Arapaepae Road (SH57). The Project will shift most of this traffic from Arapaepae Road onto the new highway. Even so, once the new highway is operational, the property will still be exposed to a higher level of noise from the existing road (although less than the current level) than from the new highway as it is 16 metres from the edge line of the existing road with the new highway being 120 metres away.
- Martyn Vause of 677A SH1, Kuku East lives in a caravan on land which he owns. Mr Vause has requested the erection of noise barriers and low-noise road surfacing. As already noted, the proposed mitigation in this area is for low noise road surfacing but no barrier.
- Dakin and Ally Bramwell, 289 Tararua Road live in a property which is over 600 metres from the edge of the new highway where road traffic noise is predicted to be below 45 dBLAeq(24h). Their request is that the noise be kept to "near zero". Mr Smith's response is that the predicted noise level from the highway while audible at their property is likely to be similar to the existing noise level and that a "zero noise" level is not an appropriate design standard.
- Rochelle and Matthew Apatu, 73 Wakefield Road, Levin live about 250 metres from the new highway and have concerns about both operational and construction noise. His response is that with their 250 metre setback distance and with the low noise road surfacing proposed in this area there will only be a very small contribution from traffic noise to the noise levels which currently exist at their property.
- Janice Jakeman, 197 Muhunoa East Road, Ohau is some 150 metres from the edge of the proposed highway with a predicted operational

noise level of 52 dB Laeq (24h). The submitter requests that night construction work is minimised, for there to be planting around the construction compound and for low noise road surfacing to be used on the bridge. This property will be affected by the noise from the construction of an overbridge and by construction vehicles using Muhunoa East Road. The construction compound is a laydown area for large bridge components with noise expected to be of short duration and within the limits of NZS 6803. In respect of planting, it appears that this property may be eligible for consideration of planting mitigation in terms of Condition DLV2 Visual Effects given Appendix D.3 Technical Assessment D identifies the property as having residual visual effects that are moderate-high and NZTA is asked to confirm whether this is the position.

- JML requested the assessment of a range of matters including mitigation of long-term operational noise through the provision of bunds, the mitigation of construction noise and the mitigation of chip seal surfacing noise over the first 18 months of operation of the highway. We were advised that NZTA had reached agreement directly with JML on all of its matters of concern which we accept and therefore take this no further.
- Kevin Daly, 257-267 Tararua Road is concerned about the lack of noise mitigation in the Tara-Ika development with a request for noise bunds to be placed along the full length of this development. Mr Smith's response which addressed a similar submission from JML (a neighbour) was that there is a deficit of fill material in this area, that a bund would complicate flow paths in what is a high flood risk area and that a 3 metre high bund would typically reduce noise levels by less than 1 dB. The operational noise mitigation proposed at this location is as we have set out earlier for the Tara-Ika site.
- Prouse Trust Partnership, Karen and Stephen Prouse, 1024 Queen Street East raised a series of concerns over the potential adverse effects of operational traffic noise on their property. As for JML, we were advised that NZTA had reached agreement directly with this submitter

which had addressed all of their matters of concern so that (as we have done for JML) we take this no further.

- Emma and Carl Chalmers, 366 Arapaepae Road have requested the consideration of noise barriers, double glazing, ventilation systems and low noise road surfacing for their property. Mr Smith's advice was that high performance low noise road surfacing was proposed in the vicinity of their property and that noise barriers were not required as the predicted external noise level at their building façade was some 6 dB below the level at which building modifications would be considered by NZTA.
- Alauta and Frederick van Iddekinge, 679 SH1, Kuku requested that high performance low noise road surfacing be provided in the vicinity of their property and that a spoil bund shown on plans should be required as a condition of consent. Mr Smith's response was that even with low-noise road surfacing, their property will still receive Category B noise and therefore will need to be investigated for building modifications. The need for this mitigation is to be reviewed against an updated prediction of the noise level based on the final design of the highway in this area.
- Sarah Hodge, 11 Ihaka Hakuene Street, Manakau is concerned that noise from the new highway will affect her enjoyment of her property. With the more than a 300 metre setback of this property from the new highway, the 2039 operational noise level is predicted to be between 48-49 dBLAeq(24h). In addition, construction works in this area are not anticipated to be required outside of normal business hours with noise levels predicted to be less than 50 dB LAeq(15min).
- Simon Austin, 63 Arapaepae Road is concerned about the "background roar" of road traffic noise from the highway. Mr Austin's dwelling is 230 metres to the west of Arapaepae Road (SH57) and over 450 metres from the new highway. With these distances, this dwelling would not need to be assessed as a PPF as it has a predicted operational traffic noise level of less than 50 dBLAeq(24h).

- Kāinga Ora submitted on its concerns about the adverse effects of noise from the Project on residents at their property at Muhunoa East Road. Again, as for JML, agreement was reached directly between Kāinga Ora and NZTA which resolved all of its concerns.

Councils' s 198D Report

[795] Mr Smith responded to a number of issues raised in Ms Wilkening's s 198D technical report on noise and vibration.

[796] These include, for construction noise and vibration, that while no industrial or commercial areas have been identified as being affected by the Project, if this is not the case, there is provision in Condition DNV1 to address these areas.

[797] With respect to the possibility that he may have underestimated the adverse effects of construction vibration, Mr Smith said conditions required vibration trials to be undertaken and where these trials identified that the specified vibration limits may be exceeded, a SSCNVMP was to be prepared setting out the anticipated effects and the proposed mitigation measures. He said that these could include enhanced communication or using alternative equipment or settings on the equipment.

[798] Mr Smith said that while Ms Wilkening had raised a number of other issues as well, there had been agreement between them on the potential effects of

operational traffic noise from the Project and in particular that:[141]

- The proposed mitigation measures would appropriately manage the actual and potential noise effects from the operation of the new highway;
- The residual effects would be acceptable provided the proposed mitigation was implemented;
- Operational vibration had been adequately assessed and would have no material effect.

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141 Smith EIC at [251].

Discussion and Findings on Noise and Vibration

[799] We accept that the adverse effects of noise and vibration even with the proposed raft of mitigation measures in place will be felt more strongly by some than others. Unfortunately, for a Project of this nature, this cannot be avoided.

[800] Once we have received and considered the responses to the questions in our directions, along with a condition set dealing with noise and vibration that is clear, certain and enforceable and visible to all, we should be in a position to signal our agreement to the treatment of noise and vibration.

Directions

[801] In summary, we direct the following questions, amendments to the conditions and matters that are to be addressed.

[802] In the construction noise conditions why has the descriptor LAeq(t) been used in the conditions? Should this be LAeq (15 min)?

[803] DNV1 a) specifies that construction activities (with exceptions in DNV3 and DNV4) must be undertaken so that construction noise does not exceed the limits in Table DNV-1 at any PPFs or buildings that accommodate commercial activities that are occupied at the time of construction. DNV1 b) requires that compliance with that condition is to be measured and assessed in accordance with NZS 6803: 1999– *'Acoustic Construction Noise'*. What are the measurement locations for assessing compliance with DNV1 b)? Is that measurement location close to the building concerned (rather than at the notional or property boundary as is provided for in many district plan rules that relate to noise from activities other than construction noise)? Should the measurement location for construction noise be included in the conditions?

[804] The inclusion of an exception in Condition DNV1 Construction noise limits and Condition DNV2 Construction vibration limits for a CNVMP prepared under DNV3 is unclear. That exception is to be reconsidered along with the approach to the CNVMP in Schedule 2.

[805] The 'deemed pathway' is to be removed from Condition DNV4 dealing with SSNVMPs with a 10 day time frame set for comment from the District Council and any other consequential amendments made.

[806] The conditions for operational road-traffic noise should be clear on their face, with the current condition set falling short of the mark and needing reconsideration of what was provided to us at the beginning of the hearing and in closing.

[807] There must be definitions of key terms and particularly:

- PPFs (with the definition not the same as for construction noise and vibration) and what they are and what they are not (as in the NZS but with the exceptions clearly set out in relation to the Project).
- NZS 6806 criteria of "new" and "altered" in Schedule 9.
- Noise category of A, B and C (if applied in the substantive conditions).

Those definitions are the basis for the obligations on NZTA (and the District Council) that are then to be set out in the conditions and should not require any reference to substantive provisions in the copyright *New Zealand Standard 6806: Acoustics-Road Traffic Noise -New and Altered Roads"*. Our approach to understanding the issues in the interim decision should help inform the recasting of the conditions.

[808] We have several questions on Condition DRN3 Design of noise mitigation measures for NZTA. In essence these relate to the high performance surface (18.1 km in total with lengths of 8.8 km, 5.2 km and 4.1 km in specific locations) in Condition DRN1 and barriers specified in Condition DRN2. A figure overlain on an aerial in the AEE largely reflects what the conditions specify. Condition DRN3 appears to provide considerable scope for a major departure from the location and nature of proposed road-traffic noise mitigation shown in that figure. It is not clear what the constraints on that are and what the District Council could pursue through the outline plan process.

[809] The addresses of each of the PPFs identified by Mr Smith were shown on a series of topographical maps extending over the full length of the Project. These were attached at Appendix A of the Appendix B.5 Report and carried through to Schedule 9 of the Conditions. Could these be made available for any owner or occupier of an affected PPF to sight if requested?

[810] Most importantly, we note that the conditions do not specify where (or how) road traffic noise is to be assessed in relation to any identified PPF in Schedule 9. Schedule 9 contains an address but there are no details on whether the Criteria of A or B apply at the property boundary or to buildings and activities within the definition of a PPF existing at the time of the identification of the PPF status (or to something else). These matters are to be clarified in the conditions.

[811] Should some of the noise management processes and mitigation measures set out in Specification P40, be added (or any amendments made) to the designation conditions?

[812] Mr Smith's advice in his supplementary evidence was that the conditions have been amended to not allow Category C PPFs outside of the designation. What amendments are intended to achieve this? How would it be done in practice?

Air Quality

The Evidence

[813] Expert evidence on air quality effects arising from the construction and operation of the Project was provided by Mr Curtis for NZTA and Mr Stacey for the Regional and District Councils.

[814] The two experts produced a JWS following their participation in an expert conference held on 28 July 2023.

[815] Mr Curtis was the author of Technical Assessment C Air Quality which formed part of NZTA's AEE. and Mr Stacey was the author of the s 198D Report

on Air Quality for the two District Councils.

Construction Dust

[816] Mr Curtis advised that construction activities for the Project with the potential to generate dust if not appropriately controlled would include:

- Stripping and stockpiling of topsoil;
- Excavation of cut material;
- Placement of fill;
- Stockpiling of soil/cut material;
- Traffic movements on haul roads; and
- Rehabilitation of completed areas.

[817] He said that he had undertaken a qualitative assessment to determine the potential for properties within 200 metres of the proposed designation to be adversely affected by dust. He said that 200 metres had been chosen because the potential for properties beyond 200 metres to be affected was low. This was because any dust that might be generated during construction would generally settle within 200 metres from the source of generation.

[818] Conversely, nuisance related effects from dust had the potential to be considered offensive or objectionable within a distance of 50 metres of the generation source.

[819] For properties located more than 50 metres but less than 200 metres from the designation boundary, Mr Curtis said that unmitigated dust effects were unlikely to be considered offensive or objectionable.

[820] As a guide, he said that there were some 216 properties located within 50 metres of the proposed designation boundaries with some 270 properties more than 50 metres but less than 200 metres from the boundaries.

[821] We note that he did not address properties located within the designation boundaries presumably because during construction those buildings which had not been removed would be unoccupied.

[822] Mr Curtis advised that he had undertaken an analysis of the effects of dust generated during the construction of the Project using the dust risk index methodology described in Appendix B of the Waka Kotahi Air Quality Assessment Guide, October 2019. This was to give an indication of the level of risk exposure for properties located along the new highway corridor.

[823] The analysis takes account of a range of environmental factors including the surface exposure of the ground, the exposure period, the time of year, wind speed, the distance from residences to the footprint of the concept design, the significance of any construction within 200 metres of parcel boundaries including the projected amount of cut and fill earthworks and the frequency of wind directions for residences downwind of construction activity.

[824] From the analysis undertaken for the Concept Design, all affected properties were scored for their risk of exposure to dust against the ratings of low, moderate or high risk in accordance with the criteria listed in the Guide. This identified that of the 216 properties located within 50 metres of the designation boundaries, 50 were assessed as being low-risk, 96 moderate-risk and 70 high-risk.[142]

[825] Mr Curtis said that despite current best practice mitigation measures provided for in the proposed conditions of consent and the CAQMP, residual effects from dust within the 50 metre distance could well be of a scale where affected residents were subject to increased dust levels and potential annoyance with these adverse effects requiring additional investigations, monitoring and mitigation measures.

[826] He advised that in a worst-case situation, the CAQMP provided for temporary relocation or temporarily ceasing construction activities.

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142 Curtis EIC 4 July 2023 at [38].

[827] For those properties which he had identified from his analysis to be moderate or low risk of exposure to dust Mr Curtis did not consider that these required individual assessments and /or monitoring. Instead, if the mitigation measures outlined in the CAQMP were implemented for these properties, in his opinion there was little potential for them to experience adverse effects.

[828] We return later to evaluate the conditions and the provisions of CAQMP.

Issues Raised in Submissions

[829] In his evidence,[143] Mr Curtis listed a number of common themes on construction related air quality issues which had been raised in submissions. These included:

- Potential effects on roof collected drinking water;
- Potential effects from concrete dust;
- The potential need for house washdowns;
- The potential effects from construction related dust more generally.

[830] While there were also specific concerns about air quality raised by KiwiRail, Kāinga Ora and the Prouses, by the end of the hearing, these concerns had all been addressed through agreements reached directly between each submitter and NZTA.

[831] On the issue of construction dust contaminating roof collected drinking water, Mr Curtis noted that there is a requirement in the Building Code[144] for water supplies to be protected from contamination. For roof collected systems, he advised also that there are several guidance documents including the *Ministry of Health, Water collection tanks and safe household water, revised January 2022*. This lists a series of requirements including using roofing materials and paint systems which are safe for rainwater collection, using plastic pipes and gutters, installing leaf guards, using flush diverters to prevent the first 20 – 25 litres of water from entering the storage tank, installing inlet pipes at the base of the tank through a U tube to prevent the

143 Curtis EIC at [41].

144 Building Regulations 1992, schedule 1 clause G12.3.2(a).

disturbance of sediment in the bottom of the tank, and extracting water from near to the top of the tank.

[832] While he agreed that there could be expected to be some increase in dust effects on roof collected drinking water, Mr Curtis said that these should not be at a level which would cause nuisance. He said that his analysis of the potential for wind-blown material to build up in roof collected rainwater tanks had shown that there would be an accumulation of less than 1 mm of sediment per year.

[833] He said that construction dust which landed on roofs would also be essentially the same as that generated by existing farming and horticultural activities.

[834] In any case, he said that the conditions provided for roof-collected drinking water supplies to be included in the baseline inspection and for these supplies to be sampled at least monthly with contingency measures to be implemented where the turbidity of the water was 20% or more greater than the baseline measurement.

[835] While house cleaning had been requested by some submitters, Mr Curtis said that he did not consider that there would be any need to provide such a service for properties located more than 200 metres from the designation boundary although where houses were located closer than this to construction works, there may be occasions where these properties might need to be cleaned with this having been provided for in the CAQMP.

[836] In terms of the adverse effects of construction dust more generally, Mr Curtis explained the purpose and role of the CAQMP. He said that this management plan was intended to be a single point of reference for all construction matters relating to dust and air quality more broadly.

[837] Its purpose was to set out the methods and procedures to achieve the construction air quality standards required by condition RAQ1 and in particular that:

> Discharges to air from works authorised by these resource consents must not cause noxious, dangerous, offensive or objectionable adverse effects at any point beyond the boundary of the site.

[838] This same condition also includes limits for the height of stockpiled materials and drop heights for these materials as well as standards for the protection of vegetation.

[839] With respect to the potential for there to be adverse effects from concrete dust, Mr Curtis advised that NZTA had not provided for concrete batching plants, precast concrete yards or pugmills in its application. If these were required, NZTA would need to apply for the necessary consents later including mitigation measures proposed to minimise adverse effects from the generation of concrete dust.

The Councils' s 198D Report

[840] Mr Curtis noted that the main point of difference between his evidence and that of Mr Stacey for the District Council had been about the effectiveness of the mitigation measures proposed with Mr Stacey considering that a draft CAQMP should have been provided as part of the NZTA application.

[841] Mr Stacey said that in Mr Curtis's Technical Assessment C there was no firm commitment from NZTA that all recommended measures would be adopted and incorporated into the CAQMP. There was also uncertainty around how and when mitigation (where offered) would be delivered through the management plan, and whether it would be sufficient to manage air quality effects.

[842] Mr Curtis said that he had responded to most of Mr Stacey's concerns about the proposed CAQMP and that in his opinion, if the conditions and the CAQMP were clear (as he considered they were) and covered relevant matters (which he considered they did) there was no need to prepare a draft CAQMP now.

[843] Mr Stacey raised a concern about the adverse effects of dust on crops grown in the vicinity of the new highway with Mr Curtis responding that such effects would be identified and managed like any other sensitive receiver through the CAQMP.

[844] Another concern raised by Mr Stacey was whether there was the potential if contaminated land existed and was disturbed during construction for this to cause adverse effects. Mr Curtis' responded that NZTA had not yet sought consents for disturbing contaminated land and were these required, they would be applied for later.

[845] Mr Stacey also suggested the need for amendments to the content of some of the draft resource consent conditions based on the earlier draft which was current at the time he prepared his evidence. These included:

- The need for real time monitoring in locations where significant dust could be generated, with Mr Curtis responding that in his opinion visual monitoring was more appropriate before real-time monitoring was implemented - we note that notwithstanding, Condition RAQ3 d) provides for real time monitoring as discussed below.
- The need for dust monitoring trigger values with Mr Curtis responding that while it was best to set such values once the type of monitoring equipment had been selected, a trigger level of 150ug/m^3 as a rolling 1 hour average updated every 10 minutes had been provided for in Condition RAQ3 d);
- A recommendation from Mr Stacey that all properties within 200 metres of the designation should have their water system upgraded, with Mr Curtis responding that he did not agree, instead noting that Condition RAQ2 included special provisions for the inspection, mitigation and monitoring of high-risk properties within 50 metres of specified construction works and activities – but not properties located between 50 metres and 200 metres (which we return to below when in or discussion on the air quality conditions).

[846] Mr Stacey also recommended some other matters of detail for inclusion in the CAQMP which we do not need to recite here.

[847] Mr Curtis responded to a proposed amendment to Condition RAQ1 (extant at that time) proposed by the Regional Councils' planner Mr Mark St Clair in his s 87F Report about the need to upgrade all existing water supplies within 200 metres of the designation to ensure that the drinking water supplies would meet the Water Services (Drinking Water Standards for New Zealand) Regulations 2022.

[848] This response was that these regulations did not apply to domestic self-suppliers and also that dust was not a substance covered by the Regulations.

[849] At their expert conference, the two experts reached agreement on all matters including:[145]

- Redrafting Condition RAQ1 to reflect alignment with the MFE Good Practice Guide for Assessing and Managing Dust (noting that in the Final Version of the Conditions this has been included in the CAQMP as opposed to Condition RAQ1);
- An amendment to Condition RAQ1 to allow for sampling for turbidity or some similar indicator of particulate in the water supply including the collection of baseline samples and subsequent monthly sampling with an allowance in the order of +/- 20 % (noting that in the Final Version of the Conditions this has been included in Condition RAQ2).
- In the CAQMP in Schedule 2, for the words "in general accordance with" to be used instead of "have regard to" (noting that this amendment has been included in the CAQMP).

[850] Mr Stacey's suggestion that there should be a trigger for halting site activities if there were extreme dust nuisance effects was opposed by Mr Curtis on the basis that there were other conditions (which he did not identify) which required the implementation of appropriate mitigation in such circumstances. In the event, in the Final Version of the Conditions, temporarily ceasing construction was provided for as a last resort in the list of contingency measures.

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145 Note that we have used the Air Quality condition numbering in the Closing Version of the Conditions.

The Conditions and the CAQMP

[851] We now evaluate the proposed conditions of consent and the CAQMP and how these have responded to the evidence of Mr Curtis and Mr Stacey on this topic.

[852] In doing so we note the Pre Hearing Version (PHV) of the conditions of consent referred to in the evidence of Mr Curtis and Mr Stacey and the Closing Version (CV) attached to NZTA's Closing Legal Submission had slightly different numbering as follows:

Condition Title	PHV	CV
Construction Air Quality Standards	RAQ1	RAQ1
Dust Inspections	RAQ1A	RAQ2
Dust Monitoring	RAQ1B	RAQ3
Weather Station	RAQ2	RAQ4
Construction Air Quality Management Plan	RAQ3	RAQ5
Construction Air Quality Management Plan Certification	RAQ4	RAQ6
Amending the Construction Air Quality Management Plan	RAQ5	RAQ7

[853] We have adopted the Closing Version numbering in this decision.

Condition RAQ1: Construction Air Quality Standards

[854] This condition requires that the discharges to air from works authorised by the consents must not cause noxious, dangerous, offensive or objectionable adverse effects at any point beyond the boundary of the Site, with the Site being defined as the area within which construction is undertaken including the land subject to the designations for the Project in favour of NZTA, material supply sites and spoil sites.

[855] As we have noted above, there are restrictions on the height of stockpiled clean-fill material and the drop height of material onto the stockpile.

[856] And, there is a requirement to visually inspect the vegetation on the margins of listed habitats for the presence of dust on foliage, and if washing is identified as being required to remove dust, this to be undertaken within five days using a method described in the CAQMP.

Condition RAQ2: Dust Inspections

[857] This condition requires that baseline inspections be undertaken of the current condition of any dwelling including the sampling of the turbidity of any associated roof-collected drinking water to determine the extent of any existing dust deposition where access is granted to the dwelling and the dwelling is located within 50 metres of a haul road being used by construction related heavy vehicles, or areas of land disturbance, or earthworks activities.

[858] An equivalent baseline inspection must also be undertaken for dwellings located within 200 metres of a haul road being used by construction related heavy vehicles, or areas of land disturbance, or earthworks activities.

[859] Monthly visual inspections during construction must be undertaken of dwellings located within 50 metres of a haul road being used by construction related heavy vehicles or areas of land disturbance or earthworks activities.

[860] The turbidity of all drinking water supplies must be sampled at least once a month where access is granted and the drinking water supply is located within 50 metres of a haul road being used by construction related heavy vehicles, or areas of land disturbance, or earthworks activities.

[861] The baseline assessments and the visual inspections are required to be undertaken as described in the CAQMP (which is required under Condition RAQ5).

[862] The contingency measures set out in the CAQMP (discussed below) are required to be implemented where the visual inspection identifies any adverse effects of dust deposition on a dwelling or the turbidity measured for any associated roof-collected drinking water supply is 20% or greater than the baseline measurement.

[863] An inspection summary report which compares the findings of the monthly inspections with the baseline inspections is to be prepared within 20 working days of the inspection and provided to the owner/occupier of the dwelling and the Regional Council.

Condition RAQ3: Dust Monitoring

[864] Dust monitors are to be installed at any time between any dwelling and the Project during construction when the dwelling is located within 50 metres of a haul road being used by construction related heavy vehicles, or areas of land disturbance, or earthworks activities with the provision that a single monitor may be used for one or more properties.

[865] Condition RAQ3 d) requires that if the real time PM10 dust concentration limit specified in the condition is exceeded, the contingency measures in the CAQMP must be implemented.

[866] A summary dust monitoring report is to be provided to the Regional Council as part of the annual report for the Project required under Condition RGA3.

Condition RAQ4: Weather Station

[867] At least one weather station must be installed prior to the commencement of construction activities and must be configured to provide real time data for the five parameters specified in the condition.

[868] The weather station must be maintained for the duration of construction activities in accordance with the standards specified in the condition.

[869] The weather station (or stations) must be capable of sending out real time text messages when the triggers set out in the CAQMP are exceeded.

Condition RAQ5: CAQMP

[870] The CAQMP must be prepared to achieve the purpose and include the content of the CAQMP as set out in Schedule 2-2 of the conditions.

Condition RAQ6: CAQMP Certification

[871] The CAQMP must be certified by the Regional Council in accordance with the process set out in Schedule 10 of the conditions and as we directed be amended

in the Scheme of and Approach in the Conditions section of this decision.

Condition RAQ7: Amending the CAQMP

[872] This condition sets out the requirements which are to apply if it is proposed to amend the CAQMP including the circumstances under which certification of the amended CAQMP is required. We directed changes be made to this condition in the Scheme of and Approach in the Conditions section of this decision to make it clear where an SQP is to be involved and certification is required.

The CAQMP

[873] The CAQMP is one of five management plans to be included in the CEMP as described in Schedule 2.

[874] We set out here an overview of the requirements of the CAQMP as set out in Schedule 2.

[875] The CAQMP must be in general accordance with the guidance contained in two documents, the *Good Practice Guide for Assessing and Managing Dust* published by the Ministry for the Environment 2016 and the *Guide to assessing air quality impacts from state highway projects (version 2.3)* published by NZTA 2019.

[876] Its content must include descriptions of:

- The relevant construction activities;
- The receiving environment including existing dust generating activities, sensitive land uses including crops located within 200 metres of construction activities, a list of all properties that accommodate a dwelling within 50 metres of a haul road being used by construction related heavy vehicles, or areas of land disturbance or earthworks activities and local meteorological conditions relevant to the potential for dust generation;
- The anticipated air discharges from construction activities and the adverse effects that these discharges can cause.

[877] The mitigation measures must include the following:[146]

- The *key environmental performance indicators* that apply with reference to the *environmental outcome to be achieved*;
- Methods and procedures to manage dust including *triggers for the implementation of such measures* for this management including:
  - Chemical stabilisation or suppression on exposed surfaces;
  - Approaches to the management of materials with particularly dusty characteristics;
  - Revegetation of exposed surfaces including cover with hydro seed or mulch;
  - The use of water;
  - The covering or otherwise enclosing of materials;
  - Approaches to the location and management of stockpiles;
  - Methods and time frames to stabilise earthworks;
  - Approaches to minimise material drop heights;
  - Methods to managing cement or lime used to stabilise earthworks;
- *Triggers for the identification of verified adverse effects on the sensitive receptors* including *triggers for the monitoring equipment set out in Condition RAQ3* and the visual identification of unacceptable dust identified through monitoring in Condition RAQ4;
- Contingency measures for responding to identified and verified adverse effects of construction activities on sensitive receptors that may include the provision of:
  - Exterior house surface (cleaning);
  - Alternatives for drying clothes inside;
  - Drinking water or cleaning/upgrading an existing drinking water system;
  - Temporary relocation or temporarily ceasing construction activities that give rise to the identified adverse effects.

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146 Note that we have italicised wording for ease of cross reference in the discussion section which follows.

- Procedures for assessing, mitigating and remedying the effects of odorous material that is discovered as a result of construction activities including removing the material or masking the odour;
- Procedures for responding to process malfunctions and accidental discharges;
- Procedures for communicating with stakeholders and responding to complaints as provided for in Condition RCM2;
- References to construction vehicle management and maintenance procedures in the Construction Transport Management Plan;
- Procedures and methods for the baseline inspections (Condition RAQ2);
- Methods for the visual inspections (Condition RAQ2);
- Method and procedures for the automated monitoring required (Condition RAQ3);
- Methods for monitoring and contingency measures to respond specifically to dust deposition at the Ashleigh property, at 96/98 Arapaepae Road and also at any rainwater collection tank used for drinking water located within 50 metres of a haul road being used by construction related heavy vehicles, or areas of land disturbance, or earthworks activities;
- Triggers and procedures for the review and updating of the CAQMP in accordance with Condition RAQ6.

[878] We note that, while we have not undertaken a detailed check to confirm that this listing is in fact "in general accordance" with the content of the two guidance documents, we assume that it is.

Discussion and Findings on Construction Air Quality

[879] By the end of the hearing all of the issues which had earlier been in contention between the parties on air quality had been resolved between them with the Closing Version of the Conditions containing an agreed set of Conditions on Air Quality and the associated CAQMP.

[880] For our part, while we have found the evidence on air quality to be comprehensive, we have identified a number of amendments which are to be made to some aspects of the conditions and the CAQMP.

[881] Condition RAQ2 b) requires that a baseline inspection is to be undertaken for dwellings within 200 metres of the haul road and the earthworks' locations. There does not appear to be any requirement in the conditions nor the CAQMP for any further inspections of these dwellings as is required for dwellings within 50 metres. If not, what is the purpose for identifying the 50 metre - 200 metre dwellings?

[882] In the CAQMP we note that in the mitigation measures:

- b) refers to "The key environmental performance indicators that apply, with reference to the environmental outcome to be achieved".
- c) refers to "triggers for the implementation".
- d) refers to "triggers for the identification of verified adverse effects".
- d)i. and ii. refer to "triggers for monitoring equipment" and "triggers for visual identification of unacceptable dust".
- n) refers to "triggers and procedures".

[883] At 114 [g] of its Closing Legal Submission NZTA responded to the issue raised in the Court's minute of 31 October 2023 about the absence of trigger/standard requirements in Schedule 2. Its advice was that the experts' response on this was that in their experience these triggers/standards may need to be adjusted over time to ensure that dust effects are appropriately managed.

[884] Our response to this is that these triggers/standards need to be determined now in order to remove the potential for disagreements to arise between NZTA and the Regional Councils if they were to be set at some later date.

[885] We observe also that there must be a good data base of information already available to define these standards/triggers now given that the Ō2NL project is

immediately adjacent to the recently completed PP2Ō Project.

[886] On one final matter, we note that in addition to the mitigation measures listed in the CAQMP, Mr Curtis also recommended placing speed restrictions on construction vehicles operating on unsealed surfaces.

[887] This measure is to be added to the mitigation measures listed in CAQMP.

[888] In the earlier section of the decision covering the Scheme of and Approach in the Conditions we also made findings on and directed that changes be made to some aspects of the air quality conditions.

[889] In relation to RAQ7 a) concerning amending the CAQMP required by Condition RAQ5 conditions we directed that:

- Providing for an exception for an amendment that is part of an annual review of monitoring activities is to be deleted; and.
- That part of the condition that refers to "a positive effect" is to be deleted.

[890] It is also to be made clear in the conditions that amending or updating the CAQMP where certification is required is to be done by a SQP.

[891] Those amendments are to be made.

Amended Construction Air Quality Conditions

[892] NZTA and the Regional Councils are directed to prepare for our consideration in the construction air quality conditions:

- An amendment to the conditions responding to the matter we have raised about the "50 metre to 200 metre" dwellings and defining the CAQMP "*performance indicators and triggers"* which are to be incorporated in Condition RAQ6;
- Defined air quality standards/triggers;

- Speed restrictions for unsealed construction roads.

Air Quality Effects From Operational Traffic Vehicle Emissions

[893] While there will be minor exhaust fume emissions from construction vehicles, with the small number of these anticipated to be operating at any one time, the effects of emissions from these vehicles on air quality are expected to be negligible.[147]

[894] The effects on air quality from emissions from vehicles using the new highway once it becomes operational have been assessed during the development of the alignment alternatives using a combination of the NZTA air quality assessment model and an industry standard atmospheric dispersion model.[148]

[895] The air quality guidelines identified as being relevant to this operational assessment were:[149]

- NES-AQ (Resource Management (National Environmental Standards for Air Quality) Regulations 2004);
- NZAAQG; (New Zealand Ambient Air Quality Guidelines);
- World Health Organization Air Quality Guidelines 2005 $PM_{2.5}$ and PM_{10}, O_3, NO_2, SO_2, and CO);
- WHO Air Quality Guidelines 2021 (Particulate Matter ($PM_{2.5}$ and PM_{10}), Ozone (O_3), NO_2, Sulphur Dioxide (SO_2) and CO;
- Regional Ambient Air Quality Guidelines (under the Wellington Natural Resources Plan (NRP) and One Plan);
- NZTA Ambient Air Quality Guidelines (from the NZTA Guide), and
- MfE Significance Criteria for Incremental Analysis.

[896] A two-year meteorological dataset for the period from January 2019 to December 2020 was developed for the modelling with this including both El Nino

147 Technical Assessment C at [9].
148 This model is known by its acronym CALPUFF Version 7.
149 Technical Assessment C at [86].

and La Nina climatic conditions.

[897] Information on daily vehicle counts including the daily percentage of heavy vehicles was provided by Stantec, the traffic forecast modellers for the Project with vehicle speeds being based on SATURN data.

[898] An assessment using the NZTA model for the southern length of the new highway up to Ohau identified a mix of either improved air quality at sensitive receivers alongside the existing SH1 or for some a small increase with all concentrations assessed as being below the relevant health assessment criteria.[150]

[899] A detailed assessment using the CALPUFF dispersion model was undertaken for the new highway for the years of 2018 (base year), 2029 (opening year) and 2039 (10 years after opening year).

[900] This model predicted low concentrations of pollutants for all scenarios all below the relevant NES-AQ standards which are intended to be protective of health for the most vulnerable members of the population.

[901] Modelling undertaken for the option of retaining the existing state highway through Levin compared with replacing this with the proposed new highway showed that the replacement option with the new highway would result in a reduction of all pollutant concentrations through Levin. This reduction was attributed to a combination of a decrease in vehicle numbers, the predicted changes in vehicle emission technologies and a move way from fossil fuelled vehicles.

[902] Users of the SUP will be closer to the new highway than those living along it and will therefore experience higher emission concentrations. Notwithstanding this relative closeness, the concentrations on the pathway have been predicted to be below all of the relevant air quality standards and the evidence is that these are unlikely to cause unacceptable adverse health effects.

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150 Technical Assessment C at [14].

Discussion on Air Quality Effects from Operational Traffic Vehicle Emissions

[903] None of the evidence on the effects on air quality from operational traffic emissions has been disputed on the basis that:

- The operational air quality modelling has predicted low concentrations of pollutants for all scenarios all below the relevant NES-AQ standards which are intended to be protective of health for the most vulnerable members of the population, and
- The Project will improve operational air quality over the full extent of the Project area as a result of improved traffic flows and reduced traffic emissions.

[904] We accept this evidence on the air quality effects from operational traffic vehicle emissions.

Archaeology and built heritage

[905] For NZTA the Court had the benefit of evidence from Mr Daniel Parker on archaeology and Mr Ian Bowman on the built environment. Mr Parker was the primary author of Technical Assessment L: Archaeology and Mr Bowman the primary author of Technical Assessment M: Built Heritage (both assessments accompanying the application). By the hearing there were no issues remaining between the parties and the Court had no questions for these witnesses so they did not appear.

[906] Mr Parker gave evidence on the known archaeological landscape, finding no listed historic places or areas on the New Zealand Heritage List/Rārangi Kōrero and only one (recently discovered and referred to below) New Zealand Archaeological Association (NZAA) recorded archaeological site within the Project designation.

[907] In his technical report and evidence Mr Parker identified 14 archaeological sites that would be adversely affected (12 are local roads built during the 19th century of low archaeological value), the 13th is the remains of a sawmillers' tramway of medium value and the 14th is a Māori seasonal/temporary forest camp

of medium value discovered recently and now a New Zealand Archaeological Association (NZAA) archaeological site.

[908] In addition to those 14 sites Mr Parker advised that there are also 47 potential archaeological sites of mostly low or medium value within the proposed designation. That includes a newly identified one at 34 Arapaepae Road, Levin with the main house and out-buildings being inside the designation but outside the construction footprint, giving scope to avoid or minimise effects to a negligible level.[151] He gave evidence also that a Māori seasonal/temporary forest camp is located on the centreline of the proposed new highway where there are extensive and unavoidable cuts and an archaeological excavation will need to be undertaken in advance of the main construction works, with the remedy for adverse effects being managed via the Heritage New Zealand Pouhere Taonga (HNZPT) archaeological authority process.

[909] Overall he considered that the Project (assuming the standard level of mitigation HNZPT generally expects when granting archaeological authorities) will have only negligible or minor effects on the known archaeological landscape, with the potential for mostly negligible or minor effects on currently unknown archaeological sites. He considered the potential remaining effects can be appropriately managed through the use of archaeological discovery protocols and the HNZPT archaeological discovery process. He also referred to mitigating adverse effects through positive opportunities to incorporate archaeological and cultural information in the Project's design framework.[152] His overall opinion was that the Project would have a minor impact on the known archaeological landscape with any adverse environmental effects expected to be negligible.[153]

[910] For completeness we mention the Archaeology discovery protocol in Conditions DAH1 and RAH1. This protocol requires that in the event that construction activities result in the discovery or disturbance of an archaeological site, kōiwi tangata, wāhi tapu or wāhi taonga, construction activities in the immediate

151 Parker EIC 4 July 2023 at [27]-[28].
152 Parker EIC at [20].
153 Parker EIC at [31].

vicinity must cease, with the Project Iwi Partners, HNZPT, the District Council (and for kōiwi tangata the New Zealand Police) all informed. That condition then contains the steps that must be undertaken before the lifting of the suspension of work can occur.

[911] Mr Bowman gave evidence that the only heritage building affected by the Project is the house (Ashleigh) at 1024 Queen Street East, Levin (along with its site, buildings and items of machinery creating a cultural landscape) which he considered to have regional significance. He considered its site, buildings and items of machinery.[154] His understanding was that potential construction (noise, vibration, dust) effects on Ashleigh could be mitigated and operational visual effects mitigated by planting, and noise mitigation appropriate to the heritage values of the property had been considered.[155] (We refer to the noise and vibration effects section where this is confirmed.)

[912] We note that for this property NZTA and its owners agreed that the outline plan (new Condition DGA5 c)iv.) must include:

- The outcomes, including any recommended mitigation, of consultation with a suitably qualified experienced person or persons regarding the potential heritage impacts of the Queen Street East pedestrian and cycling connection on Ashleigh;
- A description of, and/or plans showing, planting and a solid (2) metre high timber fence along the boundary shared with the Project;[156]
- The location of any relocated car parking in the vicinity of 1024 Queen Street East, to demonstrate that the relocated car parking is not situated between 1024 Queen Street East and Queen Street East, as realigned.

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154 Bowman EIC 4 July 2023 at [10].

155 Bowman EIC at [14].

156 A note to that Condition reads: The requirement for planting and fencing along the boundary with 1024 Queen Street East Condition is offered by the Requiring Authority, rather than being necessary to avoid, remedy or mitigate an adverse effect of the Project on the environment or otherwise meet the requirements of the RMA.

[913] We accept the evidence that the approach in the conditions satisfactorily deals with the effects on archaeology and built heritage.

Social Effects including recreation opportunities

[914] Ms Joanne Healy was the primary author of Technical Assessment E: Social Impact accompanying the application and prepared evidence in chief as well as rebuttal evidence. Ms Michala Lander prepared a s 189D Report for the District Councils. She had no outstanding issues with Ms Healy's assessment of social effects nor the version of conditions current at that time. There was no cross-examination of these witnesses and the Court did not have any questions for them.

[915] Ms Healy's evidence was that while the social effects of the Project are largely positive (given the transport and connectivity benefits) there would be adverse social effects during both the construction and operation phase. She referred to these as geographically concentrated, mostly at the 'sub-local' scale for residents who are in close proximity to the Project. Ms Healy reflected on the avoidance and mitigation measures proposed by other technical experts (for example in respect of noise), particularly and stressed the importance of communication before and during the construction phase. We are satisfied with how that has been provided for in the designation conditions.

[916] We accept the evidence on the social benefits of the Project not just from the social impact witnesses but also from other people that appeared before us such as those giving evidence for the Iwi Project Partners.

Equestrian opportunities

[917] Under the heading of recreation opportunities Ms Healy gave evidence that[157] there were 18 submissions requesting the addition of a bridle path as a part of the SUP component of the Project (although we note Ms Lander referred to 17 submissions). Themes raised in these submissions were the health and wellbeing of the local equestrian community and continuation of the recreation opportunity

157 Healy EIC 4 July 2023 at [74]-[77].

provided for on the Mackays to PekaPeka and PekaPeka to Ōtaki expressways. She noted none of the submissions had raised any adverse effects on the existing equestrian facilities and that to her it appeared that what was being sought was an outcome rather than mitigation for an adverse effect of the Project.

[918] Ms Healy said that she had reviewed the local equestrian facilities, paths and services in the area and none of those would be directly impacted by the Project. She found the Project would retain continued access for equestrians via existing roads or where any detour is provided. In her view there are no adverse effects on recreation facilities, or access to them, and no specific adverse social impacts of the Project that would impact on the community's existing way of life. She therefore did not consider there to be an adverse effect that required mitigation through the provision of a bridle path.

[919] Ms Lander for the District Councils gave evidence under the bridleway heading. She said that the absence of provision for a bridleway had resulted in a need to assess whether or not there was an RMA effect on the environment arising from the Ō2NL Project. She repeated her advice to Ms Healy about the submissions received expressing concern about the lack of any bridleway being included in the design, when both Mackays to PekaPeka and PekaPeka to Ōtaki incorporate a bridleway into their multiuse pathway designs.

[920] Ms Lander said after expert conferencing with the equestrian interests she was provided with helpful information, including a map of equestrian facilities in close proximity to the Project. She gave evidence that after reviewing the evidence and information provided by the s 274 parties:[158]

> While this material expresses valid and genuinely held concerns about the absence of a bridleway, including in relation to safety and discrimination towards equestrians as lawful road users, I have not identified any adverse effect on the environment created by the Ō2NL Project that requires or demands an RMA response. While … M2PP and PP2Ō have incorporated a bridleway into the design of a multiuse pathway, and this may seem to create a precedent for incorporating a bridleway, this does not in my view result in an RMA effect.

158 Lander EIC 26 September 2023 at [15].

[921] We note that Mr Peet (for NZTA) produced material obtained from the NZTA Website titled Local Connections on connections with the Mackays to Peka Peka Expressway shared pathway (Exhibit E Horse Prohibition Areas). This shows areas where horses are not allowed (with a sign with a ridden horse struck through) – these being the Rongomau Footbridge, Raumati Road Bridge, Mākarini Footbridge, and the Waikanae River Bridge (although there is a route that fords the Waikanae River). There was no suggestion from the equestrian witnesses that they ignored such signage.

[922] Mr Peet gave evidence that allowing horses to use the SUP would have benefits but that would come with risks and costs and that the Project had not been designed for this. He referred to bridges and underpasses as areas of risk and cost. He said that the M2PP SUP had a sealed surface 2.5-3 metres wide and PP2Ō had a gravel surface with a narrow grass area beside it for horses.

[923] He said he was unaware of any horse riding standard for SUPs, but that the AusRoads standard for cyclists and walkers is 3 metres. He accepted there are narrower bits on the Waikanae River Trail which is multi use (which we note is also not a SUP designed and associated with a state highway). He also mentioned the distances on the SUP as being quite long.

[924] Ms Anderson and Mr Grant Eccles gave evidence on district plan policy and strategic documents for both districts in relation to equestrian provisions and we cover these later, noting that none of these are determinative.

[925] Witnesses for the Equestrian Advocacy Groups gave evidence, including Mr Yeo, Co-chair of NZEAN who also presented an opening submission backgrounding the interests of the equestrian groups. Witnesses responded to what they had heard on equestrian issues from NZTA and experts prior to cross-examination.

[926] Ms Jacqui Lane, the secretary of NZEAN, said that in her experience there have been no significant issues with horses sharing trails with other users. She had found that sharing trails develops pūkengatanga (mutual respect), whakapapa

(connections) and whanaungatanga (belonging and teamwork) among users which are part of the Tikanga of this Project according to the evidence of NZTA's Project Director Mr Dalzell. She referred to the evidence of Ms Lander and Ms Anderson acknowledging benefits of sharing this pathway and the safety considerations for riders given the current issues highlighted with the existing SH1 and SH57. She said that in her experience horses are able to manage most terrains and do not require any special pathway. She referred to being able to see what is coming and hear what is behind you on shared pathways as important.

[927] She questioned whether given the precedent set on the pathways from McKays to Ōtaki and its specifications there would be much extra cost involved in ensuring the pathway will also be suitable for horses. She referred to Mr Dalzell confirming that there will be underpasses and bridges and that horses can ford the rivers in exactly the same way as they do between McKays and Ōtaki. She believed that although there may not be any legal/RMA based reason to include horses on this pathway, NZTA should be doing what would keep equestrians safe.

[928] Ms Shelly Warwick, Chair of Kapiti Equestrian Advocacy Group (KEAG) and Co-chair of the NZEAN gave evidence on behalf of those organisations. She was a member of the Cycleway, Walkway, Bridleway Advisory group for KCDC for 7 years and is currently the Ōtaki Ward councillor on the KCDC. Her evidence had a focus on history, health and track design for equestrian use. She referred to the benefits of horse riding for mental and physical wellbeing, female participation, children on horses and the potential for the Project to cut off riding facilities from access to east-west routes. When asked where she would ride to, she said the Kāpiti Coast expressway created a spine – Waikanae to Queen Elizabeth 2 Park and the beach north to east connecting communities and the rural area. Ms Warwick said that she lives in Ōtaki and if there was an SUP for equestrians she could use this to go to Manakau and also that the SUP would provide connections such as access to riding along the west coast beaches.

[929] Mr Richard Schimpf gave evidence on equestrian safety when riding on and off roads and the need for a safe riding connection north to south through

Horowhenua. He said that a multi-use path alongside the new highway would provide the only connection for moving between riding experiences and potential east-west connections. He considered that as the Horowhenua District is in the same situation as its southern neighbours with only one north/south route through the district it should also be provided with an SUP for equestrian use. He also referred to the safety benefits of the approach to equestrian provision to the south.

[930] Mr Steve Lewis, who is also involved in multiuse trail development in the Kāpiti Coast District particularly from a cyclist's perspective, gave evidence in support and on behalf of the same organisations as Ms Lane. He referred to interaction between pathway users as the element of surprise. For cyclists this can be mitigated by improving sight lines at corners. He said that increasing the corner radius, or the careful selection of planting on the inside of the corner, or preferably both, would achieve this. He considered that if the new shared path on the Project is similar to the existing Kāpiti Expressway paths the radius of the corners would be suitable for multi-use but some of the planting could be modified.

[931] Mr Lewis also referred to the Kāpiti Trails Network where it is proposed to integrate the different trails (coastal, foothills and back country) into one combined network. He produced a map demonstrating how this would work. He said that the existing expressway and off-road multi-use trails formed a north-south spine and that has substantially changed the way people move through the local district. He considered that the proposed network had the potential to become a major attraction for the Kāpiti Coast and a driver for economic development.

Conclusion on equestrian opportunities

[932] We note that several witnesses emphasised the potential for connections to horse riding routes and destinations north of Ōtaki and to a network including east and west connections and the beach from the spine of the SUP. Also the potential for local and regional and domestic visitor and tourism benefits from a riding trail network that individuals and groups could access.

[933] The Court asked NZTA to advise what restriction or prohibition there would be in the riding or leading of horses along or beside the carriageway of a state highway (which is not a motorway which is a road classification prohibiting walking, cycling and horse riding).

[934] In response, NZTA confirmed that there was no restriction or prohibition on any of those activities on a non motorway (or apparently for that matter an expressway if that status were to be conferred on the Project). That extends to pedestrians walking along and cyclists using a state highway as well as the riding and leading of horses along it.

[935] The Court was interested to know whether NZTA intended to restrict or prohibit equestrian activity along any part of the SUP and if so its reasons for that. We did not receive a direct answer on this.

[936] We accept the point made by NZTA that even without equestrian users being able to use the SUP, there would be a benefit to those users, as with the Project in place local roads which are no longer state highway would have substantially reduced traffic volumes.

Economic effects

[937] Dr Doug Fairgray prepared Technical Assessment O: Economics and Town Centre Impacts and gave evidence for NZTA, with Mr Michael Cullen who had prepared a s 198D Report for the District Councils also giving evidence on this topic. There was no expert witness conferencing between the two economists and neither were needed to give evidence in person.

[938] There was no disagreement between these witnesses that the Project would generate positive economic effects, especially through its long term stimulus for growth in the Horowhenua District. Our attention was drawn to measures (such as signage and way finding to Levin) proposed to mitigate against any adverse economic effects that cannot be avoided during the construction and implementation stages of the Project. In the medium to long term, the evidence was

that the Ō2NL Project is expected to stimulate strong population and economic growth, and enhance the economic performance of the Levin town centre - the District's main commercial hub – as well as the wider economy.

[939] Mr Eccles pointed out that these conclusions are consistent with the views expressed in the submission of The Horowhenua Company, which is the economic development agency for the wider Horowhenua district.

[940] For completeness we note that Mr Cullen had expressed concern in his s 198D Report about the adverse economic effect of there being no East West Arterial connection between Tara-Ika and Levin East and sought that NZTA address the economic and social issues due to severance between these two locations. Later he said that it was his understanding HDC and NZTA were in the process of confirming a commercial agreement which addressed the provision of the EWA (which we confirm is covered elsewhere in this decision).

[941] We accept the evidence of those witnesses on the forecast economic effects of the construction and operation of the new highway.

Relevant provisions of statutory and planning documents ss 104(1)(b) and 171(1)(a)

Regulations, Policy and Planning Documents under the RMA

National Environmental Standards (NES)

NES for Freshwater

[942] The regulations applicable to the Project are:

- Specified infrastructure in natural wetlands (part 3, subpart 1, reg 45);[159]
- The reclamation of rivers (part 3, subpart 2, reg 57); and

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159 The application was lodged before Amendment 2 came into effect, changing the definition of natural wetland. We return to this when discussing the definition of natural inland wetland for the offsetting regime.

- The passage of fish affected by structures (part 3, subpart 3, reg 70 and 71).

The consenting pathway for these activities is as discretionary activities. There was agreement that the mandatory matters to be addressed under these regulations had been adequately dealt with in assessment, design and the conditions of consent.

NES-AQ

[943] As noted in the air quality section of this decision, we have accepted the evidence that the effects on air quality from operational traffic emissions from the Project will be within the NES-AQ ambient air quality standards which are intended to be protective of health for the most vulnerable members of the population.

[944] With respect to the effects on air quality during the construction of the Project we have found that these effects can be managed to an acceptable level provided there is compliance with the construction air quality conditions (RAQ1 to RAQ7) and the associated CAQMP including the amendments which we have directed to be made to these.

NES for Assessing and Managing Contaminants in Soil to Protect Human Health

[945] Mr St Clair gave evidence that the PSI identified 36 potential areas of soil contamination of which 28 were activities on the HAIL identified as market gardens and orchards and one site identified as a former landfill. The PSI was undertaken without access to the entire project site. NZTA proposes to undertake detailed investigation of the entire site once access to all of the land has been established following which it will apply for any resource consents which are required. We accept the appropriateness of that course of action.

National Policy Statements (NPS)

NPS for Freshwater Management

[946] The National Policy Statement for Freshwater Management (NPS-FM) 2020

was amended with amendments taking effect in January 2023. The Minister for the Environment made further amendments under s 53(2)(a) in February 2023. These latest amendments came into effect after the lodging of the applications.

[947] Mr St Clair summarised the reasons the application gives for the Project being consistent with the objectives and policies as follows:[160]

- The effects avoidance and management measures for the Project (including with regard to freshwater) have been developed in partnership with tangata whenua (Policy 2).
- Development of the Project would allow for people and communities to provide for their health and safety and their social, economic and cultural well-being (Policy 15).
- The Project avoids adverse effects on the health needs of people by avoiding effects on watercourses where municipal water takes are located, and on domestic water supply groundwater bores. This is addressed under Condition RGW1 which restricts the taking of groundwater for the purpose of dewatering during construction to locations which are more than 50 metres from a consented bore and Condition RGW2 a) which requires that construction activities must not result in any adverse change to the existing water quality, maximum quantity and maximum rate of extraction for any community water supply or bore that is either subject to an active water permit or permitted by a rule in the Regional Plan.
- Adverse effects on human health from over-allocation are avoided through mitigation of effects associated with water takes for construction, and the surface water takes sought are temporary in duration and expire at the completion of construction of the Project (Policy 11). This is addressed under condition RGW1 which limits the take period per dewatering installation to two months and condition RWT1 which sets limits on extraction rates and volumes of water and the overall extraction period for the five identified streams/rivers.

160 Section 87F Report at [176].

[948] Mr St Clair also considered the following additional policies to be relevant:[161]

- Once operational, the Project would improve the overall quality of freshwater through improved stormwater treatment from the situation where currently there is no formal treatment of stormwater runoff from the existing state highway roads (Policies 5 and 12). This is addressed under conditions RSW1 to RSW3.
- Appropriate erosion and sediment controls will be implemented during construction in accordance with conditions (Policies 5 and 12). This is addressed under the erosion and sediment control conditions (RES1 to RES10).
- Although the Project would result in the permanent loss of sections of streams and wetlands, it is proposed to offset these effects via new stream channels (stream diversions), wetland restoration and riparian planting/enhancement to achieve a no net loss of ecological function overall (Policies 6 and 7).
- The integrated management of fresh water and the use of land and development has been appropriately considered in the proposed stormwater management design for the Project (Policy 3).

[949] Mr St Clair concurred with the evidence of Mr Eccles[162] that the Project is consistent with cls 3.22(1)(b) and 3.24(1) of the NPS-FM in that:

- The activity (i.e. the Project) is necessary for the construction of specified infrastructure.
- The Project will generate regional and national benefits;
- The Project has a functional need to be located and to operate in, and traverse, the selected location.
- The effects management hierarchy has been applied to the management of the effects of the activity (including through offsetting

161 Section 87F Report at [178].

162 Mr St Clair agrees with the assessment – see s 87F Report at [183].

and compensating for the unavoidable loss of extent of natural wetland and streams).

[950] Mr St Clair and Mr Eccles gave evidence that the 2023 changes to the NPS-FM hold little implication for the Project (and the provisions for specified infrastructure under which the Project sought consents under the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 remained unchanged). Mr Eccles did note the changes to the species types that are now captured by the alteration to the definition of natural inland wetland potentially change (i.e. reduce) the quantum of offset planting required by the Project to address the loss of wetlands, a matter the conditions cover and we dealt with under ecological effects.

[951] Mr St Clair concluded[163] that conditions give effect to the requirement to maintain or improve fish passage in cl 3.26(1) of the NPS-FM and the correct design guidelines are applied. This is addressed under conditions RFE3, RFE4, RFE5.

NPS on Urban Development (NPS-UD)

[952] On the NPS-UD that came into force on 20 August 2020 and was amended on 11 May 2022, there was no disagreement between the planning witnesses Mr Eccles and Ms Anderson that the proposal was consistent with that document.

[953] That document defines a state highway as nationally significant infrastructure, with KCDC a tier 1 local authority and HDC a tier 3 local authority with Policy 2 recognising the need for these local authorities to "provide at least sufficient development capacity to meet expected demand for housing and for business land over the short term, medium term and long term".

163 Section 87F Report at [184].

[954] Both witnesses agreed the Project is consistent with the NPS-UD for the following reasons:[164]

- The majority of the strategic, transport and more localised planning strategies and plans relevant to the Project identify and reinforce the need for the Project to occur to assist in improving transport network safety and resilience, reducing congestion, facilitating coordinated urban growth, and contributing to efficient freight and public transport provision. Local authority urban development decisions in the Project area have thus been able to be integrated with infrastructure planning and funding as it is relevant to the Project (Objective 1, Objective 6, Policy 10).
- The Project would contribute to growth in the Horowhenua District through enablement of full capacity urban development of the Tara-Ika Growth Area east of Levin (and other areas identified for urban growth by HDC) by providing additional capacity on both the local and strategic roading network. It would also contribute to growth in the Kāpiti Coast District through providing enhancing the resilience and connectivity of the state highway network (Objective 1, Objective 6, Policy 10).
- The functioning of the Levin town centre would be enhanced, and people's health and safety improved, by the reduction in congestion (with associated air quality improvements) produced by inter-regional traffic (including heavy vehicles) in the town centre once the Project is operational (Objective 1, Objective 4, Policy 1, Policy 6).
- The design of the Project provides appropriate connections with the existing and future local roading network in Levin and retains the connectivity of the existing local roading network at key points, all as discussed in the Transport section of this decision. The SUP also provides an active transport spine along the entire route to which all

164 Eccles EIC at [191] and Anderson s 198D Report at [57].

adjacent communities have the potential to connect to in the future (Objective 1, Policy 1, Policy 10).

- The Project is to be constructed to integrate with the existing and proposed local drainage network and with the conditions proposed should not create unacceptable adverse effects in terms of up or downstream flooding (Objective 1, Objective 6, Policy 1, Policy 6, Policy 10).
- The Project has been designed to accommodate the effects of climate change to the year 2130 (predominantly more frequent, higher intensity rainfall events) through the proposed stormwater drainage and treatment system, and structural elements such as culverts and bridges to ensure that any existing and planned urban environments are not adversely affected by the Project. Significant infrastructure climate resilience benefits would also accrue from the Project given that the existing SH1 alignment traverses two flood plains, combined with the reduced hazard exposure of the Project alignment coupled with a 90% reduction in detour length should a significant rainfall/flood event occur (Objective 8, Policy 1).
- Key urban amenity effects, particularly noise and visual matters, would be mitigated to levels that would ensure a well-functioning urban environment both now and in the future (Objective 1, Objective 4, Policy 6).
- Through the iwi partnership approach, the development of the Project is underpinned by, and responds to, cultural values and, in doing so, takes into account the principles of the Te Tiriti o Waitangi/Treaty of Waitangi (Objective 5, Policy 9).

[955] While Ms Anderson originally had concerns with the Project's implications for integrating transport and land use and connectivity with the proposed Tara-Ika urban growth area and its contribution to a well-functioning urban environment or the outcomes sought by the NPS-UD, these concerns were resolved through a commercial arrangement reached between NZTA and HDC as discussed in the Transport section of this decision.

[956] We accept there are sound reasons for finding the Project to be consistent with the NPS-UD subject to the satisfactory resolution of conditions.

NPS for Highly Productive Land (NPS-HPL)

[957] The NPS-HPL came into force on 17 October 2022 and has the sole objective (2.1):

> Highly productive land is protected for use in land-based primary production, both now and for future generations.

Policy 8 is:

> Highly productive land is protected from inappropriate use and development.

Clause 3.9(2) of the NPS-HPL states and is applicable to the Project:

> A use or development of highly productive land is inappropriate except where at least one of the following applies to the use or development, and the measures in subclause (3) are applied:
>
> …
>
> (b) it addresses a high risk to public health and safety:
>
> …
>
> (h) it is for an activity by a requiring authority in relation to a designation or notice of requirement under the …
>
> (j) it is associated with one of the following, and there is a functional or operational need for the use or development to be on the highly productive land:
>
> (i) the maintenance, operation, upgrade, or expansion of specified infrastructure[165]

[958] Clause 3.9(3) then provides:

> Territorial authorities must take measures to ensure that any use or development on highly productive land:
>
> (a) minimises or mitigates any actual loss or potential cumulative loss of the availability and productive capacity of highly productive land in their district; and

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165 The Project involves infrastructure that delivers a service operated by a lifeline utility as defined in s 4 of the Civil Defence Emergency Management Act 2002.

(b) avoids if possible, or otherwise mitigates, any actual or potential reverse sensitivity effects on land-based primary production activities from the use of development.

[959] As set out in Technical Assessment N – Productive Land, a minimum of 229.5 ha and a maximum of 358.7 ha of highly productive land would be affected by the Project. We concur with Mr Eccles and Ms Anderson that the Project is not contrary to the NPS-HPL. The alternatives process resulted in the preferred route cumulatively affecting the least amount of highly productive land of all the short-listed route alternatives.

[960] We accept the evidence that the Project is consistent with the NPS-HPL.

National Policy Statement on Indigenous Biodiversity (NPS-IB)

[961] The NPS-IB came into effect on 4 August 2023. The planners noted the exception to cl 3.10(2) provided by cl 3.11 (1)(a)(i) – construction of specified infrastructure that provides significant national or regional benefit. That means any adverse effects on a Significant Natural Area of a new development must be managed through cl 3.10(3) and (4), which is the effects management hierarchy.

[962] The NPS-IB definition is:

> **effects management hierarchy** means an approach to managing the adverse effects of an activity on indigenous biodiversity that requires that:
>
> (a) adverse effects are avoided where practicable; then
>
> (b) where adverse effects cannot be avoided, they are minimised where practicable; then
>
> (c) where adverse effects cannot be minimised, they are remedied where practicable; then
>
> (d) where more than minor residual adverse effects cannot be avoided, minimised, or remedied, biodiversity offsetting is provided where possible; then
>
> (e) where biodiversity offsetting of more than minor residual adverse effects is not possible, biodiversity compensation is provided; then
>
> (f) if biodiversity compensation is not appropriate, the activity itself is avoided.

[963] An applicant is required to demonstrate how each step of the effects management hierarchy will be applied. Also if biodiversity offsetting or biodiversity compensation is applied the Applicant has complied with principles 1 to 6 in Appendix 3 for biodiversity offsetting and Appendix 4 for biodiversity compensation and has had regard to the remaining principles in those Appendices, as appropriate. Both sets of principles contain those when that approach is not appropriate.

[964] All the planners agreed that the project is consistent with the NPS-IB, with no party taking issue with that opinion.

Regional Policy Statements

[965] There are two relevant Regional Policy Statements - the MWRC One Plan Regional Policy Statement (Part 1) (One Plan) and the Wellington Regional Policy Statement 2013 (WRC RPS). Mr St Clair in his s 87F report and Mr Eccles undertook assessments of these as they relate to the applications. Ms Anderson reviewed and agreed with and adopted the findings in his assessment. Ms Anderson also addressed objectives and policies on district matters, such as historic heritage, landscape and regional form and function, but had no issues with the assessments undertaken in the AEE and agreed that the Project is consistent with any relevant policy provisions.

[966] Only a small portion of the overall Project is located within the WRC area. As to the WRC RPS we agree that PPC1 is at an early stage little statutory weight should be given to its provisions. We therefore do not dwell on the planning evidence relating to it.

[967] We also note that the Wellington Natural Resources Plan (NRP) is now operative and came into effect on 28 July 2023. That suggests the Wellington RPS (unless particular provisions are explicitly incorporated by reference as is the case with provisions in Part 2 Regional Plan of the One Plan) need not be the focus of attention.

[968] Although we note the evidence of Mr St Clair put some emphasis on Policy 51 of the RPS stating that when considering resource consent applications, the risk and consequences of natural hazards on people, communities, their property and infrastructure shall be minimised. Also that in determining whether an activity is inappropriate, the policy directs that particular regard should be had to a range of factors. He considered that there needed to be conditions managing the potential adverse effects of flooding.

Regional Plans

[969] In turning to the regional planning documents, we note the extensive assessment of the Project in terms of the regional plans (and for the One Plan the provisions of the RPS referred to in that document) both in the AEE and the Regional Council Reports (and the evidence).

[970] We note the Report of Mr St Clair identifying relevant provisions and qualifying much of his analysis of the application material and the Councils' specialist reports with the caveat that achieving the objectives and policies of various chapters is subject to appropriate conditions. The adequacy of the conditions is very much at the front and centre of this decision, and has been largely dealt with in terms of our effects assessment. Where there are still issues with effects, there is usually a policy issue e.g. air quality and discharge of contaminants to air, primarily dust associated with the construction activities to be managed and mitigated in a manner which prevents noxious, offensive or objectionable effects beyond the boundaries of the designation and spoil sites.

[971] We now turn to the regional plan documents, starting with the One Plan Part 2 and its references to various chapters in Part 1 (the RPS) and then the related or other regional plan provisions. After that we look at the NRP (Wellington Regional Council).

[972] In his Report (and evidence) Mr St Clair identified a number of objectives and policies in relation to water quality and flooding requiring further information in order to complete his assessment of these matters. We conclude that there is no

longer any issue with the objectives and policies in relation to tangata whenua given the resolution of the conditions.

One Plan (Part 2)

[973] We note there are many Part 2 objectives and policies that cross-reference various chapters and provisions in Part 1 and take the consent authority back to RPS provisions when consent decision-making. Several of these specifically refer to particular objectives and policies to be taken into consideration in consenting activities that are part of the Project. Others are general references to the objectives and policies in other chapters, e.g. Discharges to land and water.[166]

[974] We start by dealing with other chapter provisions in the RPS that are cross-referenced in the Regional Plan. For Chapter 2 Te Ao Māori there was no suggestion that the objectives and policies were at issue given the resolution of the conditions with the Iwi Project Partners.

RPS Chapter 3 Infrastructure

[975] As to Chapter 3 Infrastructure, Energy, Waste, Hazardous Substances and Contaminated Land, Objective 3-1 of the RPS requires that regard be had "to the benefits of infrastructure and other physical resources of regional or national importance recognising and providing for their establishment, operation, maintenance and upgrading". Policy 3-2 requires adverse effects on infrastructure and other physical resources of regional or national importance to be avoided as far as reasonably practicable.

[976] We note that most but not all chapters specifically take the decision maker back to Chapter 3 on infrastructure. We accept that many of the objectives and policies on infrastructure in Chapter 3 weigh strongly in favour of the Project. We see no need to attempt to reconcile the policy provisions in Chapter 3 with those in

166 For example, Policy 14-1 provides that for discharge of water or contaminants into water, the Regional Council must specifically consider the objectives and policies 5-1 to 5-5 and 5-9 of Chapter 5, and have regard to the objectives and policies of Chapters 2, 3, 6, 9 and 12 to the extent they are relevant to the discharge.

other parts of the RPS, or with the Regional Plan part of the One Plan. We observe that no party advanced a case based on planning evidence that the Project is contrary to Part 2 of the Regional Plan.

RPS Chapter 4 Land, Water and the Beds of Lakes and Rivers and Chapter 5 Water

[977] For Chapter 4, Objective 4-2 seeks the regulation of potential causes of accelerated erosion and increased sedimentation and also to ensure resulting sediment loads entering water bodies are reduced to the extent required to be consistent with the water management objectives and policies for water quality set out in Chapter 5. In Chapter 5 on water quality Objective 5-1 and supporting Policy 5-1 require that surface waterbodies and their beds are managed in a manner which safeguards their supporting capacity and recognises as well as provides for the water management values set out in Schedule B. Objective 5-2 seeks to ensure that surface and groundwater quality is maintained or improved and in respect of surface water quality, to support the values in Schedule B.

[978] The rivers and streams in the Project area are within four partial catchments – Manawatū (Mana), Ohau, West Coast (West) and Punahau/Lake Horowhenua (Hoki) – and within the water management sub-zones of Koputaroa Stream (Mana 13e), Ohau River and Kuku Stream (Ohau 1b), Waikawa Stream and Manakau Stream (West 9a and 9b) and Lake Horowhenua and Hokio Stream Catchment (Hoki 1a and 1b). The targets for sub-zones are set out in Table 65-1 of the AEE, with Policy 5-2 requiring that the water quality targets in Schedule E surface water quality targets are to be used to inform the management of surface water quality as set out in Policies 5-3 and 5-4. Policy 5-3 applies to on-going compliance when water quality targets are met.

[979] We note the evidence that water quality monitoring undertaken for the Project indicates that none of the sub-catchments meet all of the One Plan water quality targets. When targets are not met, Policy 5-4 requires the water quality to be managed so that it is enhanced. All operational discharges (stormwater) will be treated, an improvement on the current situation with the existing state highway network. Further the riparian planting proposed in the immediate Project

catchments is likely to improve water quality and ecosystem. The evidence was that in the long term this policy can be met, with temporary construction effects adequately dealt with through conditions.

[980] Policy 5-13 covers efficient use of water including through promotion of water storage and is relevant due to the water take consents being sought for construction effects mitigation purposes (and referred to under the duration policy in the Regional Plan.)

[981] As to the beds of lakes and rivers Objective 5-4 (which is supported by Policies 5-22 to 5-27) seeks to ensure the beds of rivers and lakes will be managed in a way that:

- Sustains their life-supporting capacity;
- Provides for the instream morphological components of natural character;
- Recognises and provides for the Schedule B values; and
- Provides for infrastructure and flood mitigation purposes.

It also requires that land adjacent to the bed of reaches with a Schedule B value of 'Flood Control and Drainage' is managed in a manner which provides for flood mitigation purposes.

[982] Policy 5-22 is important to all of the bridge crossings and works within streams. It sets out the general management requirements for activities.

- The Schedule B values as required in Policies 5-23 to 5-25 are recognised and provided for as described in the following table:

Waterway	**One plan schedule B site/reach specific value**
Ohau river and Kuku Stream	Site of significance-aquatic, Trout fishery – category II Regionally Significant, Trout spawning, Domestic food supply, Flood control/drainage

Manakau stream	Domestic food supply, Flood control/drainage
Waikawa stream	Site of significance-aquatic, site of significance-riparian, amenity, water supply, Domestic food supply, Flood control/drainage
Waiauti stream	Flood control/drainage

- Any significant reduction in the river/bed's ability to convey flood flows or significant impediment to the passage of floating debris are avoided;

- Effects on the stability and function of the river bed, habitat diversity, natural character and public access are avoided, remedied or mitigated; fish passage is provided for;

- The nature and extent of navigation or access for the operation/maintenance/upgrade of infrastructure and other physical resources of regional or national importance is not obstructed;

- And continued public access in accordance with Policy 6-10 is provided for.

[983] 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 is relevant to the bridge crossings of the Ohau River and Waikawa Stream. Policy 5-23(a) requires effects on these values to be avoided in the first instance. Permanent effects have been practically avoided through the selection of a bridge structure as the preferred crossing form.

[984] Under Policy 5-23(c) the habitat and spawning requirements of identified species are to be maintained. The evidence was that the effects management hierarchy has been applied to the management of temporary construction effects at the Ohau River and Waikawa Stream and other locations to make the Project consistent with the requirements of Policy 5-23.

[985] Policy 5-24 is relevant to activities in rivers and their beds with a Schedule B value of 'Flood Control and Drainage' and requires the bridges to be managed in terms of flood hazard, erosion protection and adverse effects. We note the evidence

was that the Project is consistent with Policy 5-24(a) in having effects that are less than minor. Also the evidence was that the Project is also consistent with Policy 5-24(b) on the basis that the bridge design avoids adverse effects on the instream morphological component of natural character.

[986] Policy 5-25(a) is relevant to all activities in rivers and their beds in respect of all other Schedule B values. 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. It then provides for an offset as an option in Policy 5-25(b). As the zone-wide Schedule B values apply to the whole Project this policy is applicable to the 39 stream diversions and 33 new culverts.

[987] Policy 5-26 provides for activities in, on, under or over the beds of rivers and lakes that are essential or result in an environmental benefit to generally be allowed.

[988] We have directed changes to the conditions under which water can be extracted from Waikawa Stream to provide greater recognition and protection for the natural values, including the Schedule B aquatic values.

RPS Chapter 6 Indigenous Biological Diversity, Natural Character and Historic Heritage.

[989] Under the heading of Indigenous Biological Diversity in Chapter 6, Objective 6-1 and Policy 6-2 seek that significant indigenous biodiversity, particularly rare, at risk and threatened habitats, are protected and managed, and enhanced where appropriate. Identification and qualification of the types of rare, at risk and threatened habitats and species affected and the extent of the effects for terrestrial indigenous biodiversity.

[990] Policy 6.2 directs that the Regional Council must protect significant indigenous biodiversity through regulating activities. The rules in this Chapter give effect to this Policy, with specific decision-making criteria (or matters to address). The Project recommends measures to avoid, remedy and offset/compensate for the

effects, with those recommended measures reflected in the proposed designation and consent conditions.

[991] We return to the more specific provisions on indigenous biological diversity in Chapter 13.

[992] Under the heading of Natural Character, Objective 6.2(b) and (c) seek to protect the natural character of among other matters wetlands, rivers and their margins, by ensuring that:

- The natural character of wetlands, rivers and their margins is protected from inappropriate development;
- Adverse effects on the natural character of wetlands, rivers and their margins are avoided where they would significantly diminish the attributes and qualities of areas that have high natural character, and avoided, remedied, or mitigated in all other cases; and
- Rehabilitation and restoration of the natural character of wetlands and rivers and their margins is promoted.

[993] Policy 6-8 requires that the natural character of wetlands, rivers and their margins must be preserved and that these areas must be restored and rehabilitated where this is appropriate and practicable. In all other cases, adverse effects are avoided where they would significantly diminish the attributes.

[994] Policy 6-9 lists matters for consideration to determine whether use or development is appropriate. They include:

- Compatibility with the existing level of modification;
- Functional necessity and that no reasonably practicable alternative locations exist;
- Appropriate form, scale, and design that is compatible with existing natural features;
- Not significantly disrupting natural processes or ecosystems; and

- Providing for restoration and rehabilitation where that is appropriate and practicable.

[995] The existing natural character for each of the main catchments varies between low-moderate to high-moderate. The Project will, before taking into account mitigation, have adverse effects on each catchment largely through effects on perceptions of naturalness of the rivers, streams, and wetlands. We accept the evidence that the proposed mitigation (including but not limited to wetland restoration, and riparian vegetation rehabilitation and planting) addresses such effects so that the current degree of natural character will be maintained in each catchment. Also that the benefits of the proposed restoration and rehabilitation on natural character values will continue to increase over time.

[996] Under the heading of historic heritage Objective 6-3 requires the protection of historic heritage from activities that would significantly reduce heritage qualities. This is being appropriately dealt with in terms of conditions as covered under effects.

Chapter 7 Air Quality

[997] The evidence was that Objectives 7-1 and 7-2 and Policies 7-1, 7-2 and 7-3 require that a standard of ambient air quality is maintained and the particulate levels (PM_{10}) are managed to comply with NES-AQ and regional standards set out in Policy 7-2 (the discharge must not cause any noxious, offensive or objectionable dust beyond the property boundary).

Chapter 9 Natural Hazards

[998] In Chapter 9 Objective 9-1 seeks the avoidance or mitigation of adverse effects from natural hazard events on, among other matters, infrastructure. The objective is supported by Policies 9-1 to 9-5 that provide clear direction regarding the avoidance of increased risk, except where certain circumstances apply, and applying a precautionary approach to the effects of climate change.

[999] Policy 9-1 sets out the division of responsibilities between the Regional Council and Territorial Authorities for natural hazard management under the RMA. Policy 9-2(g) states that Policy 9-2 (Development in areas prone to flooding) does not apply to new critical infrastructure. Critical infrastructure includes road and rail networks (as defined in the Regional Land Transport Plan (RLTP)). The Project is in turn also identified as a priority project in the RLTP.

[1000] Policy 9-3 relates to the placement of new critical infrastructure (and is considered to be more applicable) in an area likely to be inundated by a 0.5% AEP (1 in 200 year) flood event, or in an area likely to be adversely affected by another type of natural hazard. It states that such locations are to be avoided, unless there is satisfactory evidence to show that the critical infrastructure:

- Will not be adversely affected by floodwaters or another type of natural hazard:
- Will not cause any adverse effects on the environment in the event of a flood or another type of natural hazard;
- Is unlikely to cause a significant increase in the scale or intensity of natural hazard events; and
- Cannot reasonably be located in an alternative location.

[1001] The Project unavoidably traverses a number of floodplains and waterways that will be subject to inundation in a 1 in 200 year event. The NZTA evidence was that location of the Project has taken account of this and it is in generally favourable locations to allow, in combination with sound hydraulic design of structures, any adverse effects of the Project on hydrology and flooding of the area to be less than minor. NZTA's evidence was that the proposed infrastructure is unlikely to be adversely affected by floodwaters, nor is it likely to cause any, or increase the intensity of adverse effects on the environment in the event of a flood, ensuring consistency with Policies 9-3 and 9-4. The technical evidence on which the planning evidence was based was contested. The effects section of this interim decision looks at and has a question on different wording in the approach proposed in new conditions to deal with flooding.

[1002] In terms of climate change the Project has been designed to allow anticipated changes produced by climate change and a precautionary approach to the effects of climate change is adopted, ensuring consistency with Policy 9-5.

[1003] The Project will result in the section of the state highway network being less susceptible to natural hazards than the current highways SH1 and SH57 which aligns with the intent of Chapter 9.

Other Regional Plan provisions

[1004] We now turn to the specific regional plan provisions in Part 2 of the One Plan.

Chapter 13 Land use activities and certain activities in rare habitats, threatened habitats and at-risk habitats.

[1005] Objective 13-1 and Policy 13-1 require the regulation of vegetation clearance and land outside areas of significant indigenous vegetation. The regulation seeks to ensure that accelerated erosion and any associated effects, such as increased sedimentation within water bodies or damage to people, buildings or infrastructure, are avoided where appropriate or remedied or mitigated. Policy 13-2 sets out matters for decision making including consideration of the appropriateness of establishing infrastructure of regional or national importance including achieving integrated management through consent conditions. Conditions address this.

[1006] In relation to indigenous biological diversity, we note Objective 13-2 requires the regulation of "resource use activities to protect areas of significant indigenous vegetation and significant habitats of indigenous fauna or to maintain indigenous biological diversity, including enhancement where appropriate". There is permanent loss of significant vegetation and significant habitats of indigenous fauna meaning that the second limb of Objective 13-2 is to be considered.

[1007] Activities within Schedule F (rare and threatened habitats) are a non-complying activity. Policy 13-4 of the One Plan (the Regional Plan) allows for the

granting of the consent if the decision maker is satisfied that "more than minor" adverse effects that cannot be avoided are mitigated at the point of the adverse effect, or offset to result in a net indigenous biological gain.

[1008] Policy 13-4(d) provides:

> An offset assessed in accordance with (b)(iii) or (c)(iv), must:
>
> (i) 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
>
> (ii) 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
>
> (iii) generally be in the same ecologically relevant locality as the affected habitat; and
>
> (iv) not be allowed where inappropriate for the ecosystem or habitat type by reason of its rarity, vulnerability or irreplaceability, and
>
> (v) have a significant likelihood of being achieved and maintained in the long term and preferably in perpetuity, and
>
> (vi) achieve conservation outcomes above and beyond that which would have been achieved if the offset had not taken place.

[1009] There was evidence that NZTA has identified a hierarchical approach (avoid, remedy, mitigate, and offset) to managing the biodiversity loss where the effects are more than minor and has adopted that approach in the application and technical assessment. There was evidence that where there are residual adverse effects which cannot be avoided, remedied or mitigated (in terms of effects on terrestrial and freshwater ecology), these are to be offset to achieve a net gain in accordance with Policy 13-4(d).

[1010] Mr Lambie agreed that NZTA has demonstrated a sequential approach to its approach to the effects hierarchy before considering the management of residual effects through offsetting (and compensation). Mr Lambie confirmed that the Project explicitly avoided areas of high value forests, and has adopted checks and balances that avoid, remedy, or mitigate effects on rare or vulnerable flora and

fauna. He considered the limits to offsetting under Policy 13-4 and agreed the offsetting proposal is consistent with them, including the delivery of an indigenous biodiversity gain. Further Mr Lambie noted that the offsets address significant habitats and the residual effects on areas where effects are greater than "low" which goes beyond the requirements of Policy 13-4.

[1011] Activities within Schedule F (rare and threatened) habitats are a non-complying activity. Policy 13-4(b) allows for the granting of the consent if satisfied that "more than minor" adverse effects that cannot be avoided are mitigated at point of adverse effect, or offset to result in a net indigenous biological gain.

[1012] Mr Goldwater's evidence on terrestrial and wetland indigenous biodiversity explained the proposed mitigation measures and how residual effects would be offset so net gain would be achieved in accordance with Policy 13-4(d). He also referred to the use of the BOAM to calculate and inform that outcome. Dr James in his evidence on freshwater habitat loss and modification also referred to offsetting and the quanta of offsetting being determined using the SEV Environmental Compensation Ratio (ECR) scores. He said there is a high likelihood that because of the practicalities of stream fencing a greater area is likely to be fenced and planted than strictly required by SEV ECR calculations and result in a net-gain situation.[167] Mr Lambie was of the view that the offsetting and compensation proposals are sound and meet the policy expectations of the One Plan.

[1013] We see that Policy 13-4 (consent decision-making for activities in rare habitats, threatened habitats and at-risk habitats) does not contain any reference to compensation. The evidence was somewhat unclear as to exactly what is meant when a witness refers to compensation and couples it with offsetting. As directed in the ecology chapter we require a short statement clarifying the position in relation to Policy 13-4 and other provisions, along with any clarifying amendments to conditions, before we can find that the policy expectations of that provision in the One Plan are met.

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167 James EIC at [28] – [29].

Chapter 14 Discharges to land and water

[1014] Objective 14-1 seeks the management of discharges onto or into land or water that safeguards the life supporting capacity of water, provides for the values and management objectives in Schedule B of the One Plan and seeks to avoid, remedy or mitigate adverse effects on surface water or groundwater. Policies 14-1 and 14-2 set out a range of matters to consider when making decisions on applications, including the objectives of Chapter 5 and associated Policies 5-1 to 5.5 and Policy 5.9. Policy 14-3 directs the Regional Council to have regard to industry-based standards (including guidelines and codes of practices) but that does not mean they are obliged to adopt these, particularly if they do not provide the necessary certainty in terms of clarity, certainty and enforceability required under the RMA. Policy 14-4 seeks the consideration of opportunities to use alternative discharge options or a combination of methods for a discharge of contaminants.

[1015] Policy 14-9 sets out the decision-making requirements in respect of the NPS-FM with the consent authority when considering an application for a discharge to have regard to the extent to which the discharge would avoid contamination that would have adverse effects (particularly where it would have a more than minor adverse effect) on freshwater, ecosystems and the health of people and communities (through secondary contact with freshwater).

[1016] Resource consents are sought for the discharge of stormwater once operational, with increased impervious areas affecting stormwater runoff, and the discharge of sediment during construction where the discharges are within Schedule F habitats. We note the importance of the objectives and associated policies of Chapter 5 when considering consent conditions for the discharge of contaminants to water, as identified in evidence. Any changes to conditions are key to making an evaluation as to whether the objective and policies are satisfactorily dealt with.

Chapter 15 Air Quality

[1017] We note that this chapter requires regard to be had to objectives and policies of Chapter 7 of the RPS. Specific mention is made of the location of the air

discharge and associated effects on sensitive areas and activities. We have directed conditions to achieve these provisions.

Chapter 16 Takes, uses and diversion of waters and bores

[1018] Objective 16-1 requires that takes and diversions of water be regulated in a manner that recognises and provides for the values and management objectives in Schedule B and provides for the relevant provisions of Chapter 5 of the RPS. Policies 16-1 and 16-3 also require consideration of the relevant objectives and policies of Chapters 2, 3, 5, 9 of the RPS and Chapter 12 (includes consent duration policy) of the Regional Plan.

[1019] The Project seeks short duration consent to cover the construction period to take water from the Koputaroa Stream, Ohau River, Waikawa, Manakau and Waiauti Streams in a manner that does not exceed minimum flows and maximum core allocations in those waterways (apart from where supplementary takes will occur at times of high flows) and where it will be used and stored efficiently, primarily for the purpose of mitigating construction effects. Other sources of water will also be employed, such as rainwater collection and using water from existing bores and other industrial activities currently being undertaken on land occupied by the Project. We accept that the takes sought (as covered under effects) are reasonable and justifiable after amending the minimum flow for abstraction to cease on Waikawa Stream.

[1020] We note the evidence that the Project is consistent with the objectives and policies of this chapter. Subject to the amendments to conditions that we have directed we accept the evidence that the Project is consistent with the objectives and policies of this chapter.

Chapter 17 Activities in artificial watercourses, beds of rivers and lakes, and damming

[1021] Objective 17-1 directs the regulation of structures and activities in artificial watercourses, the bed of rivers and lakes, and damming to occur in a manner that safeguards the life supporting capacity and recognises and provides for the Schedule

B values and has regard to relevant Chapter 5 objectives and policies as well as the matters in Policy 14-9 which relate to the NPS-FM. This was covered earlier. . Policy 17-1 has matters informing consent decision making on activities involving the beds of rivers or lakes and including modified watercourses but excluding artificial watercourses. The consent authority must have regard to the extent to which the activity is consistent with best management practices, whether the activity is of a temporary nature or is associated with necessary maintenance and relevant objectives and policies of Chapters 2, 3, 5, 6, 9 and 12 as well as the matters in Policy 14-9 which relate to the NPS-FM. In addition, the consent authority must seek to avoid where reasonably practicable any adverse effects on any other lawful activity in, on, under or over the bed of a river or lake, including existing structures.

[1022] The Project traverses several streams and waterways, requiring bridging and culverts, the effects of which and approach to dealing with them covered earlier in this decision. There needs to be an evaluation of how any changes to conditions regulate the activities and achieve the objective and policies.

Proposed Natural Resource Plan (Wellington Regional Council)

[1023] The evidence was that the Project is consistent with the approach required in the Objectives and Policy P1 that requires an integrated assessment of the effects of activities under the heading Ki uta ki Tai: mountains to the sea.

[1024] In terms of the heading Beneficial use and development, collectively the provisions seek to recognise and enable development that has benefits to the wider environment.

[1025] In terms of the Māori relationships provisions Tangata whenua are partners and support the Project and have agreed on the conditions.

[1026] On natural character, form and function Objective 14 is that the natural character of the coastal marine area, natural wetlands, and rivers, lakes and their margins is preserved and protected from inappropriate use and development. Clause (e) of Policy P24 requires that outside of the coastal environment, adverse effects of

activities on the natural character of wetlands, lakes and rivers and their margins are avoided, remedied or mitigated.

[1027] The Project alignment avoids areas of outstanding/high natural character and outstanding natural features and landscapes (with none identified in the affected part of the WRC area), but the O-te-pua Wetland is affected and natural character planting is proposed. The AEE describes this as unavoidably directly affecting a small part of a gully floor wetland, with the loss mitigated through direct transfer of wetland plants and species and through the implementation of natural character planting. Mr St Clair concludes that the Project has avoided, remedied or mitigated the effects in line with Policy 24(e) and is consistent with Objective 14. He had earlier noted the concerns of Ms Williams that the natural character mitigation is subject to "landowner approval" and without the mitigation natural character will be adversely impacted across each of the catchments.

[1028] The AEE described the Project as consistent with natural hazard provisions because:

- In the GWRC area it has avoided being located in a high hazard area (Objectives O15 and O16 and Policy P25);
- The earthworks associated with the Project will not increase residual flood hazard risk in other areas, nor create adverse effects on natural processes (Objective O15, Policy P26);
- To the extent relevant within the GWRC area, hard hazard engineering measures (such as scour protection around culverts) have only been used where necessary to protect the Project as new regionally significant infrastructure (Policy P27);
- Particular regard has been had to climate change through the use of design standards in the concept design of drainage and stormwater measures that include a factor of safety for climate change induced rainfall events (Policy P28);
- The Project will reduce the susceptibility of the state highway network to natural hazards.

[1029] On natural hazards an aspect of the NZTA assessment that Mr St Clair did not agree with concerns Policy P26: Diversion of flood waters in a floodplain which suggested that any increase in hazard risk or residual hazard risk in other areas as a result of the diversion of flood waters is avoided or mitigated by the Project. Mr St Clair took a similar view as to Objective 15 to which this policy relates. At that stage he relied on Mr Kinley's opinion that the effects are likely to be more than minor.

[1030] On water quality Objectives 17 and 18 require that the quality of groundwater and water in surface water bodies is maintained or improved in order to meet contact recreation standards and be suitable for Māori customary use. The Project crosses several small tributaries of the Waitohu Stream that will need to be culverted under the highway. Treated stormwater from the highway will also be discharged to these tributaries. The Project will transfer traffic from the existing SH1 alignment to the new highway which will incorporate extensive stormwater treatment. The evidence was that as a result an improvement in water quality in the Waitohu Stream and its tributaries is likely.

[1031] There are many objectives and policies in relation to biodiversity, aquatic ecosystem health and mahinga kai and riparian management and activities in the beds of lakes and rivers. By the conclusion of the hearing there was no disagreement between the ecological experts on how (and why) the effects management hierarchy is being applied to the Project to achieve positive ecological outcomes, with the planners relying on this evidence. That too was the position with the planning experts in terms of the Project's consistency with the objectives and policies. We have some questions about how the conditions address ecology effects.

[1032] Mr Eccles gave evidence that the Project is consistent with Objective O19 and Policy P30 because the Project will maintain water quality, flows, water levels and aquatic habitats in a manner that maintains biodiversity, aquatic ecosystem, health and mahinga kai, and achieves the objective of Table 3.4. In addition, that the riparian habitats and margins will be restored in various locations within the catchments affected by the Project (Objective O21, Policy P30, Policy P109). Also that the design of all instream structures and diversions will allow for fish passage

measures, including for koura, to be implemented (Objective 23, Policy 32 and Policy P33).

[1033] Objective O22 is to maintain or increase the extent of natural wetlands, to protect their values and to restore their condition. Policy P34 seeks similar outcomes for natural wetlands. The Project unavoidably directly affects a gully floor wetland and so does not maintain or protect that wetland. A mitigation and offsetting scheme is proposed in respect of all affected wetlands, designed to achieve an overall net gain in wetland values.

[1034] The Councils' ecology witnesses agreed with the assessments of the NZTA ecology and other planning witnesses in relation to the treatment of ecology. That included demonstrating a sequential approach to the effects management hierarchy, before considering the management of residual effects through offsetting. Both witnesses agreed the offsetting proposal is appropriate, subject to the imposition of conditions which address residual uncertainty of the perpetuity of the offsets (and amendments to the conditions now deal with this issue to the satisfaction of the parties).

[1035] Policy P31 sets out the effects management hierarchy for activities that risk causing adverse effects on the values of a habitat listed in Schedule F of the PNRP. The Waitohu Stream and its tributaries and the valley floor wetland affected by the Project are a listed habitat in Schedule F. The application of that hierarchy can only occur if the exceptions in Policy 110 apply to the activity (and these mirror provisions in the NPS-FM).

[1036] Mr St Clair concurred with NZTA that the exceptions provided by Policy 110, that would otherwise require that the loss of extent and values of the beds of lakes and rivers and natural wetlands, including as a result of reclamation and drainage is avoided, apply to the Project. In summary the reasons for that are:

- The activity, including any reclamation and drainage, is necessary for the construction or upgrade of specified infrastructure, and

- The specified infrastructure will provide significant national or regional benefits; and
- There is a functional need for the specified infrastructure in that location.

[1037] Mr Eccles also referred to the restoration of natural wetlands that would occur elsewhere in the Project area as consistent with Policy P35 that encourages and supports such restoration.

[1038] On air quality Objective O30 requires that ambient air quality is maintained or improved to the acceptable category in Schedule L1 (ambient) air. Objective O32 requires that adverse effects of odour, smoke and dust on amenity values and people's well-being are minimised. Policy P55 requires that ambient air quality shall be managed to protect human health and safety. Policy P58 requires that air quality amenity in urban, rural and the coastal marine areas shall be managed to minimise offensive or objectionable odour, smoke and dust, particulate matter, fumes, ash and visible emissions.

[1039] On soils and land use Objective O33 requires that soils are healthy and support a range of uses, and that accelerated soil erosion is minimised. Objective 34 requires that adverse effects on soil and water from land use activities are minimised. The evidence was that the Project as a land use is consistent with this objective in terms of its effects.

[1040] On discharges to land and water Objectives O36 and O37 require that runoff or leaching of contaminants to water from discharges to land, and the amount of sediment-laden runoff entering water, are minimised. Policy P69 promotes discharge of contaminants to land over direct discharges to water, particularly where there are adverse effects on aquatic ecosystem health or mahinga kai, or contact recreation or Māori customary use. Policy P100 requires that the adverse effects of the discharge of hazardous substances shall be avoided, or mitigated or remedied where avoidance is not practicable.

[1041] All stormwater to be discharged to waterways will first be treated through a series of land-based devices to achieve a high standard of discharge quality. There was evidence that erosion and sediment control measures will ensure that sediment discharges to water are avoided to the fullest extent practicable. The evidence was also that where sediment discharges do occur they are to be managed within acceptable standards. We note the conditions place a heavy reliance on guideline documents to inform those standards and the role of the Regional Council in the oversight of the measures to achieve that outcome. Discharges of hazardous substances will be avoided through measures such as bunding of fuel storage and refuelling areas and contaminant interception and retention devices.

[1042] On water allocation the Project seeks short duration consent to take water from the Waitohu Stream, primarily for the purposes of mitigating construction effects. The evidence was that these are an efficient allocation and use of the water as required by Objectives O43 and O44. Also that the Project is consistent with Policies P117, P119, P122, P124, P125 and P129 which set parameters for such water takes in terms of life-supporting capacity, minimum flow or minimum water levels, core allocation, competition in terms of priority with other takes, reasonableness and efficient use including water storage and variable stream flows.

District Plans

[1043] In this case the following Operative and Proposed District Plans and Plan Changes are applicable:

- Operative Horowhenua District Plan (HDP);
- Proposed Plan Change 4 (Tara-Ika Growth Area) to the Horowhenua District Plan; and
- Operative Kāpiti Coast District Plan (KCDP).

[1044] Ms Anderson gave evidence that she generally agreed with the assessment undertaken by NZTA in the AEE. In her Report she identified additional relevant objectives and policies and raised concerns with the assessment provided. By the end of the hearing there was no suggestion that she still held those concerns or that

they were of such moment that approval should not be given to the designations.

[1045] Given the work undertaken on the conditions by the Iwi Project Partners we understand there are no issues with the provisions dealing with tangata whenua and cultural matters in either District Plan.

[1046] We note the AEE at section 68 and the Report of Ms Anderson and the evidence that the Project is consistent with the objectives and policies relating to:

- The archaeology, heritage and wāhi tapu provisions in both plans. There are no directly affected historic heritage features. The Prouse 'Ashleigh' homestead in Horowhenua District has been satisfactorily dealt with (as covered under effects). Accidental discovery protocols are to be observed during construction.
- As to contaminated land the necessary consents are yet to be obtained under the NESCS.
- On rural productivity and soils the Project minimises the footprint as far as practicable (noting the very recent NPS-HPL that predates both DPs and it is therefore appropriate to place more emphasis on that NPS than provisions in the District Plan).
- On infrastructure, access and transport the Project is strongly supported by the respective transport-oriented District Plan objective and policy provisions. The Project is important regional transport infrastructure and would have significant positive benefits in relation to improving, resilience, safety, travel times. Ms Anderson also noted there are additional KCDP relevant policies in her Report: TR-P1 Integrated Transport and Urban Form, TR-P3: An Efficient and Economic Transport Network: TR-P6: Safety and TR-P7: Cycling, Walking and Bridleway Links and Safety (elsewhere we have referred to the latter policy in relation to equestrian interests) to those included in the assessment in the AEE at section 68.9.
- On urban form and development Ms Anderson in her Report refers to Policy UFD-P10 in the KCDP which states:

> Council will ensure the continued development and maintenance of a public cycleway, walkway and bridleway network as part of the wider open space network in co-operation with relevant stakeholders, linking residential areas with open space, schools, commercial and community facilities, public transport nodes and important natural areas.

She refers to this policy recognising that the KCDC, in conjunction with interested community groups, individuals and landowners, has developed an indicative cycleway, walkway and bridleway (CWB) network.

- In relation to the HDP Ms Anderson refers to Policy 10.1.3 seeking that all new roads provide safe and convenient access for the community (raising the Tara-Ika growth area including its cross-connections and PC4 as an area to be further considered, which has now been resolved between NZTA and the Council). Policy 10.1.4 seeks to encourage development of pedestrian and cycle paths (with the SUP achieving this). Policy 10.1.13 seeks to ensure that State Highways are a safe and efficient network, again to be achieved by the Project.
- On network utilities the Project largely avoids adverse effects on existing network utilities and manages any construction related effects on them through liaison with the relevant network utility operators.
- On public access to water bodies the Project is consistent with Objective 4.2.1 of the HDP. That objective requires the maintenance and enhancement of public access to and along the coast, rivers, lakes and streams, at appropriate locations while preserving the natural character, cultural values and other values of these water bodies and their margins, and where the need for the protection of sites and areas of significance to Tangata Whenua is taken into account. The SUP would allow for enhanced public access across the water bodies, which would contribute to people's appreciation of their natural quality and values.
- On community and economy the Project would generate positive economic effects, especially through its long-term stimulus to growth

as well as during the construction phase and this is consistent with Objective DO-015 of the KCDP. Also the SUP and its linkage to the SUP that is part of the PP2Ō expressway would allow for greater opportunity for community activity and access to open spaces in a manner consistent with Objective DO-017.

Ecology and Biodiversity

[1047] As to the Ecology and Biodiversity provisions, the evidence is that the Project avoids significant indigenous vegetation and significant habitats of indigenous fauna in the Horowhenua District in line with Objective 3.2.1. The Project is supported by Policy 3.2.3 which encourages land use and development that maintains and enhances indigenous biological diversity through the protection and enhancement of areas of significant indigenous vegetation and significant habitats of indigenous fauna, and that requires regard be had to any positive effects associated with landscape and biodiversity restoration. We were told these outcomes would be achieved by the ecological mitigation and offset and compensation measures.

[1048] Within KCD a small part (approximately 2000 m^2) of a natural wetland is directly affected by the highway construction. It is not an ecological site listed as significant in Schedule 1 of the KCDP, but is significant due to the WRC PNRP definition of significance which captures all wetlands.

[1049] KCDP Objective DO-02 seeks that indigenous biological diversity and ecological resilience is improved through:

- Protecting areas of significant indigenous vegetation and significant habitats of indigenous fauna;
- Encouraging restoration of the ecological integrity of indigenous ecosystems;
- Enhancing the health of terrestrial and aquatic ecosystems; and
- Enhancing the mauri of waterbodies.

[1050] We note Ms Anderson's opinion that the Project is consistent with Objective DO-02 and ecological policy provisions in the KCDP. The habitat and vegetation of the wetland would be subject to mitigation through direct transfer of vegetation from the affected part of the wetland to mitigation sites. Along with that, there is an ecological offset package and its component activities with the intention of achieving at least a no net biodiversity loss attributable to the Project, that is consistent with the intent of KCDP policies NE-P1, NE-P3, ECO-P2, ECO-P3 and ECO-P4.

Landscape, visual and natural character

[1051] The route selection process has avoided affecting any areas classed an ONFL or as a Special Amenity Landscape. The exception is the Manakau Downlands Landscape Domain in the Horowhenua that is noted as having High Landscape Amenity described as a "second tier of landscapes below the ONLs" (addressed further in Landscape, Visual and Natural Character - Technical Assessment D).

[1052] Each domain has a suite of policies, with those in relation to the Manakau Downlands including:

> Policy MD.1: Manage the scale, intensity, size and design of subdivision and land development to ensure that it reflects and responds to the varied topography, productive capacity, aesthetic appeal and hill backdrop that contribute to the landscape character and qualities of the Manakau Downlands domain.
>
> Policy MD.4: Minimise obtrusive built elements in the open and elevated landscape by integrating building location and design with the surrounding landform and landscape qualities, including by avoiding buildings in prominent sites on elevated land.
>
> Policy MD.5: Ensure that natural habitats and the margins of rivers, streams, estuaries and wetlands, particularly the Waikawa Stream and Manakau Stream, and remnant indigenous forest areas, are identified and protected from inappropriate subdivision and development.

[1053] Objective 3.1.1 relates to ONF/Ls and Domains with High Landscape Amenity:

> Ensure that the District's Outstanding Natural Features and Landscapes are protected from inappropriate subdivision, use and development and that regard is had to other landscapes having high amenity.

[1054] Positive effects associated with landscape and biodiversity restoration must be had regard to under HDP Policy 3.1.6.

[1055] The Project crosses a number of waterways in Horowhenua District and Objective 3.3.1 seeks to protect the natural character of lakes, rivers and other water bodies and their margins, from inappropriate use and development. Implementing Policies 3.3.3-3.3.5 require:

- Management of the design, location and scale of subdivision and/or land development and use adjoining lakes, rivers, wetlands and other water bodies so they retain their special values and natural character.
- The adverse effects on the natural character and special values of lakes, rivers, wetlands and other water bodies are avoided or mitigated through establishing setbacks for activities and buildings that may cause adverse effects.
- That subdivision, use and development protects the natural character of lakes, rivers, wetlands and other water bodies and maintain and enhance their special values by having regard to the following matters in assessing proposals:
    - (i) Extent to which natural processes, elements and patterns that determine the area's natural character are sustained, and/or restored and rehabilitated;
    - (ii) Degree of change to landform and relief;
    - (iii) Degree of protection of vegetation cover and patterns, including use of a buffer;
    - (iv) Compatibility with existing level of modification to the environment

(v) Functional necessity to be located in or near the water body and no reasonably practicable alternative locations exist;

(vi) Ability to mitigate any potential adverse effects of subdivision, use, and development; and

(vii) Provision of public amenity and access to land acquired by Council for reserve purposes.

[1056] We note the evidence that:

- The route substantially avoids potential adverse natural character effects by avoiding areas with significant natural character values in the western part of the districts.
- The river, streams and wetlands crossed by the highway range between low-moderate and moderate-high natural character value.
- The natural character in each of the main river or stream catchments would be maintained having regard to existing natural character, the modified context, the functional need for the highway to cross the water bodies, the consequentially unavoidable effects of the highway on perceptions of naturalness in the vicinity at such locations, and measures proposed to rehabilitate and restore the natural characteristics and qualities. The proposed measures would continue to increase the natural character of the main streams over time.

[1057] We note the reliance on the Technical Assessment and evidence of Mr Lister in the planning evidence to inform a conclusion that the Project is consistent with the above Horowhenua District policy direction. On landscapes, features and landforms, Ms Anderson's Report considers the Project is consistent with the KCDP and HDP objective and policies. She refers to the whole-of-landscape approach through the CEDF, bringing together the proposed landscape and natural character mitigation measures, including those relied on by different disciplines. She also adds that the CEMP and operational stormwater treatment would manage construction and operational effects to protect the natural character of lakes (eg Lake Horowhenua), rivers and other water bodies. We accept that evidence and that

of Mr Eccles which was similar in nature.

Natural hazards

[1058] On natural hazards Ms Anderson's Report refers to objectives and policies in the HDP identifying development should not significantly worsen the risk of occurrence or the severity of natural hazards (in particular flooding) and that these effects should be avoided or mitigated.

[1059] That Report also refers to objectives and policies that identify safety and resilience of people and communities by avoiding increased exposure to risk from natural hazards in the KCDP. Flooding is identified due to the low-lying nature of the District. Based on the advice of Mr McArthur she considered further information is required to determine consistency with the policy.

Rural Character and Amenity

[1060] HDP Policy 10.2.3 is to avoid adverse amenity impacts by ensuring that new roads are designed to at least minimum standards. The new road exceeds minimum standards in many respects, as described under transportation effects.

[1061] Under the heading of Rural Character and Amenity Objective 2.4.1 HDP and Objective DO-011 KCDP for the respective rural zones seek to enable primary production activities, and to manage the effects of activities to maintain and enhance rural character and amenity.

[1062] In terms of amenity the HDP policies focus specifically on maintaining overall day and night time noise conditions that are compatible with the rural environment (Policy 2.4.17), while the KCDP has a focus on remedying or mitigating the adverse effects on rural character values from earthworks activities (including extractive industries). The KCDP also seeks to retain the general sense of openness and the natural landforms of the Rural Zone. The Project introduces a significant new element to the Rural Zones with landscape and natural character effects.

[1063] The AEE at section 68.4 states that the operational noise impact is consistent with HDP Policy 2.4.17 which requires that overall day and night time noise conditions are maintained at levels compatible with the amenity and activity present in the rural environment and refers to the temporary construction noise impact as able to be managed through appropriate methods and procedures. Further the noise assessment undertaken and the mitigation measures to minimise noise at sensitive receptors is entirely consistent with KCDP Policy Noise P-3 Transport Network Development that requires the design and development of new transport networks to ensure that the adverse effects of transport on the inhabitants of existing residential buildings and noise sensitive activities are minimised or mitigated.

[1064] On KCDP rural character and amenity provisions Ms Anderson agreed with the assessment at AEE section 68.4 and considered the Project consistent with these provisions, with their focus on maintaining and enhancing the character and amenity values of the District. She also referred to Policy EW-P1 Earthworks that seeks to avoid or mitigate erosion and off-site silt and sediment runoff to water bodies. In connection with Policy Noise – P3 Ms Anderson accepted that construction noise would be managed through a CNVMP and appropriate mitigation is proposed to minimise noise at sensitive receptors once the Project is operating.

[1065] We note that changes are needed to the conditions to satisfactorily deal with noise.

Assessment of Alternatives

Consideration of Alternatives – Overview

[1066] NZTA's *Consideration of Alternatives* (the Alternatives Report) addresses in some considerable detail the history and development of the Agency's assessment of alternative sites, routes and methods for the Project.

[1067] In this section of our decision, we provide an overview of this assessment process concluding with our finding on whether in our view there has been adequate consideration of the alternatives in the context of RMA s 171(1)(b).

[1068] While we have considered all of the information in the assessment, we do not refer to it all here.

[1069] Throughout this section on alternatives there is extensive reference to the use of a process known as Multi-Criteria Analysis or (MCA). This is a process used extensively by NZTA for assessing multiple criteria, both quantitative and qualitative, when evaluating different alternatives and options in the planning of new projects such as the Ō2NL Project.

Early History of the Project

[1070] A series of studies addressing safety and resilience concerns for the operation of the existing SH1 from Ōtaki to Levin was undertaken from the late 1980s through to about 2010.

[1071] While the preference in these studies had been to bypass Levin with a new highway to the west, later studies undertaken from about 2010 recommended an eastern bypass. Key reasons for this change included the presence of sites to the west with cultural and heritage significance, either already identified or anticipated to exist; a tract of land previously available in the west having been developed for housing; higher ecological environmental impacts to the west compared with the east; increasing volumes of traffic using SH57 to the east favouring an eastern route from an overall highway network perspective; more favourable foundation conditions to the east and following public consultation, more favourable support for the east over the west.

[1072] Around 2015 studies were undertaken to examine the feasibility of upgrading the existing highway to an expressway standard along its current alignment. These studies identified that such an upgrade was unachievable for a number of reasons including the need to replace five existing bridges and the logistical challenges for this; the need for significant realignment of deficient curves; the need to construct parallel service roads to provide access to some 400 properties along the route; the presence of existing Marae, Urupa, historic buildings and commercial residential buildings in both rural and urban areas all constraining road widening along the

route; and the severance which would be created with an expressway passing through a number of established communities along the route.

[1073] A "do nothing" option for retaining the existing two lane highway was also investigated and discounted primarily for safety, resilience and traffic congestion reasons.

Assessment of Corridor Options

[1074] The next step in the alternatives assessment was a corridor identification and evaluation process. This was undertaken in four stages loosely described as the identification of a range of environmental and social opportunities within the Project area which were all mapped using GIS software, the development of a long list of options, the assessment and refinement of this long list and the confirmation of a corridor shortlist.

[1075] Corridor widths of around 300 metres were chosen to allow flexibility for locating the alignment of the new highway within this width. Notwithstanding the findings from the earlier studies referred to above, western corridors were also included in this corridor assessment process.

[1076] This involved the identification of a number of individual corridors centred north and south of Ohau and then combining these to create a long list of full length corridors between Ōtaki to north of Levin.

[1077] This long list was evaluated at an early MCA workshop in August 2017 attended by representatives of Muaūpoko Tribal Authority, Ngāti Raukawa ki te Tonga, the local community, HDC, KCDC, WRC, MWRC and DOC.

[1078] As an outcome of this workshop, it was agreed to add two further western corridors and three further eastern corridors leading to a long list comprising nine southern corridors and nine northern corridors with multi connections between each to form a range of full length corridors from Ōtaki to North of Levin.

[1079] A follow-up MCA workshop was held (also in August 2017) attended by representatives of the local community, the councils, iwi groups, technical specialists and NZTA project and specialist staff.

[1080] At this workshop each of the southern and northern corridors which had been identified were evaluated using a five-point scoring system against the following criteria:

- Landscape/visual impact;
- Ecological impacts;
- Heritage impacts;
- Tangata Whenua cultural values;
- Productive land values;
- Social/community/recreation;
- Impact on dwellings;
- District development;
- Fit with project objectives;
- Property degree of difficulty;
- Engineering considerations.

[1081] Weighting scenarios were also developed and applied to test each option against different sensitivities based on:

- RMA Section 6 issues in accordance with matters of national importance;
- Social/community/recreation for the direct impact on dwellings;
- Environmental impacts;
- Cultural impacts;
- Economics, considering project objectives, engineering degree of difficulty and property degree of difficulty;
- NZTA's Draft MCA Guide; and
- Two further sensitivities identified as PRG1 and PRG2 which addressed cultural and heritage values.

[1082] Each corridor was evaluated against each of these scenarios resulting in two of the southern corridors and three of the northern corridors being discounted from further consideration.

[1083] This left ten overall corridor options, two in the west and eight in the east, each of these comprising a combination of a southern corridor and a northern corridor.

[1084] Further evaluations of each these ten corridors identified that none was free of issues or environmental impacts.

[1085] The next step involved further analyses focussed on the impacts of the corridors on Tangata Whenua (where some of the corridors were considered to be fatally flawed by iwi due to their impact on sites of cultural significance and the need to take extensive areas of Māori land); and traffic modelling (which considered ease of access from the new highway into Levin).

[1086] This step also included the investigation of the constructability of an additional southern corridor (S7) on an alignment further to the east which was added to avoid impacting on most of Manakau.

[1087] Discussions with Ngāti Raukawa ki te Tonga and Muaūpoko Tribal Authority confirmed their earlier advice about the extent of the areas of cultural significance which would be impacted by either of the western corridors. While there were also iwi concerns about the eastern corridors, iwi advice was that these could be more readily addressed through design and mitigation.

[1088] Traffic modelling also showed that there would be better outcomes for safety and reduced travel times for key regional journeys on the eastern corridors as opposed to the western corridors and as well, there would be better access to the Levin town centre from the east.

[1089] Detailed investigations identified that while the newly added eastern corridor (S7) would be constructable, its cost would be some 50% higher than the other

eastern corridor (S6).

[1090] In addition to S7, also investigated at this time was a corridor combining the southern end of corridor S7 and the northern end of corridor S6 with these two corridors being connected by a corridor identified as S7A.

[1091] From these investigations, it was decided to discard the two corridors west of Levin leaving a short list of six eastern corridors, three in the south (S6, S7 and S7A) and three in the north (N4 - the westernmost), (N9 - the easternmost) and (N5 in - between N4 and N9) with all alignments providing for the two southern corridors to connect with any of the three northern corridors in the vicinity of Ohau.

[1092] In the next stage, key stakeholders were provided with a further set of criteria for evaluating the short-listed corridors. These included the length of the corridor, the amount of productive land in the corridor, cost estimates for both a two lane and a four lane highway, the transport benefit cost ratio for each corridor, the percentage of traffic removed from the existing SH1 for each corridor and the key environmental effects from each.

[1093] All of this information was combined into an MCA performance summary for each corridor.

[1094] For the southern section, corridor S6 (the western most route) was favoured for a range of reasons including time savings, resilience, cost effectiveness and the minimisation of the loss of productive land. On the other hand, potential negative effects of this corridor included severance and amenity concerns including noise resulting from the closeness of the corridor to Manakau.[168]

[1095] For the northern section, corridor N4 was favoured because it met the Project Objectives and was close to existing developments. Negative effects included its impact on ecology, productive land, heritage and existing dwellings including the Prouse Homestead.

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168 14 dwellings within 50 m of centre line, 64 within 150 m, 116 within 250 m and for noise 13-14 PPFs in Cat B/C without mitigation.

[1096] Post MCA workshop field surveys of the ecological and heritage areas affected by this corridor identified that these negative effects could be minimised or appropriately managed.

[1097] In addition, as this corridor was aligned with and close to SH57, the existing established long term operational effects from traffic using SH57 would transfer directly from SH57 to the N4 corridor (if this was to be constructed) without introducing new traffic operational effects.

[1098] In summary, from the work completed up to that time under what was identified as the Indicative Business Case (IBC), a combination of southern corridor S6 and northern corridor N4 was chosen as the preferred corridor from Ōtaki to North of Levin for the next stage of route refinement.

[1099] At this stage, an independent evaluation of the IBC was also undertaken to check that the findings from the IBC aligned with the new priorities and strategic direction set out in the Government Policy Statement on Land Transport (2018).

[1100] From this evaluation, a programme of works was identified for a range of immediate safety improvements to be put in place on the existing state highway network between Ōtaki and Levin. This programme would be undertaken in parallel with the preparation of the detailed business case for establishing the preferred finalised route for the new highway located within the 300 metre corridor identified in the IBC.

[1101] The 300 metre wide corridor identified in the IBC was formally endorsed by the NZTA Board in December 2018.

Route Refinement

[1102] NZTA announced in October 2019 that it would be undertaking a Detailed Business Case (DBC)[169] for the Project leading to an application for the relevant

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169 From the NZTA Website: The purpose of the detailed business case (DBC) phase is to build a complete understanding of acceptable risks, uncertainties and the benefits associated with the investment, so that a final decision can be made on whether to

RMA authorisations.

Retention of Existing Highways

[1103] At the outset of the DBC process, a recheck was undertaken of the "do nothing" option for retaining the existing SH1 from Ōtaki to north of Levin and SH57 along Levin's southern and eastern boundaries. This "recheck" identified that under the "do nothing" option there would be increases in deaths and serious injuries on the two highways, increases in the frequency and severity of flooding at a number of bridges, increases in traffic passing through Levin making the town less liveable, stagnated regional growth and an ongoing lack of mode choice as a result of increasing congestion on these two motor-vehicle dominated highways.

The Proposed New Corridor

[1104] Based on these findings, the principal focus of the DBC moved to an MCA process for informing decision making on the refinement of the route within the chosen 300 metre corridor including connectivity options and interchanges.

[1105] This process was undertaken in five stages during 2020.

Stage 1

[1106] The objective of Stage 1 was to identify long and short list options for the location of the new highway within the chosen corridor, the interchange locations and key local road options.

[1107] This involved subdividing the overall length of the new highway into 10 zones each ranging from 1.5 to 4.5 km in length following which coarse 80 metre wide alignments were developed within each of these zones. Typically, two to three 80 metre wide alignments were identified for each zone.

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implement it. DBCs focus on an activity rather than a programme – that is, they are an activity-level business case.

[1108] A long list of interchange and local road options was also identified by the Project Team following which shortlists for each were developed for further evaluation in Stage 2.

Stage 2

[1109] The first MCA workshop held in May 2020 was attended by specially trained MCA assessors, members of the Project Team and representatives from the two district councils, and Ngāti Raukawa and Muaūpoko Tribal Authority.

[1110] There was no public engagement during Stage 2 – this followed later in Stages 3 and 4.

[1111] At Workshop 1 each alignment in each zone was assessed against a range of criteria including fit with the Project Objectives, cultural values, environmental impacts, district developments, and engineering and property degrees of difficulty.

[1112] Grade separated and at grade interchanges were identified at four broad locations at Manakau/Kuku, Kimberley Road/Tararua Road, the SH1/SH57 split and at North Levin. These were evaluated at Workshop 2 held in June 2020 by substantially the same group of participants who participated in Workshop 1 using the same criteria as had been used for the alignment assessments.[170]

[1113] Different connection options were also evaluated for each road that would potentially be severed by the new highway.

[1114] Based on the findings from these two workshops, refinements were made to the highway alignment and also to the interchange and local road options. This included a preference for a new half interchange option at Tararua Road and an at-grade roundabout at the SH1/SH57 junction.

[1115] All of this resulted in the identification of an emerging highway alignment as well as interchange and local road preferences with all of this to be taken forward

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170 Criteria for the Kāpiti Coast District Development were not considered at this workshop.

for consideration at the public engagement workshops to be held in Stage 3.

Stages 3A and 3B

[1116] The next step was a public engagement process which took place during August and September 2020.

[1117] At this time, Ngāti Raukawa and Muaūpoko Tribal Authority established project teams to engage directly with hapu on the alignment option which had emerged from Stage 2 (but not the interchange or local road options).

[1118] The outcomes from this iwi engagement informed each Iwi's option evaluations/scores as their inputs for the "public engagement option" at Workshop 3.

[1119] Informal community reference groups were also established at Manakau, Ohau, Levin and Levin North to provide "local" input into this workshop.

Stage 4

[1120] The objective for Stage 4 was to identify a recommended preferred alignment and interchange and local road options each of which was evaluated at Workshop 3 which was held in November 2020.

[1121] At this workshop, the MCA assessors were asked to recheck their earlier scores to take account of public and iwi feedback and to evaluate new highway alignment options for some of the highway zones as a consequence of the MCA refinement processes and the community engagement feedback.

[1122] They were also asked to evaluate a new half grade intersection option at Tararua Road and to undertake a new traffic signal evaluation for the short-listed local road options.

[1123] Workshop 3 was attended by the MCA assessors and representatives from the two district councils, Ngāti Raukawa and Muaūpoko Tribal Authority, key

members of the Project Design Team and NZTA staff.

[1124] At the workshop, the MCA assessors presented their updated evaluations/scores for the new highway alignment for each highway zone and interchange forms and locations all of which had taken account of the feedback which had been received from the public and iwi engagement processes.

[1125] Next, alignment preferences were identified for each zone and then combined into a single overall alignment for further development under the Project DBC process.

[1126] Interchange options identified for further study were at Kimberley/Tararua for a fully grade separated interchange at Tararua Road; at the SH1/SH57 split for a roundabout and at North Levin also for a roundabout.

[1127] No connection was recommended at Manakau/Kuku although if there was to be a connection sometime in the future, an interchange at Kuku north of the river was preferred.

[1128] Evaluations were presented for each of the short-listed local road connections which were connections at:

- Taylors Road (a reconnection of existing SH1 with a localised alignment and a new grade-separated connection across the new highway);
- South Manakau (full multi-modal connectivity between Honi Taipua Street and Manakau Heights Drive);
- North Manakau (connection at Manakau North Road), Kuku (connection at Kuku East Road);
- Muhunoa East Road to Tararua Road (connections at Muhunoa East Road and Tararua Road);
- Liverpool Street (no connection but to be provided as part of the new highway);
- Queen Street (connection at Queen Street);

- Waihou Road and McDonald Road (a new connection between Waihou Road and McDonald Road and a connection to SH57); and
- North Levin (local road connections for the proposed North Levin roundabout).

Later Amendments-2021

[1129] In March 2021 following further investigations undertaken by NZTA in conjunction with the district councils, a number of changes were proposed for the configurations of some of these local road connections.

[1130] These included for a half-interchange to be provided at Taylors Road and for at grade full signalisation to be provided at the existing SH1/Tararua Road intersection with the Main Trunk Line.

[1131] In late 2021 the need was identified to investigate options for the configuration of the new highway east of Levin between Tararua Road and Queen Street East.

[1132] While the intention had been to construct this section of the highway in a "cut" to minimise urban effects and to source material for reuse, further site investigations identified that along this length there was a high groundwater table which had the potential to make the construction of the new below ground highway difficult. There was also the potential for adverse effects of concern to iwi if the natural underground flow from this site to Punahua/Lake Horowhenua was to be interrupted.

[1133] Accordingly, a further workshop (Workshop 5) was held in October 2021 to evaluate options for the integrated design of the two intersections and the mid-block length between these two intersections.

[1134] The first option evaluated included constructing the highway at grade and diverting Queen Street to the north. This option would enable the future development of the proposed Tara-Ika development through a combination of the

diverted Queen Street and Tararua Road and would also fit in with the Tara-Ika Growth Area master plan and the East-West spine road identified in that plan.

[1135] The second option was to provide a bridge over the highway at Tararua Road. From an MCA perspective, this was evaluated as being the best performing option with the best fit with the Project Objectives.

[1136] Accordingly, this was the option which was preferred as it provided a better fit with the transport network and also with HDC's growth plans.

Discussion and Findings on Assessment of Alternatives

[1137] In opening NZTA referred to the Court's summary of the relevant legal principles in *Director-General of Conservation v Taranaki Regional Council* as follows:[171]

- The focus is on the process, not the outcome; whether the requiring authority has made sufficient investigations of alternatives proposed, rather than acting arbitrarily, or giving only cursory consideration to alternatives;
- Adequate consideration does not mean exhaustive or meticulous consideration;
- The question is not whether the best route, site or method has been chosen, nor whether there are more appropriate routes, sites or methods;
- That there may be routes, sites or methods which may be considered by some (including submitters) to be more suitable is irrelevant;
- The Act does not entrust to the decision maker the policy function of deciding the most suitable route; the executive responsibility for selecting the site remains with the requiring authority;
- The Act does not require every alternative, however speculative, to have been fully considered; the requiring authority is not required to eliminate speculative alternatives or suppositious options.

171 *Director-General of Conservation v Taranaki Regional Council* [2019] NZEnvC 203 at [96].

[1138] We adopt that summary which is consistent with the approach we have adopted when assessing notices of requirement for designations for a number of other NZTA projects.

[1139] The Alternatives Report confirms that the form of the Ō2NL Project has been developed and refined over many years. As can be seen from our overview of this Report, there have been extensive and detailed investigations of a very wide range of alternatives and their environmental effects for both the Project overall and for its individual components.

[1140] There has also been an extensive programme of involvement of a wide range of parties both in the MCA workshops and in other forums which have been held to investigate and develop alternatives for the Project. These parties have included representatives of iwi (Muaūpoko Tribal Authority, Ngāti Raukawa ki te Tonga), the local community, HDC, KCDC, WRC, MWRC and DOC.

[1141] We find that NZTA has undertaken sufficient investigation of alternatives in line with the principles in the caselaw.

Project Objectives

[1142] When considering a notice of requirement and any submissions received, a territorial authority (or in this case, the Court) must, subject to Part 2, consider the effects on the environment of allowing the requirement, having particular regard to, under s 171(1)(c), "whether the work and designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought".

[1143] NZTA's Project objectives are:[172]

- To enhance safety and travel on the state highway network;
- To enhance the resilience of the state highway network;
- To provide appropriate connections that integrate the state highway

172 AEE, Part 1 Statutory Assessment at section 72.2.

network and local road network to serve urban areas;

- To enable mode choices for journeys between local communities by providing a north-south cycling and walking facility;
- To support inter-regional and intra-regional growth and productivity through improved movement of people and freight on the state highway network.

Is the work reasonably necessary for achieving the objectives of the requiring authority?

[1144] In considering the work in terms of the project objectives we have drawn heavily on our findings in the Transport section of this decision, much of which we repeat here.

Project objective: to enhance safety and travel on the state highway network.

[1145] The rural sections of the existing state highways SH1 and SH57 are heavily trafficked two lane roads without median barriers and with almost 40 intersections and over 400 accessways.

[1146] These highways have a very high safety risk with KiwiRAP[173] star rating of 2 (out of 5) with a history of high numbers of serious and fatal crashes culminating in 72 DSIs in the five year period from 2017-2021 (an average of 14.4 per year) and then in the following year 2022 when there were 26 DSIs.

[1147] Travel times between Ōtaki and north of Levin on the existing SH1 vary depending on travel periods but on average take 26 minutes in the evening peak and as well there are no safe ways available to walk or cycle between Ōtaki and Levin.

[1148] The new highway has been designed to address the fundamental safety and travel time issues impacting the current transport network with a KiwiRAP 4 star

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173 KiwiRAP is a safety rating system used to identify the most dangerous sections of the rod network a 2 star road means that there are major deficiencies in some road features such as poor roadside conditions and/or many minor deficiencies such as insufficient overtaking provision, narrow lanes and/or poorly designed intersections at regular intervals.

rating.

[1149] On completion, some 35 DSIs have been predicted to be saved over the first five years of its operation which when added to the online safety improvements to be undertaken on the existing highways is predicted to result in a total of 60 DSIs being saved.

[1150] The forecast travel time savings in the evening peak between Otaki and the north of Levin are predicted to be 11-15 minutes less than under the current situation and a shared used walking and cycling pathway is to be provided over its full length.

[1151] It is clear from the evidence that the work will satisfy the safety and travel objective of the requiring authority.

Project Objective: to enhance the resilience of the state highway network.

[1152] SH1 is highly vulnerable to closures resulting from crashes and natural hazards.

[1153] In the period from 2017/2018 to 2021/2022 there was an average of 5 unplanned closures per year (28 overall) on the highway mostly from crashes with an average closure time for each of around four hours. When this section of the highway is closed, the alternative route for travelling from Wellington to Levin is via the Wairarapa with an increased journey time of around two hours.

[1154] Five bridges on the highway have been identified as having high or significant earthquake disruption risk with four of these being located between Ohau and Manakau.

[1155] The existing highway is also subject to surface flooding with two large scale events in recent years having closed the highway between Ohau and Manakau, one for ninety minutes and the other for over 24 hours.

[1156] The engineering design principles for the new highway are set out in the Design And Construction Report for the concept design prepared which notes that resilience features of the new highway will include:

- Four traffic lanes with a three barrier safety system;
- A design speed of 110 km/hr with the vertical and horizontal alignments of the new highway having been designed to suit;
- High quality pavements with open graded porous asphalt surfacing of the highway;
- Site specific probabilistic seismic hazard analysis to inform the seismic parameters to be used in designs;
- Liquefaction assessments for the design of ground improvements to limit deformations and achieve Waka Kotahi - NZTA's Bridge Manual performance requirements during earthquakes;
- Designs for 1:1500 return period earthquake events;
- A design storm of 1% AEP plus allowance for future climate change.

[1157] From our evaluation of this evidence, we are satisfied that the resilience of the state highway network will be enhanced by the work proposed by the Project.

Project Objective: to provide appropriate connections that integrate the state highway network and local road network to serve urban areas.

[1158] As set out in the Assessment of Alternatives section of this decision, there was a detailed evaluation of alternative locations and forms of connections from the new highway to the local road network. For example, in Stage 4 of the alternatives process, evaluations were undertaken of both grade-separated and at-grade connections at many locations along the length of the new highway with this involving inputs and feedback from a wide range of affected parties.

[1159] In addition to the connections which were agreed to be constructed from the new highway to the local road network under this process, around ten local roads

are to be either realigned, extended or newly constructed.[174]

[1160] Our finding is that the locations and forms of the proposed connections from the new highway to the local road network in combination with the proposed new and upgraded local roads are all reasonably necessary for achieving the Project's 'urban connections' objective.

Project Objective: to enable mode choices for journeys between local communities by providing a north-south cycling and walking facility.

[1161] A north-south cycling and walking shared pathway is to be built over the full length of the new highway to enable mode choices for journeys to be made between local communities as is required under this Project objective.

Project Objective: to support inter-regional and intra-regional growth and productivity through improved movement of people and freight on the state highway network.

[1162] As can be seen, we have found that the new highway will contribute enhanced safety, travel and resilience for the state highway network and that appropriate connections have been provided for integrating this network with the local road network to serve urban areas.

[1163] These enhancements as a package will also support inter-regional and intra-regional growth through the improved movement of people and freight on the state highway network.

Is the designation reasonably necessary to achieve the objectives of the requiring authority?

[1164] As to whether the designation is reasonably necessary to achieve the objectives of the requiring authority, in its opening NZTA submitted that:[175]

> Designations are a well-accepted method of securing land use authorisations for state highway projects, generally preferable to land use resource consents because they:

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174 Povall EIC at [15(g)].

175 NZTA Opening Submissions at [256].

(a) are more appropriate for large infrastructure projects that extend across a long, narrow area:

(b) provide certainty that the Ō2NL Project can be maintained and operated efficiently in the future;

(c) provide certainty to the community in relation to the nature of the work and the location of the Ō2NL Project; and

(d) prevent others from doing anything in relation to land subject to the designation that would prevent or hinder the Project.

[1165] We accept that submission and that benefits of securing a large and complex work extending over a long narrow area through a designation are not just to NZTA but also the community.

Overall Finding on Consideration on Project Objectives

[1166] Having considered the submissions received, subject to Part 2, and having considered the effects on the environment of allowing the requirement, under s 171(1)(c) our overall finding is that the work and designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought.

Other matters

[1167] There are a number of other matters that are also relevant to the Court's determination under ss 104(1)(c) and 171(1)(d) of the RMA. These concern non-RMA Planning documents – National, Regional and Local, although we acknowledge some of the transport-related documents have links to RMA Planning documents.

Transport-related plans and policies

[1168] Confirmation of the notices of requirement and granting of the resource consents sought for the project would be consistent with all of the transport related plans and policies.

[1169] In summary the uncontested documentation and evidence is that the non-RMA transport strategies and plans identify and reinforce the need for the Project to occur to assist in improving safety and resilience, facilitating co-ordinated urban growth, and ensuring efficient freight movements. To that end, the Project is generally aligned with the Government Policy Statement on Land Transport 2021 strategic priorities of safety (roads will be made substantially safer), better travel options (improve transport choices in getting to places where people, work and play), and improved freight connections (to support economic development).

[1170] The Project is also consistent with:

- The National Land Transport Programme (which notes that the provision of the NZUP funded Project will provide a safer and more resilient route, support growth in Levin, and support reliable freight connections);
- The Horizons Regional Land Transport Plan (RLTP) 2021-2023 (where it is identified as a priority investment area, and a priority project in the Manawatū-Whanganui Economic Recovery Strategy developed as a plan for economic recovery in response to the COVID-19 pandemic); and
- The Greater Wellington RLTP in that it is a continuation of the wider Wellington Northern Corridor improvements and as such is consistent with the WRLTP investment priorities of travel choice, strategic access, safety, and resilience.

Local plans and strategies

[1171] The evidence was that the Project is consistent with a number of local plans and strategies:

- Levin Town Centre Plan (2018);
- Horowhenua Growth Strategy 2040;
- Horowhenua Integrated Transport Strategy 2020;

- Horowhenua Infrastructure Strategy 2021;
- Horowhenua Long Term Plan 2021-2041;
- Te tupu pai/growing well/Kāpiti Coast growth strategy (2022); and
- Kāpiti Coast cycleways, walkways and bridleways strategy (2009) insofar as the SUP will link to the SUP on the Peka Peka to Ōtaki (PP2Ō project).

[1172] We referred earlier to the evidence of Mr Eccles on consideration of relevant plans and strategies to see whether they might provide policy guidance on a bridle path. He concluded that not providing for horse riding access as part of the Project is not inconsistent with the relevant Horowhenua District strategies. He referred to the different approach in the KCDC documents of relevance - Sustainable Transport Strategy (March 2022) superseding (or at least complementing) the Kāpiti Coast Cycleways, Walkways and Bridleways Strategy (2009) and Open Space Strategy (February 2012) (OSS). Mr Eccles said that the provision of the bridle path in the PP2Ō project (developed after the OSS became operative in 2012) was consistent with the OSS. He concluded that within the relevant KCDC strategies (to the degree they are relevant to the Ō2NL Project) there is support for extending the bridle path network in that District into the Horowhenua District. These documents do not assist in deciding the RMA issues before the Court.

Sections 105 and 107

Section 105

[1173] The Project requires permits for discharges to land and surface water for both construction (cleanfill and sediment) and operation (stormwater). In summary, a decision maker must have regard to the nature of the discharge and sensitivity of the receiving environment, reasons for the proposed choice and any possible alternative discharge methods (including into any other receiving environment).

[1174] On the discharge of cleanfill, where filling (including the disposal of excess cut material) occurs using material sourced from the same site (that is, the material is not imported) it is considered to come within the definition of 'cleanfill material' in

the One Plan. The placement of engineered fill (i.e. the location of the Project) was investigated during the route selection process. Specific alternatives consideration was undertaken (Spoil Site Selection Report), resulting in four cleanfill disposal sites that have been located to avoid significant adverse ecological, natural character and cultural effects.

[1175] Discharges of sediment during construction for the Project are ancillary to the land use consents sought (or permitted activities) for land disturbance and vegetation clearance. Where the land disturbance and vegetation clearance occur within Schedule F habitats, a separate discharge consent under s 15 and Rule 13-9 is required. While sediment discharges to Schedule F habitats will be minimal, they are not avoidable given the location of the Project. It is not practical or necessary, given the measures to be undertaken and the approach to be taken in the conditions to minimising and mitigating effects, to discharge to an alternative receiving environment.

[1176] For most of the Project, the discharge of stormwater once the Project is operational is a permitted activity. Within a Schedule F habitat, the discharge of stormwater from six cut off drains and one treatment device (Wetland 03) requires a resource consent. The Project is expected to have a minimal residual effect on the receiving environment, with stormwater quality and quantity to be managed via treatment devices which have been selected and designed to achieve that result. This is addressed in Conditions RSW1 to RSW3.

[1177] In light of the supporting technical reports, the evidence and the approach to be taken in the conditions, we concur that it is appropriate for the applications for discharge permits to be granted, having regard to the matters in s 105.

Section 107

[1178] Section 107 restricts a consent authority from granting a consent for the discharge of a contaminant to water that would allow the following effects, after reasonable mixing:

- The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
- Any conspicuous change in the colour or visual clarity;
- Any emission of objectionable odour;
- The rendering of fresh water unsuitable for consumption by farm animals;
- Any significant adverse effects on aquatic life.

[1179] The Water Quality – Technical Assessment H describes the works that result in discharges and other accompanying technical reports describe the nature and effects of these discharges and conclude these discharges will generally not give rise to the effects in the receiving waters set out above subject to appropriate construction and operational management measures as set out in the conditions. Discharge effects are addressed in conditions RES1 to RES10 for erosion and sediment control during the construction of the Project and in conditions RSW1 to RSW3 once construction has been completed and the Project comes into operation. If such effects were to arise, a discharge permit may still be granted because the circumstances in s 107 would apply. The discharges would be short term (or temporary) and any effects would occur at limited times only, though not necessarily consistently, over the duration of construction. Also as discussed above, conditions are in place for managing and minimising discharges during construction.

[1180] The operational stormwater discharges will result in a positive effect on the receiving environment, as the Project includes provision for treating the run-off from all new impervious areas associated with the Project prior to their discharge. This is a significant improvement as run offs from the existing state highway network are not treated prior to discharge.

[1181] In light of all of this evidence and the approach to be taken in the conditions, we concur that it is appropriate for the applications for discharge permits to be granted, having regard to the matters in Section 107.

Application of Part 2 of the RMA

[1182] The High Court in *New Zealand Transport Agency v Architectural Centre Inc*[176] (*Basin Bridge*) considered the implications of *King Salmon* in the context of a notice of requirement. The High Court distinguished *King Salmon* on the basis that s 171 of the RMA requires a different approach to that taken in a plan change context. The High Court cited with approval the following passage from the Board of Inquiry's findings:[177]

> Further and perhaps more importantly, as we have already noted, Section 171(1) and the considerations it prescribes are expressed as being *subject to* Part 2. We accordingly have a *specific statutory direction* to appropriately consider and apply that part of the Act in making our determination.

[1183] In the context of resource consents, the findings in *King Salmon* were considered by the Court of Appeal in *RJ Davidson Family Trust v Marlborough District Council* (*Davidson*).[178] The Court of Appeal in *Davidson* determined that:[179]

- The position of the words 'subject to Part 2' near the outset and preceding the list of matters to which a consent authority must have regard in s 104, clearly show that it is necessary to have regard to Part 2, when it is appropriate to do so.
- If it is clear that a plan has been prepared having regard to Part 2, and with a coherent set of policies designed to achieve clear environmental outcomes, reference to Part 2 is unlikely to add anything.
- If a plan has been competently prepared under the RMA, in many cases a consent authority will feel assured in taking the view that there is no need to refer to Part 2 because it will not add anything to the evaluative exercise. Absent such assurance, or if in doubt, it will be appropriate and necessary to do so.

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176 *New Zealand Transport Agency v Architectural Centre Inc* [2015] NZHC 1991 (*Basin Bridge*).

177 *Basin Bridge*, at [118] citing [183] of the Board of Inquiry's decision.

178 *RJ Davidson Family Trust v Marlborough District Council* [2018] NZCA 316, [2018] 3 NZLR 283 (*Davidson*).

179 *Davidson* at [47], [74], [75].

[1184] No planning witness raised any concern that plan provisions were equivocal or there were omissions or gaps in the plans in terms of Part 2 matters that would lead them to believe that the plans have not been competently prepared.

[1185] NZTA submitted that[180] the Court must be "assured" that reference to Part 2 would not add value. "Assured" is a high test and the Project 'rates' highly in achieving and delivering on the matters in Part 2. In particular, in relation to s 5 the Project unequivocally promotes the sustainable use, development and protection of natural and physical resources, noting its myriad positive effects.

[1186] We find no need to resort to Part 2 in making our decision on the designations or for that matter the resource consents.

Conclusion and Directions as to conditions

[1187] As we indicated at the hearing, no party had opposed the grant of consents or confirmation of the notices of requirement and there does not appear to be any basis to refuse those which have been sought.

[1188] As we also made clear at the hearing, our focus was on the Condition set to secure the outcomes of the Project. Those conditions are key to our approval of the notice of requirement and the resource consents. In undertaking our evaluation of all the necessary statutory matters under the RMA we have found that there is a need to further address conditions (and their evidence base) in several topic areas before they can be finalised.

[1189] Throughout our interim decision we have set out actions required to follow up on the conditions. There are also directions for matters to be addressed and further reported on, including the possible drafting of new and revised conditions. There may also be a need to make consequential amendments to conditions including to address inconsistences in drafting.

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180 NZTA opening submissions at [264].

[1190] The Court would be assisted by the involvement of the planning witnesses in condition reconsideration. Further, the Court requires the planners to revisit their evidence and its conclusions on evaluating the Project and its conditions against the planning documents. That could be done individually or by Joint Witness Statement giving reasons.

[1191] We suggest that NZTA and the Regional and District Councils confer on the issues, with Forest and Bird also having the opportunity to comment on any proposed revisions to the conditions.[181]

[1192] It would be helpful if NZTA first prepares a set of updated Conditions and where necessary other material addressing matters raised by the Court, and provide them to the other parties referred to for comment. The Councils and Forest and Bird could then have two working weeks to provide comment to NZTA. NZTA is to take account of the comments received before submitting their proposed set of revised Conditions with reasons addressing any matters raised in the interim decision or by the Councils and Forest and Bird.

For the Court:

B P Dwyer
Environment Judge

[181] We assume NZTA will consult with its Project Partners as appropriate.

Figure 42-4 – Location of Proposed Road-Traffic Noise Mitigation