



STATE HIGHWAY 1 NORTH CANTERBURY—WOODEND BYPASS PROJECT (BELFAST TO PEGASUS)

SUBSTANTIVE APPLICATION UNDER THE FAST-
TRACK APPROVALS ACT 2024

NZ Transport Agency Waka Kotahi
December 2025

Document version history

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Acronyms and abbreviations

General

Acronym/Term	Description
bgl	Below Ground Level
CAG	Cultural Advisory Group, established under the Project designation
CARP	Canterbury Air Regional Plan (October 2017 version)
CAQA	Construction Air Quality Assessment (Volume 3E)
cDWPZ	Community Drinking Water Protection Zone
CLWRP	Canterbury Land and Water Regional Plan (March 2025 version)
CMS	Construction Methodology Statement (Volume 3A)
CRPS	Canterbury Regional Policy Statement (July 2021 version)
CSAs	Construction Support Areas
CWMS	Canterbury Water Management Strategy (2009)
Day	Working day (unless otherwise stipulated)
Designation	As the context requires: a Existing: The designation for the Project and State Highway 1 in the operative version of the Waimakariri District Plan (D058A in the OWDP and NZTA-3 in the POWDP). b Proposed: The existing designation inclusive of the alterations sought by the NZTA shown in Volume 2C (conditions) and Volume 4D (boundaries) of the SAR.
DOC	Department of Conservation
DS	Design Statement (Volume 3B)
DSI	Detailed Site Investigation (Ground Contamination)
ECan	Environment Canterbury (Canterbury Regional Council)
EciA	Ecological Impact Assessment (Volume 3I)
EPA	Environmental Protection Authority
FTAA	Fast-track Approvals Act 2024
FTE	Full-time equivalent
GAZ	Groundwater Allocation Zone
GDP	Gross Domestic Product
GPS	Government Policy Statement on Land Transport 2024 - 2035
HAIL	Hazardous Activities and Industries List
HNZPT	Heritage New Zealand Pouhere Taonga
HNZPTA	Heritage New Zealand Pouhere Taonga Act 2014
ITS	Integrated Transport System
KiwiRail	KiwiRail Holdings Limited
km	Kilometre
LINZ	Land Information New Zealand
LTMA	Land Transport Management Act 2003
LUC	Land Use Capability
m	Metre
MDRS	Medium Density Residential Standards

MDRZ	Medium Density Residential Zone
MfCH	Ministry for Culture and Heritage
MfE	Ministry for the Environment
MIMP	Mahaanui Iwi Management Plan 2013
NES-AQ	Resource Management (National Environmental Standards for Air Quality) Regulations 2004
NES-CS	Resource Management (National Environmental Standard for Managing Contaminants in Soil to Protect Human Health) Regulations 2011
NES-DW	Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007
NES-F	Resource Management (National Environmental Standards for Freshwater) Regulations 2020
NLTP	National Land Transport Programme
NPS-FM	National Policy Statement for Freshwater Management 2020 (Amended January 2024)
NPS-HPL	National Policy Statement for Highly Productive Land 2022 (Amended August 2024)
NPS-IB	National Policy Statement for Indigenous Biodiversity 2023 (Amended October 2024)
NPS-UD	National Policy Statement for Urban Development 2020 (Updated May 2022)
NTCSA	Ngāi Tahu Claims Settlement Act 1998
NZAA	New Zealand Archaeological Association
NZFPG	New Zealand Fish Passage Guidelines (2024)
NZTA	New Zealand Transport Agency Waka Kotahi
NOR	Notice of Requirement
OWDP	Operative Waimakariri District Plan
PFF	Protected Premises and Facilities (as defined in NZS 6806:2010: Acoustics – Road-traffic noise – New and altered roads)
Project	State Highway 1 North Canterbury – Woodend Bypass Project (Belfast to Pegasus) (the construction, operation, and maintenance thereof)
Project Site (or Site)	The land contained within the area delineated as “Project Site” in Volume 4C, and the lizard relocation sites identified in Volume 3J Appendix A Figure 1
PWA	Public Works Act 1981
POWDP	Partially Operative Waimakariri District Plan
Requiring authority	NZTA
RLTP	Canterbury Regional Land Transport Plan
RMA	Resource Management Act 1991
RoNS	Roads of National Significance
SAR	Substantive Application Report (this document)
SASM	Sites and Areas of Significance to Māori
SEA	Short Eastern Alignment
SH1	State Highway 1
SNA	Significant Natural Area
ULVEA	Urban, Landscape and Visual Effects Assessment (Volume 3G)
VMS	Variable Message Signs
WDC	Waimakariri District Council

Works Definitions

Acronym/Term	Description
Commencement of Construction Works	The time when Construction Works for the Project (or the relevant part of the Project), excluding Enabling Works, commence.
Completion of Construction Works	The time when Construction Works for the Project (or the relevant part of the Project) is complete and is available for use.
Construction Works	Those works necessary to construct and establish the Project, including: <ul style="list-style-type: none"> • land disturbance and vegetation removal • bulk earthworks (including cut and fill activities); • ground improvement works; • establishment of bridges, culverts, drainage, stormwater treatment and disposal systems, noise mitigation features, and other structures; • temporary construction yards, buildings, and laydown areas • temporary haul roads, access points, and traffic management; • temporary drainage and erosion and sediment control measures; • landscaping and planting; • pavements and surfacing; • road furniture and ancillary works; and • site reinstatement and rehabilitation activities.
Early Works	The Kaiapoi Bridge strengthening and quarry lakes partial reclamation authorised under CRC261034, CRC260604, CRC260605, CRC260606, CRC260607 and RC255072.
Enabling Works	Those works preceding and supporting Construction Works, including: <ul style="list-style-type: none"> • geotechnical, land, or archaeological investigations (including related access formation); • protection and relocation of utilities and services; • establishment of construction yards, laydown areas, offices, and fencing (including related access formation); • establishment of erosion and sediment control measures.
Operations and Maintenance Activities	Those activities needed to ensure the completed Construction Works function effectively and safely on an ongoing basis.

Management Plans

Acronym	Full management plan name
ACSMP	Archaeological and Cultural Sites Management Plan
CAQMP	Construction Air Quality Management Plan
CEMP	Construction Environmental Management Plan
CNVMP	Construction Noise and Vibration Management Plan
CSMP	Contaminated Sites Management Plan
CTMP	Construction Traffic Management Plan
EMP	Ecological Management Plan
ESCMP	Erosion and Sediment Control Management Plan
GMP	Groundwater Management Plan
HMP	Heritage Management Plan (for 110 Parsonage Road)
LMP	Lizard Management Plan
ULDMP	Urban and Landscape Design Management Plan
VEMP	Visual Effects Management Plan

EXECUTIVE SUMMARY

This report

This Substantive Application Report (**SAR**) has been prepared on behalf of the NZ Transport Agency Waka Kotahi (**NZTA**), in support of a substantive application under the Fast-track Approvals Act 2024 (**FTAA**), for all necessary approvals to construct, operate, and maintain the *State Highway 1 North Canterbury – Woodend Bypass Project (Belfast to Pegasus)* (the **Project**). The Project is listed in Schedule 2 of the FTAA.

The purpose of this SAR is to describe the Project and provide sufficient information about its benefits and adverse effects, to enable its consideration under the FTAA.

The Project

The Project will extend the State Highway 1 (**SH1**) Christchurch Northern Corridor between Belfast and Pegasus and spans a linear length of approximately 11 kilometres (**km**), commencing from approximately 600 metres (**m**) south of the Kaiapoi River Bridge and ending approximately 700 m north of the Pegasus/Ravenwood intersection. The Project includes upgrades to approximately 4 km of the existing SH1 and a new approximately 7 km bypass of Woodend township. In summary, the Project includes:

- a) Strengthening the SH1 Kaiapoi River Bridge and adding an additional southbound lane;
- b) Upgrading the SH1 carriageway from two to four lanes between Lineside Road Overpass and the Cam River / Ruataniwha, and a new four lane highway between the Williams St interchange and Pegasus interchange;
- c) A new SH1 bridge over the Cam River / Ruataniwha;
- d) A new interchange and SH1 overbridge at the existing intersection of Williams Street and SH1;
- e) A new tiered embankment through two existing artificial quarry lakes;
- f) New local road bridges over SH1 at Woodend Beach Road and Gladstone Road, including upgrades to those local roads;
- g) Removal of the existing roundabout at the intersection of SH1 / Pegasus Boulevard / Bob Robertson Drive, and replacement with a new grade-separated diamond intersection and SH1 overpass;
- h) Project wide activities, including stormwater and drainage works, landscaping, ecological and noise mitigation, and relocation of utilities across the Project.

The overall purpose of the Project is to provide an efficient and reliable state highway connection between Belfast and Pegasus, while delivering improved access, community safety and public health outcomes, and reduced severance through Woodend.

Approvals sought

NZTA seeks the following approvals for the Project under the FTAA:

- a) Resource consents that would otherwise be applied for under the Resource Management Act 1991 (**RMA**), under sections 9, 13, 14, and 15, in relation to the relevant regional plans and the Resource Management (National Environmental Standards for Freshwater) Regulations 2020;
- b) A resource consent that would otherwise be applied for under the RMA, in relation to the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011;
- c) An alteration to the existing Project designation for which a notice of requirement would otherwise be lodged under the RMA;
- d) A wildlife approval for an act or omission that would otherwise be an offence under the Wildlife Act 1953;

- e) An approval or dispensation that would otherwise be applied for under regulation 42 or 43 of the Freshwater Fisheries Regulations 1983 in respect of a complex freshwater fisheries activity; and
- f) Archaeological authorities that would otherwise be applied for under the Heritage New Zealand Pouhere Taonga Act 2014.

The Project also involves standard freshwater fisheries activities.

Approvals for some enabling activities and early works have been obtained by NZTA under standard processes and do not form part of the substantive application. The environmental effects of authorised activities are not reassessed in this SAR.

Project Designation already in place

The route alignment for the Project was designated in the Operative Waimakariri District Plan in 2015. This substantive application does not revisit or reassess activities and associated environmental effects that are already authorised by the Designation (falling under the jurisdiction of Waimakariri District Council). These activities include (but are not limited to) construction, maintenance and operational activities that may generate effects on the environment arising from earthworks, access and traffic generation, terrestrial ecology (outside of water bodies and their margins), noise and vibration, urban design and landscaping, and lighting.

The designation alteration sought in this substantive application relates to boundary changes to accommodate the current design, provide a temporary construction support area, and changes to the designation conditions (including but not limited to achieving alignment with the proposed resource consent conditions). The changes in effects due to the designation alterations sought are addressed in this SAR.

Project benefits

The Project is a nationally and regionally significant State Highway 1 project that will deliver significant enduring national and regional benefits, consistent with the purpose of the FTAA. This includes efficiency and reliability, accessibility, safety, and economic benefits.

While some of these benefits would be delivered by the works authorised by the existing Designation, the approvals sought by this substantive application will unlock those benefits and add to them. The Project could not be constructed without the suite of approvals now sought. Project benefits are described cumulatively in this SAR, encompassing both approved and not yet approved elements.

Efficiency and reliability benefits will be provided for journeys from Belfast to Pegasus and the Ravenswood activity centre and beyond. At off peak times, the Project will provide reliable 3-minute travel time saving along SH1, with up to 10 minutes saving during peak commuter times.

Accessibility benefits will arise through strengthening connectivity between Woodend, Ravenswood, and Pegasus. These enhancements will support the wider region, particularly in light of Waimakariri District's rapid population growth – one of New Zealand's fastest growing districts. As residential and commercial development accelerates in these townships, the Project will enable commuters to more quickly and safely reach essential services, including healthcare, education, and major commercial and industrial hubs in Christchurch. This improved infrastructure will help future-proof the region, ensuring it remains resilient and well-connected as transport demands continue to rise.

Safety benefits will be delivered through an estimated reduction in vehicle-related deaths and serious injuries along the existing alignment from 5.6 per year to 1.25 per year. The Project will also reduce crash risks at local intersections and provide safer accessibility within Woodend and between Pegasus and Ravenswood. These safety improvements will reduce the social cost of deaths and serious injuries, which have a permanent and profound devastation on loved ones, families and whānau, colleagues and workplaces, and communities.

Economic benefits are anticipated to include a \$320 million injection into the Canterbury economy over a seven-year period (inclusive of pre-implementation and implementation phases), and generate an estimated 624 full-time equivalent jobs during the peak construction year and 2,361 full-time equivalent jobs in total through that period. The Project is a significant investment in supporting the Canterbury Region's long-term growth and its integration into the national transport network through improving freight efficiency along SH1.

The Project will enhance productivity, reduce supply chain costs, and strengthen global competitiveness. Canterbury, which contributes around 57% of the South Island's GDP, plays a vital role in the national economy, underscoring the significance of this investment. In the long term, the Project will support greater productivity and agglomeration benefits, fostering collaboration, innovation, and a more vibrant, interconnected regional economy with stronger business networks and increased output.

Environmental benefits of the Project align with regional and national direction to restore, enhance and maintain indigenous biodiversity. Ecological mitigation and remediation works will deliver a no net loss for wetlands and streams, and the potential to result in a net gain for wetlands, which has been able to be achieved due to the availability of enhancement areas in the corridor. Restoration will enhance indigenous biodiversity, providing environmental benefits to wetland avifauna, and important habitat resources for other indigenous species.

Management of potential adverse impacts

NZTA has engaged a range of specialists to prepare comprehensive assessments of the actual and potential effects of the Project on the existing environment relevant to the approvals sought. Conditions on the approvals sought have been proposed based on the recommendations of these specialists, the directions in planning documents, and further informed by consultation and engagement. Key management measures include:

- a) Preparation and implementation of comprehensive management plans, including (but not limited to) a Construction Environmental Management Plan, Ecological Management Plan, Archaeological and Cultural Sites Management Plan, Erosion and Sediment Control Management Plan, and Lizard Management Plan.
- b) Where effects on wetlands and aquatic extent and values cannot be avoided or minimised, offset and compensation measures have been proposed to achieve no net loss of extent or values, which has been able to be achieved due to the availability of enhancement areas on the corridor.
- c) Provision of fish passage in all new culverts within river beds in accordance with relevant regulations and guidelines.
- d) Conveyance and treatment of operational phase stormwater through a toolbox of methods, including grass-lined swales, planted bio-infiltration swales and basins, planted bioretention swales and basins and possibly proprietary devices.

Consultation and engagement

Consultation with the community and key stakeholders on the Project extends back as far as 2007, when route options and the selection process commenced. The Notice of Requirement for the existing Project designation went through a publicly notified process between lodgement in 2013 and inclusion in the district plan in 2015. Submissions were made by a range of stakeholders and the general public, and a hearings process was undertaken.

Recently, consultation specific to the development of this substantive application has occurred with:

- a) Waimakariri District Council and Canterbury Regional Council (the relevant local authorities),
- b) Whitiara Centre Limited (Whitiara), mandated by Ngāi Tūāhuriri Rūnanga, a principal hapū of Ngāi Tahu¹ (relevant iwi authority, hapū and Treaty Settlement entities),
- c) Heritage New Zealand Pouhere Taonga and the Ministry of Culture and Heritage,
- d) Department of Conservation, and
- e) The Ministry for the Environment.

Affected property owners and other persons and groups likely to be affected by the Project have also been consulted. Discussions with landowners who own land within the Project site have been ongoing over the last 12-18 months. Engagement with adjacent landowners, and the wider community, has also progressed over this period.

¹ Te Rūnanga o Ngāi Tahu have confirmed that Te Ngāi Tūāhuriri Rūnanga are mana whenua and fulfil the function of Te Rūnanga o Ngāi Tahu in its takiwā for the purposes of the Project (refer Volume 2I of this SAR).

Collectively, the consultation and engagement undertaken has informed the design of the Project as well as technical reporting and mitigation measures. All consultation requirements for a substantive application under the FTAA have been met.

Statutory assessment

The substantive application includes a full assessment of the Project against relevant statutory requirements, as required by the FTAA. This includes (but is not limited to) assessment against:

- a) National Policy Statement for Freshwater Management,
- b) National Policy Statement for Indigenous Biodiversity,
- c) Resource Management (National Environmental Standards for Freshwater) Regulations 2020,
- d) Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011,
- e) Canterbury Regional Policy Statement,
- f) Canterbury Land and Water Regional Plan,
- g) Canterbury Air Regional Plan, and
- h) Waimakariri District Plan (operative and proposed versions).

The Project has been assessed as being consistent with the policy framework within the planning documents listed above. The Project is also supported by:

- a) The purpose and principles of the RMA, and other RMA provisions listed in clause 17 of Schedule 5 to the FTAA,
- b) The purpose of the Wildlife Act 1953, as referenced in clause 5 of Schedule 7 to the FTAA,
- c) The matters set out in sections 59(1)(a) and 47(1)(a)(ii) and (5) of the Heritage New Zealand Pouhere Taonga Act 2014, as referenced in clause 4 of Schedule 8 to the FTAA, and.
- d) The matters relating to complex freshwater fisheries activities, as listed in clause 5 of Schedule 9 to the FTAA.

Conclusion

Overall, the Project meets the purpose of the FTAA to facilitate the delivery of infrastructure and development with significant regional or national benefits, and those benefits significantly outweigh the residual adverse impacts. On that basis there are no barriers to the panel granting approvals sought under the FTAA.

1. PART 1: INTRODUCTION & FTAA REQUIREMENTS

1.1 Overview of the Project and this report

This Substantive Application Report (**SAR**) has been prepared on behalf of the NZ Transport Agency Waka Kotahi (**NZTA**), in support of a substantive application under the Fast-track Approvals Act 2024 (**FTAA**), for all necessary approvals to construct, operate, and maintain the *State Highway 1 North Canterbury – Woodend Bypass Project (Belfast to Pegasus)* (the **Project**).

The Project will extend the SH1 Christchurch Northern Corridor between Belfast and Pegasus and spans a linear length of approximately 11 km, commencing from approximately 600 m south of the Kaiapoi River Bridge and ending approximately 700 m north of the Pegasus/Ravenwood intersection. The Project includes upgrades to approximately 4 km of the existing SH1 and a new approximately 7 km bypass of Woodend township. Key features of the Project are shown in Figure 1.1 overleaf.

The purpose of the Project is to provide an efficient and reliable state highway connection between Belfast and Pegasus, while delivering improved access, community safety and public health outcomes, and reduced severance through Woodend.

The Project is a listed project in Schedule 2 of the FTAA² and the application relates solely to a listed project. The Project's listing recognises its consistency with the purpose of the FTAA (under section 3), which is “to facilitate the delivery of infrastructure and development projects with significant regional or national benefits”, as considered by the Fast-track Advisory Group³ and Cabinet.⁴

The information the applicant provided to the Ministry for the Environment when applying to have the project listed as a listed project is contained in **Volume 1F**.

1.2 Applicant and Authorised Person

NZTA is the ‘authorised person’ (as listed in Schedule 2 of the FTAA) seeking all necessary approvals for the Project under section 42(4) of the FTAA and is the sole applicant for approvals sought.

NZTA is a Crown entity with its functions, powers and responsibilities set out in the Crown Entities Act 2004, Land Transport Management Act 2003 (**LTMA**), the Land Transport Act 1998, and the Government Rounding Powers Act 1989. The NZTA's overarching objective, as set out in section 94 of the LTMA, is:

“...to undertake its functions in a way that contributes to an effective, efficient, and safe land transport system in the public interest.”

NZTA has numerous functions under section 95(1) of the LTMA. Of relevance to the Project, the NZTA has a function under section 95(1)(h) of the LTMA:

“...to manage the State highway system, (including planning, funding, design, supervision, construction, and maintenance and operation), in accordance with this Act and the Government Rounding Powers Act 1989.”

In meeting its statutory objectives and undertaking its functions, NZTA must adhere to, among other things, the operating principles set out in section 96 of the LTMA. These operating principles include an obligation to exhibit a sense of social and environmental responsibility. NZTA is also a network utility operator approved as a requiring authority under section 167 of the Resource Management Act 1991 (**RMA**).

² In December 2025, the ‘Project description’ in Schedule 2 was amended to reflect the description of the Project contained within Schedule 2A Critical infrastructure projects within the Public Works Act 1981 (**PWA**).

³ <https://environment.govt.nz/assets/acts-and-regulations/acts-and-bills/fast-track-projects-advisory-group-report-to-ministers-redacted.pdf>

⁴ <https://www.beehive.govt.nz/sites/default/files/2024-10/Fact%20Sheet%20-%20Fast-track%20Schedule%20%20Projects.pdf>

1.3 Project Designation already in place

The Designation for the Project corridor has been included in the Operative Waimakariri District Plan (**OWDP**) since 2015 (reference D058A), covering a length of approximately 11 km, and is subject to a comprehensive suite of conditions. The purpose of the Designation is “*to undertake construction, maintenance, operation, use and improvement of the Woodend Bypass and associated infrastructure*”. A copy of the current Designation conditions is included in Volume 2B of this SAR.

The Designation is also being rolled over into the Partially Operative Waimakariri District Plan (**POWDP**) (reference NZTA-3) with the same purpose, conditions and area as in the OWDP. Decisions have been made on the POWDP and there have not been any subsequent appeals on NZTA-3, however, appeals on other parts of the POWDP mean the plan is yet to be made fully operative.

In accordance with section 176(1)(a) of the RMA, section 9(3) of the RMA does not apply to works carried out under a designation for its stated purpose. Consequently, any Project works undertaken within the Designation that would otherwise contravene a rule in the Waimakariri District Plan are already authorised, provided the Designation conditions are met.

As the Designation is already in place, this substantive application does not revisit or reassess activities and their associated environmental effects that are already authorised by the Designation. These activities include (but are not limited to) construction, maintenance and operational activities that may generate effects on the environment arising from earthworks, access and traffic generation, terrestrial ecology (outside of water bodies and their margins), noise and vibration, urban design and landscaping, and lighting.

Additionally, this substantive application does not address matters that will be managed through future processes of Waimakariri District Council (**WDC**), including outline plans.

1.4 Summary of approvals sought under the FTAA

NZTA is seeking all necessary approvals under the FTAA to authorise the construction, operation and maintenance of the Project, as summarised in Table 1.1 overleaf. NZTA is eligible to apply for the proposed approvals under the specified Acts⁵ and is not seeking resource consents for any activities which would otherwise be prohibited under the RMA⁶.

1.5 Other approvals

Section 43(2) of the FTAA requires a substantive application for a listed project to address (amongst other matters) the information in section 13(4)(t) and 13(4)(u). Section 13(4)(t) requires an outline of consents, certificates, designations, concessions and other legal authorisations (other than the proposed approvals that are the subject of the referral application) that are needed to authorise the project. Section 13(4)(u) requires identification of applications or decisions under a specified Act relating to activities that are involved in the project or activities that are substantially the same as those involved in the Project.

In addition to the activities that are subject to the existing Designation (details throughout this SAR; see section 1.3 in particular), some enabling activities and early works have been obtained separately by NZTA under standard processes and do not form part of the substantive application. The enabling activities / early works and relevant approvals are summarised in Table 1.2 overleaf.

Future approvals are required under the RMA and Canterbury Flood Protection and Drainage Bylaw 2013 and will be sought separately, as described in section 6.5 of this SAR. There may also be other routine approvals or legal authorisations sought separately in the future to authorise various activities such as the relocation of utilities, activities on private properties (e.g. constructing driveways or provision of replacement water supply), within the road reserve, or approvals under the Building Act 2004. These will be sought separately.

⁵ Section 42(3)(a) For each approval sought under subsection (4) – (a) the applicant must be eligible to apply for any corresponding approval under a specified Act.

⁶ Section 13(4)(i) a statement of any activities in the project that are prohibited activities under the RMA.

Table 1.1: Approvals sought by NZTA under the FTAA for the construction, operation, and maintenance of the Project

Specified Act	Approval type	Administering agency	Summary of activities seeking approval
Resource Management Act 1991	Resource consents under sections 9, 13, 14, and 15 of the RMA	Ministry for the Environment (MfE) (Environment Canterbury (ECan))	All resource consents that would otherwise be applied for under the Canterbury Land and Water Regional Plan, Canterbury Air Regional Plan, and Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (NES-F). Construction consents are sought for a 20-year duration and operations and maintenance consents are sought for a 35-year duration.
	Resource consent under the NES-CS	MfE (WDC)	All resource consents that would otherwise be applied for under the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES-CS), relating to the potential disturbance of contaminated land when undertaking Project works.
	Designation alteration under s181 of the RMA	MfE (WDC)	Alterations to the boundaries and conditions of the existing Project designation confirmed in 2015 to: <ul style="list-style-type: none"> ▪ Address updates to the proposed Project design, in particular at the Pegasus Interchange, Cam River / Ruataniwha crossing, and Quarry Lakes, ▪ Address updates to the proposed construction methodology, in particular the addition of a temporary construction support area at Lees Road and infilling and wetland creation at the southern remnant lake, ▪ Achieve alignment and avoid duplication with the proposed conditions of the regional resource consents, and ▪ Make administrative, process, and clarity improvements to conditions. <p>The following changes are sought to the designation boundaries (shown in the drawings in Volume 4D):</p> <ul style="list-style-type: none"> ▪ At Lees Road and Quarry Lakes, inclusion of the temporary construction support area and southern remnant lake, requiring 74,127 m² of additional designation, and ▪ At the Pegasus Interchange, a change from a round-about (2013 design) to a grade-separated signalised intersection (2025 design), requiring 3,095 m² of additional designation.
Wildlife Act 1953	Wildlife approval	Department of Conservation (DOC)	To catch alive and relocate Lizards, and the incidental killing of Lizards, for the purpose of protecting the Lizards by way of salvage along with post-relocation monitoring at Relocation Sites. A duration of 20 years is sought.
Freshwater Fisheries Regulations 1983	Complex freshwater fisheries activity approval	DOC	Permanent stream diversions and culverts within watercourses across the Project Site and works within a watercourse during spawning season.
Heritage New Zealand Pouhere Taonga Act 2014	Archaeological authorities	Ministry for Culture and Heritage (MfCH) / Heritage New Zealand Pouhere Taonga (HNZPT)	Disturb, excavate, and remove known and unknown archaeological sites within the Project Site. A total of five separate applications are made, in acknowledgement that NZTA does not own or have landowner consent for all of the affected properties at the time of making this application. A duration of 20 years is sought for all authorities.

Table 1.2: Project enabling and early works activities for which approvals have been obtained

Relevant Act / instrument	Approval type	Authority / agency	Scope / summary of activities	Status as of October 2025
Geotechnical investigations				
Resource Management Act 1991	Regional resource consents	ECan	Ground excavation and disturbance across the Project footprint for geotechnical investigation purposes, including test pits and boreholes.	Authorised (CRC252262)
Flood Protection and Drainage Bylaw 2013	Bylaw approval	ECan		Authorised (FPB125625)
Heritage New Zealand Pouhere Taonga Act 2014	Archaeological authorities	HNZPT		Authorised (2025-324-342)
Kaiapoi River Bridge				
Resource Management Act 1991	Regional resource consents	ECan	Seismic strengthening of the Kaiapoi River Bridge.	Authorised (deemed permitted activity: CRC261034)
	Outline Plan	WDC		Accepted with no changes (RC255072)
Flood Protection and Drainage Bylaw 2013	Bylaw approval	ECan		Authorised (FPB125653)
Quarry Lakes partial reclamation				
Resource Management Act 1991	Regional council consents	ECan	Partial reclamation of the Quarry Lakes including associated access and facilitation activities.	Authorised (CRC260604 CRC260605 CRC260606 CRC260607)
	Outline Plan	WDC		Accepted with no changes (RC255072)
Heritage New Zealand Pouhere Taonga Act 2014	Archaeological authorities	HNZPT		Authorised (2026-064)
Wildlife approval (Package 1)				
Wildlife Act 1953	Wildlife approval	DOC	Salvage wildlife (lizards) from the Project footprint between Lineside Road and Cam River / Ruataniwha (a distance of approximately 2.5 km), Quarry Lakes, and Pegasus Interchange, and relocate to habitat outside the Project footprint.	Authorised (119946-FAU)

1.6 Project eligibility

Sections 13(4)(c) and 43(1)(c) of the FTAA require the application to demonstrate that the Project does not involve any ineligible activities other than those that may be subject to a determination under section 23 or 24. NZTA has reviewed the historical and current property titles for all land within the proposed designation footprint and confirms that there are no ineligible activities (as defined by section 5 of the FTAA). There is no identified Māori land within the designation footprint (see section 4.3 of this SAR) and NZTA does not seek a determination under section 23 or 24 of the FTAA⁷.

1.7 Pre-lodgement requirements for listed projects

Section 29 of the FTAA sets out the pre-lodgement requirements for listed projects. As NZTA is the only authorised person for the listed project and the substantive application does not seek approvals described in section 42(4)(l) or (m), the pre-lodgement requirements are limited to consulting the persons and groups referred to in section 11 of the FTAA.

NZTA has consulted all persons and groups with whom consultation is required prior to lodgement of the substantive application. Part 5 of this SAR provides a summary of all pre-lodgement consultation, including the requirements in section 11 of the FTAA, and describes how consultation has informed the Project.

1.8 Compliance and enforcement

Section 13(4)(x) and 43(2) of the FTAA requires a summary of compliance or enforcement taken against the applicant and their outcomes.

NZTA's linear network traverses over 11,000 km, making reporting on all incidents impractical. While isolated compliance / enforcement incidents have occurred in the past, NZTA takes steps to address (and avoid future) incidents when they occur. NZTA cooperates with the relevant enforcement agencies throughout compliance / enforcement processes when issues are raised to ensure issues are resolved quickly and satisfactorily.

In the past 10 years NZTA has received an infringement notice and an abatement notice from Environment Canterbury (ECan) in relation to resource consent CRC150791⁸. The issue was resolved, and the abatement notice was cancelled, in 2018. No enforcement actions have been taken under the RMA on Waimakariri District Council (**WDC**) resource consents or designations, or under the Heritage New Zealand Pouhere Taonga Act 2014 (**HNZPTA**), Wildlife Act 1953 or Freshwater Fisheries Regulations 1983 in the Waimakariri District in at least ten years.

1.9 Payment of any fee, charge or levy

NZTA has paid the fee and levy for a substantive application as prescribed under the Fast-track Approvals (Cost Recovery) Regulation 2025, prior to lodging this application, as required by section 43(1)(j).

1.10 Identification of existing resource consents for the same activity

The approvals sought include applications for resource consent using a natural resource to which section 124C(1)(c) or 165ZI of the RMA may apply if the resource consent applications were sought under that Act, accordingly section 30 of the FTAA applies.

On 2 December 2025, NZTA sought written confirmation from ECan as to whether there are any existing resource consents of that kind. ECan provided written notice, dated 2 December 2025, that there are no existing resource consents as per section 30(3)(b) of the FTAA.

⁷ Section 13(4)(p) a statement of whether the applicant is seeking a determination under section 23; Section 13(4)(q) a statement of whether the applicant is seeking a determination under section 24(2); Section 13(4)(r) a statement of whether the applicant is seeking a determination under section 24(4).

⁸ CRC150791 is a construction-phase discharge permit for the Northern Arterial Motorway and QEII Drive project.

WDC does not have jurisdiction over any approvals to use a natural resource to which section 124C(1)(c) or 165ZI of the RMA may apply. Notwithstanding this, on 2 December 2025 NZTA sought written confirmation from WDC as to whether there are any existing resource consents of that kind within their area of jurisdiction. WDC provided written notice, dated 8 December 2025, that there are no existing resource consents as per section 30(3)(b) of the FTAA.

These notices are contained within Volume 2I. In accordance with section 30(6), the substantive application has been lodged within 3 months of the date of the notices.

1.11 Authors of this report and Code of Conduct

The qualifications and experience of the authors of this SAR are summarised as follows:

- **Jasmine Donald**, *Taranaki* (BEPP Hons, MNZPI): Graduate Planner at Tonkin + Taylor. Jasmine graduated with first class honours from Lincoln University in December 2024 and since joining Tonkin + Taylor she has been involved in a number of consenting and kaupapa māori projects.
- **Kristina Mead** (BRP Hons, MNZPI): Principal Planner at Tonkin + Taylor with 15 years' experience as a consultant resource management planner. Kristina is highly experienced in preparing and managing resource consent applications for a wide range of infrastructure projects, predominantly across Canterbury. Recent projects include leading the consenting for multiple projects within the Ōtākaro Avon River Corridor and ongoing consenting for the Central Plains Water Enhancement Scheme.
- **Daniel Murray** (BRS Hons, MNZPI): Technical Director - Planning at Tonkin + Taylor with 27 years' experience in resource management planning. As a consultant, Daniel has led the consenting of nationally and regionally significant projects for the NZTA, including the Cyclone Gabrielle Recovery (Transport Rebuild East Coast Alliance), Te Ara Tupua (Detailed Design Phase), and Kaikōura Earthquake Recovery (North Canterbury Transport Infrastructure Recovery Alliance). He has extensive planning and consenting experience within Canterbury, including as lead planner for the Central Plains Water Enhancement Scheme and Burwood Landfill Reopening (Earthquake Waste).

While this substantive application is not a matter before the Environment Court, the authors of this SAR have each read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023 (**Code**). The authors have each complied with the Code in the preparation of this report.

The data, information, facts and assumptions the authors have each considered as part of this report are set out in this report. The reasons for the conclusions of the report are also set out in this report. Unless stated otherwise, this report is within each of the author's expertise and the authors have not omitted to consider material facts known to them that might alter or detract from the opinions expressed.

1.12 Purpose and structure of the substantive application

This SAR, together with its supporting volumes and appendices, has been prepared to meet the relevant requirements for a substantive application for a listed project under the FTAA, including sections 42, 43 and 44. Where specific sections of the SAR respond directly to particular FTAA provisions, references have been included to identify the applicable section of the Act. Table 1.3 sets out the structure and content of the full application.

Table 1.3: Structure and content of the substantive application

Volume 1: Application Documents
1A Cover Letter
1B Legal Submissions (EPA)
1C Legal Submissions (Panel)
1D Property and Landowner Information
1E Statement of Cultural Values, Interests and Priorities
1F Project Listing Application FTA172
Volume 2: Substantive Application Report (this report)
2A Substantive Application Report
Executive Summary
Part 1 Introduction & FTAA Requirements
Part 2 Strategic Context, Project Objectives & Benefits
Part 3 Description of the Project
Part 4 The Existing Environment
Part 5 Consultation and Engagement
Part 6 Resource Management Act 1991
Part 7 Wildlife Act 1953
Part 8 Heritage New Zealand Pouhere Taonga Act 2014
Part 9 Freshwater Fisheries Regulations
Part 10 Conclusion
2B Existing Designation Conditions
2C Proposed Alterations to Designation Conditions
2D Proposed Resource Consent Conditions
2E Proposed Wildlife Approval Conditions
2F Proposed Archaeological Authority Conditions
2G Regional and District Objectives and Policy Assessment
2H Resource Consent Requirements Assessment
2I Records of Consultation and Engagement
Volume 3: Technical Reports
3A Construction Methodology Statement
3B Design Statement
3C Transportation Assessment
3D Construction Noise and Vibration Assessment
3E Construction Air Quality Assessment
3F Ground Contamination Investigation
3G Urban, Landscape and Visual Effects Assessment
3H Archaeology and Heritage Assessment
3I Ecological Impact Assessment
3J Wildlife Approval Report
3K Hydrogeology Assessment
3L Stormwater and Flooding Assessment
3M Economic Benefits Assessment
Volume 4: Drawings
4A General Arrangements
4B Typical Cross Sections
4C Project Site and Environmental Features
4D Designation Alteration Plans
4E Ecology Offset Plan

2. PART 2: STRATEGIC CONTEXT, PROJECT OBJECTIVES & BENEFITS

2.1 Introduction

Part 2 of this SAR sets out the strategic context for the Project, explaining why the Project is needed and the regional and national benefits it will deliver. Specifically, this section:

- Summarises the strategic drivers underpinning the Project,
- Outlines NZTA's objectives for the Project in response to the identified need,
- Draws on the various technical assessments appended to the SAR, including the Transportation Assessment (Volume 3C) and Economic Benefits Assessment (Volume 3M), to describe the regional and national benefits of the Project, and
- Demonstrates the Project's consistency with the purpose of the FTAA.

Together this context explains how the Project fits with the Government's transport priorities, responds to rapid growth in North Canterbury, and contributes to a safer and more resilient state highway network.

2.2 Strategic Context

2.2.1 Government Policy Statement on Land Transport 2024-2023

The Government Policy Statement on Land Transport 2024 - 2035 (**GPS**) sets out the Government's land transport strategy. The GPS provides the strategic direction and sets the government funding contribution for Regional Land Transport Plans and the National Land Transport Programme (**NLTP**). The Government has four strategic priorities which this GPS seeks to deliver against:

- Economic Growth and Productivity,
- Increased Maintenance and Resilience,
- Safety, and
- Value for Money.

The Project has been prioritised for delivery as a Road of National Significance (**RoNS**) under the GPS. This strategic classification recognises the Project's national and economic importance, and the need to support growing regional demand.

The Project will provide economic benefits through improved travel times and reliability, boosting economic growth in the region. SH1 between Belfast and Pegasus is a key freight route connecting Christchurch to northern Canterbury and the wider South Island. It plays a vital role as the main access route south from Picton to Christchurch, which functions as the primary service centre for the South Island.

Since the Canterbury Earthquakes, the Waimakariri District has continued to experience significant growth, especially in Woodend, Pegasus and Ravenswood. The district's population grew to approximately 66,000 by the 2023 census, and Statistics New Zealand's high-growth scenario⁹ forecasts this figure may rise to 100,000 by 2048. This is well beyond initial projections when the Project was first designated in 2015.

Currently, SH1 approaching Woodend carries around 21,000 vehicles daily. This volume has resulted in growing concerns around traffic congestion, reduced community accessibility (severance), safety risks (especially within the Woodend township), and travel time unreliability.

Providing a motorway extension and an alternative corridor bypassing Woodend will improve resilience for SH1 and provide significant traffic relief for the Woodend community. Daily traffic through Woodend is forecast to reduce from 21,000 (3,000 heavy vehicles) to 8,000 (200 heavy vehicles) at opening.

⁹ Stats NZ. (2023). 2023 Census Population Change. Census Data.

2.2.2 National Land Transport Programme 2024 – 2027

The NLTP gives effect to strategic priorities and funding allocations in the GPS. It sets out an investment programme to deliver on the government's four strategic priorities as set out in the sections above.

The NLTP provides clear support for the Project, outlining it as a key project over the 2024-2027 period. It emphasises the Project's role in boosting economic growth, providing reliable freight connectivity, reducing travel times, improving safety, and supporting population growth by unlocking opportunities for housing development to the north of Christchurch. The NLTP notes the Canterbury region contributes 57% of the South Island's total GDP, and freight volumes are expected to double in the next 20 years, with 96% being moved by road¹⁰.

The NLTP seeks to invest in the region's transport systems over the 2024-2027 period, including \$156 million towards maintaining state highway assets and \$208 million invested in local road operations. A total of \$1.8 billion is forecast to be invested across Canterbury's transport networks during this period.

2.2.3 Canterbury Regional Land Transport Plan 2024 – 2034

The Canterbury Regional Land Transport Plan (RLTP) sets out the current state of Canterbury's transport network, the challenges it faces, and the priorities for future investment. The RLTP prescribes the vision and strategic objectives for Canterbury's transport system and the priorities for investment in order to achieve the vision and objectives. The RLTP must be consistent with the GPS.

The RLTP identifies regionally significant improvements for inclusion in the RLTP and ranks the projects by importance to identify strategic investment priority areas. The Project (described as the Northern Link or Woodend SH1 Bypass) was identified as the third most important for Canterbury:

“This is a significant investment to review and adjust the State Highway 1 corridor in Waimakariri to make communities safer. Traffic volumes along State Highway 1 in North Canterbury and through Woodend are expected to double over the next 30 years. This traffic increase will come from a rise in long-distance traffic such as freight vehicles as well as residential developments. Investigations show that a four-lane bypass in Woodend is a suitable option. There is also a need to improve roading around Pegasus and Ravenswood.”

The RLTP clearly signals the Project is a priority for investment in transport capacity, safety and resilience in Canterbury over the 2024-2034 period.

2.2.4 Other relevant documents

The Greater Christchurch Transport Plan (2025) identifies design and planning of the Belfast-to-Pegasus Motorway and Woodend Bypass as a key action for the 2027–2034 period under State Highway improvements, noting NZTA as the lead agency, with WDC and ECan identified as partners. It identifies the Project as part of ongoing efforts to improve the safety and reliability of the State Highway network and minimise impacts on communities such as Woodend.

The Waimakariri Integrated Transport Strategy (2024) includes “Delivering Roads of National Significance (including the Woodend Bypass)” among its headline transport actions, recognising the Project as integral to achieving outcomes such as improved freight efficiency, safety, resilience, and reduced emissions. The Strategy identifies key drivers such as transporting goods safely and efficiently, reducing transport-related emissions, and creating a safe, resilient network with minimal risk of serious injury; the Woodend Bypass is specifically referenced as contributing to this network of priority road investment.

2.3 Need for the Project

Transport issues through Woodend were first formally identified in 2006 in the Woodend Transport Study. In the intervening years traffic volumes on SH1 in North Canterbury have continued to increase and various assessments have been undertaken to identify and evaluate options to increase capacity and improve safety. The process also included a consideration of alternatives as outlined further in Part 6 of this SAR. Ultimately, a preferred option to address the capacity and safety needs was recommended, being four-laning SH1 from Lineside Road to Pineacres and a new route to Pegasus, east of Woodend. A Notice of

¹⁰ NZTA (2024). *National Land Transport Programme 2024-2027*. Page 74.

Requirement to designate this corridor was lodged in 2013 and publicly notified in early 2014. The designation was confirmed through inclusion in the OWDP in 2015 (D058A).

As noted above, Woodend, Pegasus and Ravenswood have grown substantially since 2015, far above what was anticipated when the Project was designated, demonstrating an even greater need for the Project now. Rising traffic volumes have led to congestion, delays and safety concerns, including difficulty accessing shops, drop off/pick up for Woodend Primary School, and accessing local roads.

SH1 from Belfast to Pegasus is also the primary freight route to the north of Christchurch, providing access to Christchurch City, the primary service centre for the South Island, with Christchurch International Airport, Lyttleton Port and major health, education, commercial and industrial services.

The Project has been developed over time in response to the identified need. Since the Project was designated, the increased population and traffic growth described above has resulted in the design being updated for several Project components, notably the change from a roundabout to a grade-separated interchange at Pegasus. The Project is described in full in Part 3 of this SAR.

2.4 Project objectives

The Project seeks to provide an efficient and reliable state highway connection between Belfast and Pegasus, while improving access, community safety and public health outcomes, and reducing severance through Woodend.

NZTA's objectives for the Project, as determined at the Investment Case phase, are:

- **Improve Travel Time and Reliability:** The Project aims to enhance travel time and reliability between Lineside Road and Pegasus, increasing the efficiency and productivity of the transport network. This enhancement will ensure smoother traffic flow and reduce delays, benefiting both local commuters and freight transport.
- **Reduce Severance and Improve Accessibility:** By reducing severance, the Project seeks to improve accessibility to social, cultural and economic opportunities for local communities. The Project will enable residents to connect more effectively with essential services, employment opportunities, and recreational facilities.
- **Improve Safety of the Transport Network:** A core focus of the Project is to improve the safety of the transport network by minimising exposure to crash risks and reducing the number of deaths and serious injuries. This aligns with national priorities for transport safety and aims to create a more secure environment for all road users.

An assessment of whether the Project and the alterations to designation sought are reasonably necessary to achieve NZTA's objectives is provided in Part 6 of this SAR.

2.5 Project benefits

The Project will deliver new and upgraded nationally significant infrastructure to support the continued safe and efficient operation of SH1. In doing so it will deliver enduring significant regional and national transport, community, safety, economic and environmental benefits. The benefits are principally transport related and are addressed comprehensively in the Transport Assessment (Volume 3C) and the Economic Benefits Assessment (Volume 3M). This section provides a summary of those details.

2.5.1 Transport efficiency and reliability benefits

The Project will provide travel time and reliability benefits for journeys to Pegasus and the Ravenswood activity centre and beyond. Travel time and reliability benefits are specifically related to four-laning SH1 north of Lineside Road, providing a free flowing and reliable travel time through to Pegasus with a travel time saving of at least 2.3 minutes from baseline. At off peak times, the Project will provide reliable 3-minute travel time saving along SH1, with up to 10 minutes saving during peak commuter times.

2.5.2 Community accessibility benefits

The Project improve accessibility for local communities, contributing to a well-functioning urban environment.

The Woodend Bypass will significantly reduce congestion in Woodend, addressing one of the region's key bottlenecks with large traffic volumes, including heavy vehicles being diverted towards the bypass. Fewer heavy vehicles, such as freight and other large commuter traffic, in the township will lower noise and vibration nuisance and general severance. With reduced traffic volumes within the Woodend township, it will encourage greater community interaction, active transport modes, engagement and an opportunity for a more vibrant town centre.

The realignment of Garlick Street to join Main North Road will allow the local road to be separated from the SH1 network. Whilst access to the SH1 network will be available at Pegasus Interchange, the shift to becoming a local road will enhance local connectivity and accessibility between Woodend, Ravenswood and Pegasus without having to join the high-speed environment of SH1.

There are currently limited opportunities for cyclists and pedestrians to cross the existing SH1 alignment; therefore, the addition of shared path and cycleway local road crossings will assist in supporting greater transport reliability and transport choice. The Project will include the construction of shared paths at Pegasus Interchange, Garlick Street, Woodend Beach Road, Gladstone Road and Williams Street to cross SH1. The Arohatia te Awa path is not part of the Project; however, this will likely involve future construction underneath the Cam River / Ruataniwha Bridge on its true right bank and has not been precluded by the Project. The shared path local road connections allow for a wide range of users, helping to encourage active travel and overall well-being benefits.

2.5.3 Safety benefits

The Woodend Bypass will divert traffic away from the Woodend township, lowering overall traffic and heavy vehicle volumes in the Woodend community. The existing alignment has proven to be a serious safety concern, with a total of 280 crashes recorded between 2014 and 2023, resulting in 3 fatalities and 25 serious injuries. Out of these 280 crashes, 28 % have occurred within Woodend township, including a pedestrian fatality. The introduction of the bypass will instead direct large traffic volumes and heavy vehicles away, making it safer for residents to visit the town centre, and children to commute to school with greater ease and confidence.

Traffic bottlenecks occurring at peak hours, particularly north of Lineside Road, at the intersection of Pineacres and entering Woodend, have led to fewer appropriate traffic gap selections for side road users entering SH1. This has resulted in overall driver frustration, increasing the safety concern of the corridor. The Project will lower crash risks at local intersections with the addition of 4-laning, providing the opportunity for better flowing traffic. Additionally, the Woodend Bypass will direct greater traffic volumes onto its new alignment, meaning lower traffic volumes on local roads, ensuring safer local road intersections.

Speed limits along the Project have been carefully designed for safety and in accordance with standardised design solutions for RoNS. In addition to this, TL-4 wire road safety barriers will be installed along SH1 situated in the median and on the edge of ramps at interchanges. Emergency bays will also be constructed along the SH1 alignment, complete with CCTV. As part of the Integrated Transport System, traffic monitoring will capture traffic speeds for safety precautions.

Overall, the Project is estimated to reduce vehicle-related deaths and serious injuries along the existing alignment from 5.6 per year to 1.25 per year, which will be a significantly improved outcome for road users and the Woodend community. These safety improvements will reduce the social cost of deaths and serious injuries, which have a permanent and profound devastation on loved ones, families and whānau, colleagues and workplaces, and communities.

2.5.4 Economic benefits

The Project represents a substantial investment in Canterbury's transport infrastructure, delivering both immediate and long-term benefits. The quantified economic injection (increase in economic activity) into the regional economy and employment opportunities, and the Project's qualitative economic benefits, are expected to result in significant benefits both regionally and nationally.

Economic modelling shows the Project will inject approximately \$320 million into the Canterbury economy over a seven-year period (inclusive of pre-implementation and implementation phases). Employment effects

are significant, generating around 624 full-time equivalent (FTE) jobs during the peak construction year and approximately 2,361 FTE job years¹¹ during construction (comprising 1,023 FTE years in the construction sector and 1,338 indirect and induced FTE years across supporting industries). To put this into context, the employment injection of the Project is equivalent to approximately 14 years of average sector growth, reflecting its significant impact on regional construction employment and activity over the construction period of the Project.

Beyond the direct financial injection during construction, the Project provides enduring operational benefits:

Contribution to a nationally and regionally significant infrastructure asset: The Project represents a major investment in a regionally significant infrastructure asset that will serve as a critical support for Canterbury's future growth. Its scale, integration with national infrastructure, and role in unlocking additional growth opportunities elevate its importance beyond just local benefits, positioning it as a key contributor to the broader Southern Island transport and economic network.

Enhanced regional freight efficiency and connectivity to accommodate output growth: SH1 from Belfast to Pegasus is the key freight route to the north of Christchurch, and provides critical access to Christchurch City, the primary commercial centre for the South Island, with Christchurch International Airport, Lyttelton Port and major health, education, commercial and industrial services. The Project will improve freight movement efficiency, lowering supply chain costs, enhancing delivery / transport reliability, and increasing the competitiveness of local and regional industries in global markets.

Supporting future regional economic and population growth: Canterbury generates around 57 % of the South Island's GDP and makes a substantial contribution to the national economy. Canterbury is predicted to experience a 31 % growth in population (approx. 213,700 people) by 2048 and the Project will play an important role in enabling and supporting this growth by enhancing road capacity, reducing congestion, and improving travel time reliability, thereby unlocking access to new residential, commercial, and industrial development opportunities.

At a local level, the Project supports the rapid growth of Woodend, Pegasus and Ravenswood. Anticipated urban expansion / intensification in these areas takes into account delivery of the Project.

Potential to cater for greater levels of growth: Enhanced infrastructure delivered by the Project could act as a catalyst for further development activity in Canterbury, potentially stimulating interest in both additional urban development and complementary commercial and service-oriented developments.

Improved local servicing: The Project will significantly enhance local servicing by improving accessibility and reducing travel times between residential areas, service hubs, and key employment areas.

Improved productivity and agglomeration benefits: Improved efficiency of movement for both goods and people across Canterbury will boost productivity and generate agglomeration benefits. This agglomeration effect encourages knowledge-sharing, collaboration, and innovation, while also expanding the accessible labour pool for employers. In the long term, these dynamics would foster a more vibrant, interconnected regional economy with higher overall output, stronger business networks, and increased competitiveness.

2.5.5 Environmental benefits

Environmental benefits are assessed in detail within Parts 6-9 of this SAR and throughout technical reports (Volume 3). By way of summary, the Project is anticipated to achieve some environmental benefits, particularly through the proposed ecological offset and compensation actions set out in the Ecological Impact Assessment (EclA) (Volume 3I) with respect to streams and wetlands. Native planting will also be undertaken across the Project alignment and in some waterbody margins. These actions will enhance indigenous biodiversity, provide benefits to wetland avifauna, and provide important habitat resources for other indigenous species. Further benefits will be achieved through enhancing lizard habitat areas outside of the Project footprint (in locations where lizards will be relocated to).

¹¹ Full time equivalent years - these are all jobs created through the direct construction phase and ongoing operation of the development including indirect and induced employment through all business sectors (not solely construction jobs) and relate to job years rather than one employee

2.6 Consistency with the purpose of the FTAA

Section 43(1)(b)(i) of the FTAA requires a substantive application to explain how a Project is consistent with the purpose of the FTAA. The purpose of the FTAA is to *'facilitate the delivery of infrastructure and development projects with significant regional or national benefits.'*

As described in preceding sections, the Project is a nationally significant SH1 project that will deliver enduring national and regional benefits. By way of summary the Project is consistent with the purposes of the FTAA as it is an infrastructure project that will deliver:

- Significant **transport efficiency and reliability benefits**, providing reliable 3-minute travel time savings along SH1, with up to 10-minutes saving during peak commuter times.
- Significant **community accessibility benefits** by reducing severance, strengthening connectivity, and improving accessibility between Woodend, Ravenswood, and Pegasus; ; traffic demand on the existing SH1 will be reduced from 21,000 vehicles per day to around 8,000 vehicles per day at opening.
- Significant **safety benefits**, with an estimated reduction in vehicle-related deaths and serious injuries along the existing alignment from 5.6 per year to 1.25 per year.
- Significant **economic benefits**, with an anticipated \$320 million injection into the Canterbury economy, and generating an estimated 624 full-time equivalent jobs during the peak construction year.

3. PART 3: DESCRIPTION OF THE PROJECT

3.1 Introduction

A description of the Project and the activities it involves is addressed in this part of the SAR. It has been prepared to address the requirements of sections 43(2) and 13(4)(a), and Schedule 5, Clause 5(1)(a) of the FTAA. Pursuant to section 44 of the FTAA, the information provided is sufficiently detailed to enable an assessment of the Project and its effects, while also recognising that design and construction methodologies will continue to be refined.

Where particular approvals require specific project description information under the FTAA, this is generally addressed within the corresponding parts of the SAR.

As noted in Section 1.3 of this SAR, the Project designation has been included in the OWDP since 2015, supported by a comprehensive suite of conditions. Approvals under the FTAA are not sought for those parts of the Project which are already authorised by the Designation (e.g. route alignment for a four-lane motorway, earthworks, traffic, noise, vibration, urban design, landscaping, and operational lighting). Part 6 of this SAR explains which elements of the Project are already authorised by the existing Designation, and which are new or altered elements addressed by this substantive application.

Notwithstanding, for context and completeness, the following sections describe all key elements, including those already authorised by way of the Project designation, to provide a clear understanding of the full scope of the works proposed.

The Project is described comprehensively in the technical reports and drawings respectively appended in Volumes 3 and 4. This description in Part 3 acts as a summary of that information, in particular the following:

- **Volume 3A: Construction Methodology Statement (CMS)** provides a feasible and realistic methodology to identify and assess potential construction effects, noting that a contractor(s) is yet to be appointed and flexibility is required to allow for differing approaches to construction.
- **Volume 3B: Design Statement (DS)** outlines the 30% detailed design, which establishes the philosophy and principles of the Project design to a level that enables an assessment of effects. Final detailed design may differ, but not to the extent that effects on the environment will materially change.
- **Volume 3L: Stormwater and Flooding Assessment** includes a description of the proposed operational stormwater management, culverts and stream realignments.
- **Volume 4: Drawings** including general arrangements, cross sections, and designation alteration plans.

Overall, flexibility is sought within the approvals sought under the FTAA, to enable refinement of the design and construction methodology, while ensuring that any adverse effects on the environment are appropriately managed. The proposed Designation and resource consent conditions seek to retain flexibility by requiring the submission of outline plans and management plans, requiring environmental offsetting to be recalculated prior to construction (to ensure this reflects the final design), and clearly stating the outcomes to be achieved (regardless of the design and methodology adopted).

3.2 Overview of Project and its components

The Project is an extension of the Christchurch Northern Motorway and will provide four lanes of grade-separated motorway over an approximately 11 km length. The Project Site spans from approximately 600 m south of the Kaiapoi River Bridge and extends to approximately 700 m north of the Pegasus/Ravenwood intersection, including upgrades to the existing SH1 and a bypass of Woodend township.

The Project has been designed in accordance with NZTA Standardised design solutions for use on state highway RONS and developed in collaboration with WDC, particularly in relation to local road and active mode connections and services/utilities. For the purpose of this substantive application, the design has been developed to a 30% detailed design level, with further detailed design occurring concurrently with progression of this application.

The Project involves the following key features (illustrated in Figure 1 in Part 1 of this SAR):

1. **Existing SH1 Upgrades** – Upgrade SH1 from approximately 600 m south of Kaiapoi River Bridge to the Cam River / Ruataniwha (a total distance of approximately 4 km), including:
 - a. **Additional southbound lane** – Between approximately 600 m south of the Kaiapoi River Bridge to the bridge itself¹².
 - b. **Kaiapoi River Bridge upgrades** – Seismic strengthening and widening to provide additional southbound lane. Note: Some strengthening works form part of the Early Works consenting package.
 - c. **Four-lane upgrades** – Upgrade the SH1 carriageway from two lanes to four lanes from Lineside Road Overpass to the Cam River / Ruataniwha.
2. **Woodend Bypass** – A new four-lane motorway, bypassing Woodend township, from the Cam River / Ruataniwha to approximately 700 m north of the Pegasus/Ravenwood intersection (a total distance of approximately 7 km), including:
 - a. **Cam River / Ruataniwha Bridge upgrades** – A new bridge to the east of the current bridge (SH1 and southbound on ramp). Note: these works integrate with the Williams Street interchange.
 - b. **Williams Street interchange** – A new interchange at the intersection of Williams Street and SH1.
 - c. **Quarry lakes embankment and southern remnant lake infilling** – A new tiered embankment through two artificial lakes (formed through quarrying), including dynamic compaction. The southern remnant lake created by the causeway will be partially filled and a wetland constructed in this area. Note: The initial (partial) reclamation is part of the Early Works consenting package.
 - d. **Woodend Beach Road overbridge** – A new local road bridge over SH1, including a realignment of and upgrades to Woodend Beach Road.
 - e. **Gladstone Road overbridge** – A new local road bridge over SH1, including upgrades to Gladstone Road.
 - f. **Pegasus interchange** – Remove existing roundabout at the intersection of SH1 / Pegasus Boulevard / Bob Robertson Drive and replace with a new grade-separated diamond interchange overpass, including traffic signals and local road upgrades including connection of Garlick Street to SH1.
3. **Project wide** – Features and activities applying at various locations along the entire length of the Project (a total distance of approximately 11 km):
 - a. **Stormwater infrastructure** – swales, drains, culverts, and stormwater detention and treatment facilities.
 - b. **Watercourse and drainage works** – including the permanent realignment and culverting of portions of Waihora Stream, Taranaki Stream, Taranaki Stream Tributary and McIntosh Drain.
 - c. **Landscaping and planting** – landscape features and planting.
 - d. **Ecological offsetting and compensation** – planting and creation of an ecology offset wetland at the southern remnant lake.
 - e. **Noise mitigation** – earth bunds and acoustic fences.
 - f. **Utilities and services** – relocation of existing utilities and installation of new utilities.
 - g. **Road features and furniture** – including but not limited to emergency bays, signage, and barriers.

¹² Note, the southbound lane will extend partly beyond the Project Site to approximately 200 m south of the Ohoka Road Overpass, but these works fall outside the scope of this substantive application.

3.3 Project design

3.3.1 Road alignment

The typical road formation will be a four-lane motorway, with two lanes in each direction separated by a central median. The typical cross-section is approximately 18.5 metres wide (barrier to barrier) and provides 3.5 m traffic lanes, 1.5 m shoulders, and a 1.5 m median. Key features of the typical motorway design include:

- Safety barriers in the median, along the edges of the main alignment, and on interchange ramps. TL-4 wire rope barriers will be used wherever feasible, with rigid or semi-rigid barriers used only where necessary (such as around bridge abutments or gantries).
- Stopping bays at regular intervals, serving as emergency stopping areas and maintenance bays.
- 100 km/h design speed for the majority of the motorway, reduced to 80 km/h at the Pegasus interchange to enable a smaller design footprint of the interchange.
- Lighting across the full length of the Project.
- Integrated Transport Systems (ITS) are proposed including CCTV cameras, Variable Message Signs (VMS), traffic monitoring systems.
- Some existing utilities will be relocated and future-proofing will be identified for new utilities (e.g. installing ducting or setting sufficient width aside for a future utility lines).
- Generally elevated to limit groundwater interactions.

Figure 3.1 below shows a typical cross-section for the main alignment.

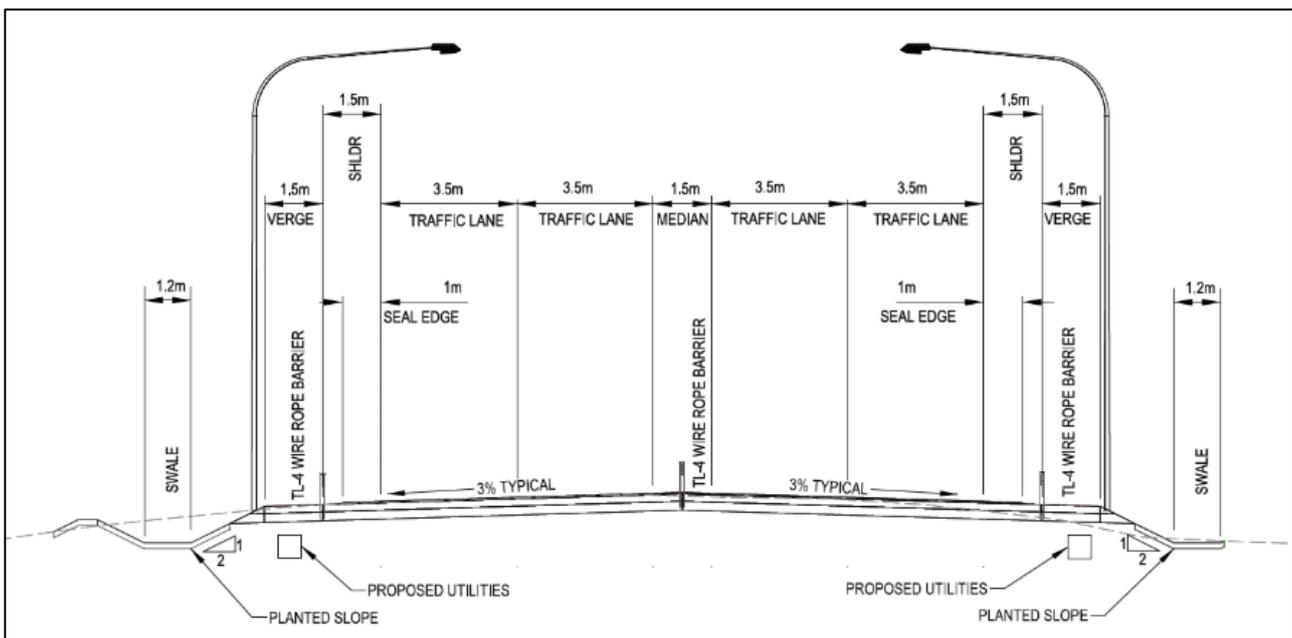


Figure 3.1: Typical cross-section of the proposed SH1 main alignment

3.3.2 Bridge and interchange design

The Project includes several new and upgraded structures along the alignment, comprising bridges over rivers and local roads, a new grade-separated interchange at Williams Street, and an upgraded Pegasus Interchange. These structures provide grade-separated connections to improve safety and efficiency while accommodating future traffic demand.

3.3.2.1 Kaiapoi River Bridge upgrades

The Kaiapoi River Bridge is currently a dual-deck structure carrying SH1 over the Kaiapoi River. An additional southbound lane will be installed on the median side of the southbound deck to improve safety for

road users entering and exiting SH1 between Lineside Road and Ohoka Road. The additional decking will not increase the external/outer dimensions of the bridge.

Seismic strengthening of the bridge to support the additional deck has been authorised separately as part of the Early Works package.

3.3.2.2 Cam River / Ruataniwha Bridge upgrades

The Cam River / Ruataniwha Bridge forms the point of divergence between the existing SH1 alignment and the new bypass alignment. The existing bridge will be retained and repurposed as a northbound off-ramp for traffic continuing on the existing SH1 / Main North Road.

A new single-span bridge will be constructed over the Cam River / Ruataniwha immediately to the east of the existing bridge, to carry the main bypass alignment. The additional bridge will accommodate two northbound lanes, two southbound lanes and the southbound on-ramp. It will have ramped embankment approaches and will be supported on piled foundations (the only piled bridge along the alignment) with ground improvements required, likely rigid inclusions. The proposed bridge does not have piers within the Cam River / Ruataniwha, and will not decrease flood carrying capacity relative to the existing structure.

3.3.2.3 Williams Street interchange

A new grade-separated interchange is proposed at Williams Street to carry the bypass alignment over Williams Street, provide a southbound on-ramp to SH1 from Williams Street, and reconfigure the existing SH1/Main North Road and Williams Street intersection (giving priority to Williams Street). An approximately 160 m long shared user path will be provided along Williams Street, from Lees Road to the existing SH1/Main North Road.

The new interchange has been designed to address existing safety concerns at the Williams Street intersection, particularly in relation to heavy vehicles and right-turning traffic onto SH1.

SH1 will be carried over Williams Street by a new overbridge comprising a concrete deck with ramped embankment approaches. Ground improvements will be required, likely rigid inclusions and stone columns.

3.3.2.4 Woodend Beach Road overbridge

The Woodend Beach Road overbridge will carry a locally realigned stretch of Woodend Beach Road over the bypass alignment to maintain safe and efficient access across the highway. The bridge structure will comprise a concrete deck with ramped embankment approaches and ground improvements will be required, likely stone columns.

3.3.2.5 Gladstone Road overbridge

The Gladstone Road overbridge will carry Gladstone Road over the bypass alignment to maintain safe and efficient access across the highway. The bridge structure will comprise a concrete deck with ramped embankment approaches. Ground improvements are unlikely to be required for the overbridge, rather a geogrid reinforced gravel raft will be laid below the structure.

3.3.2.6 Pegasus interchange

The Pegasus roundabout will be upgraded to a grade-separated diamond interchange, with the new SH1 alignment passing over Bob Robertson Drive / Pegasus Boulevard. On and off-ramps will be provided in both directions to connect SH1 to the local roads via signalised intersections. A 3 m wide shared use path will be provided on the south side of Bob Robertson Drive / Pegasus Boulevard, across Taranaki Stream and under the new Pegasus bridge.

The grade-separated diamond interchange will accommodate increased traffic volumes, address pedestrian and cyclist safety concerns, while allowing safe and efficient access between Pegasus and Ravenswood.

The bridge structure will comprise a concrete deck with ramped embankment approaches, with retaining walls separating the main alignment from the on and off ramps. Ground improvements will be required.

3.3.3 Quarry Lakes embankment

The bypass alignment crosses two artificial lakes, made possible by the construction of embankments, both of which are authorised separately as part of the Early Works package.

Dynamic compaction of the embankments formed at Early Works is proposed to improve their strength and stability, as well as that of the underlying lakebed. Dynamic compaction may also be undertaken on the land between the lakes to mitigate the potential for lateral spreading. The process of dynamic compaction is described below in Section 3.4.5.

The Project will then establish a second-tier embankment over the Early Works embankments. This will have 1V:3H side slopes and be formed from compacted AP65 hardfill with three layers of geogrid reinforcement. The second-tier embankment will be completed with pavement layers to carry the motorway alignment.

3.3.4 Southern remnant lake wetland

The highway alignment bisecting the southern lake will create two smaller waterbodies, with the southern remnant lake (to the east of the alignment) being approximately 2.6 ha.

A wetland will be established within the southern remnant lake to avoid the potential for eutrophication of the remnant lake, as well as providing the wetland offset for the Project. The final extent and configuration of wetland will be confirmed following groundwater monitoring and final ecological offset calculations. The wetland will, at a minimum, provide for no net loss of wetland extent and values and is anticipated to exceed this minimum requirement. A range of water depths will be provided within the wetland (generally between 0.1 and 1 m deep) to support a diversity of wetland vegetation / habitat types and species. Approximately one-third of the remnant lake will be retained as shallow open water.

The balance of the area will be developed as wetland habitat where groundwater levels are suitable, or otherwise planted with transitional/dryland species. The wetland area will be fenced and managed for weeds and predators.

3.3.5 Permanent culverts and stream realignments

17 new or replacement culverts are proposed, five of which are within the bed of a river¹³ and one of which is within an artificial watercourse that provides suitable habitat for freshwater fauna (Rossiter Drain). Fish passage will be provided for each of these six culverts in accordance with regulation 70(2)(a) of the NES-F and informed by New Zealand Fish Passage Guidelines. The 11 remaining culverts are within typically dry overland flow paths.

Table 3.1 provides details of the six culverts that provide habitat for freshwater fauna, noting culvert size and length is approximate and subject to further design refinement.

Table 3.1: Proposed culverts

Culvert	Chainage (m)	Nominal Size (mm)	Length (m)	Stream bed modification (m)	Watercourse
001	1610	1500	45	0	Wilson Drain, replacement of existing circular culvert
002	2350	1500	45	0	Rossiter Drain (artificial watercourse), replacement of existing circular culvert
005	5000	6000 X 2000	50	50	McIntosh Drain, new box culvert
014	9210	4000 x 1500	70	58	Waihora Stream, new box culvert
015	100 (Bob Robertson Dr)	2 of 1800 x 1000	up to 10 (extension)	up to 10	Taranaki Stream, extension of two parallel box culverts
016	9700	2700 x 1500	90	50	Taranaki Stream, new box culvert

¹³ As per RMA definition means a continually or intermittently flowing body of fresh water; and includes a stream and modified watercourse; but does not include any artificial watercourse (including an irrigation canal, water supply race, canal for the supply of water for electricity power generation, and farm drainage canal)

The Project also includes the permanent channel realignment for portions of the Waihora Stream, Taranaki Stream, and Taranaki Stream Tributary. This involves the formation of a new channel and reclamation of the abandoned portion of the river. The abandoned portion of McIntosh Drain will also be reclaimed. The new channels will have similar depths and widths to existing conditions, with no potential barriers to fish passage.

Additionally, the dry channel of the Waihora Stream will be realigned in two locations to maintain overland flow paths and mitigate potential flooding impacts. These lengths of Waihora Stream do not constitute a river as they are ephemeral and only convey flow during flood events.

Table 3.2 provides details of the three areas of stream realignment.

Table 3.2: Proposed stream realignments

River	Chainage (m)	Impact (m)	Post construction extent (m)	Notes
Waihora Stream	9100 to 9220	120	60	Including culvert
Taranaki Stream Tributary	9700 to 9775	115	75	Including culvert
Taranaki Stream	9640 to 9700	60	60	--

3.3.6 Operational stormwater design and infrastructure

The design for operational stormwater has sought to separate external catchment flows from roadway runoff via cut-off drains along much of the alignment. Cut-off drains are not expected to intercept groundwater, except between Lineside Road and the Cam River / Ruataniwha where groundwater levels can be elevated. Existing drains along this portion of the state highway and the proposed cut-off drains will not alter the level of groundwater interception at these locations.

Stormwater treatment is proposed along the new bypass alignment and the existing SH1 upgrades, including capturing runoff from existing SH1 surfaces.

Treatment and conveyance of road runoff will occur via a consistent toolbox of methods, including grass-lined swales, planted bioinfiltration swales and basins, planted bioretention swales and basins and possibly proprietary devices. All methods are very effective at removing sediment and heavy metals attached to sediment, with bioinfiltration and bioretention devices having enhanced removal efficiencies for dissolved heavy metals and nutrients.

Discharges to ground (via infiltration) or to surface water will occur, depending on the location.

3.3.7 Noise barriers

Up to 3 km of noise barriers will be installed along the alignment, with the design, location and extent to be determined based on noise modelling. Noise barriers will comprise one of the following:

- Timber or steel and concrete acoustic fence at alignment edge.
- Small earth bund positioned beyond the swales with a timber or steel and concrete acoustic fence on the crest.
- Larger earth bund positioned beyond the swales.

Noise barriers are already authorised by way of the existing Project designation (and the requirement to mitigate operational noise addressed is in existing conditions 92 – 96) to the extent that they would otherwise require resource consent under the district plan.

3.3.8 Planting and landscaping

Significant planting and landscaping of predominantly native species will be undertaken across the Project Site and will serve a number of purposes, including:

- Integration of the Project into the existing landscape and mitigation of visual and landscape effects (to address conditions under the approved designation).
- Stabilisation of batter slopes.
- Treatment of road runoff within swales and basins.
- Ecological mitigation, offsetting and compensation.

The landscape and planting plans will be developed in the ULDMP to be submitted to WDC as part of the outline plan.

3.4 Indicative construction methodology

This section provides a broad overview of the indicative construction methodology, drawing on the CMS (Volume 3A), to enable an assessment of the construction related effects on the environment and identify measures to avoid, remedy or mitigate those effects. The indicative construction methodology presented is realistic and feasible, but will not be confirmed until a contractor(s) is appointed. Construction related effects will largely be managed through the development and implementation of a suite of management plans and the conditions of the designation and resource consents (see Volumes 2C and 2D).

3.4.1 Construction programme and sequence

Construction of the Project is anticipated to take approximately four years and commence in late 2026, with an anticipated completion date of 2031. The exact start and end dates are subject to consenting, detailed design, funding approvals, land acquisition, contractor appointment, and other influences such as weather. The Early Works activities (consented separately) are expected to commence in late 2025.

To achieve the target completion date, many elements of the Project will likely be constructed concurrently across the full Project extent throughout the construction programme. Details on the exact requirements and staging of works can only be confirmed once a contractor(s) is appointed. However, for the purposes of section 13(4)(f)¹⁴, the Project is not planned to proceed in stages and only one substantive application will be lodged covering the entire project duration.

The anticipated sequence of construction activities is as follows, noting many elements will occur in parallel:

1. Site establishment and enabling works including:
 - Ecological, cultural, archaeological/heritage surveys/assessments and relocation.
 - Contaminated land testing.
 - Relocation of access to affected properties.
 - Boundary fencing and fencing of areas where construction is precluded.
 - Installation of erosion and sediment control measures.
 - Utility protection or relocation.
 - Formation of site access and haul roads, including temporary stream crossings / culverts.
 - Establishment of Construction Support Areas (CSAs).
2. Bulk earthworks including clearing buildings and vegetation.
3. Construction of stormwater infrastructure.
4. Construction of bridges, culverts and other structures.
5. Pavement construction.

¹⁴ Section 13(4)(f) a statement on whether the project is planned to proceed in stages.

6. Formation of intersections and connections.
7. Installation of barriers, signs and road marking.
8. Landscaping and planting to occur progressively.
9. Site disestablishment including reinstatement of CSA sites.

3.4.2 Hours of operation

Construction works will typically occur between 07:00 and 19:00 Monday to Saturday, and not on Sundays or public holidays. However, NZTA does not propose to limit construction days or hours by way of resource consent or designation conditions, as there are a number of activities which may need to occur outside these times for efficiency, safety, and environmental reasons. Examples include:

- Dust and erosion/sediment control management immediately preceding or following weather events.
- Vehicle and staff movements associated with the arrival and departure of workers at the beginning and end of a workday.
- Pre-start and close-down activities at the beginning and end of a workday.
- Installation of road structures and pavement where night works are safer or less disruptive to live traffic, or where activities need to occur in one continuous effort (e.g. large concrete pours, crane lifts, or works in the bed of a stream while that stream is temporarily diverted).

Noise, dust and traffic effects of construction activities occurring at night, Sundays and public holidays can be appropriately managed by other conditions, such as via the CEMP and CNVMP (conditions of the existing Designation).

3.4.3 Construction Support Areas

CSAs are proposed at multiple locations across the Project Site, with the primary CSA at 236-264 Lees Road and other secondary CSAs positioned at convenient locations within the Project Site. The CSAs will provide some or all of the following temporary facilities:

- Site offices, kitchen/dining facilities, toilets.
- Recycling facilities.
- Plant and equipment laydown areas.
- Fuel storage / refuelling facilities.
- Storage of hazardous construction materials (if necessary, and none within a Community Drinking Water Protection Zone).
- Wheel washing and cleaning facilities.
- Staff parking areas.
- Material stockpiling areas.

The Lees Road CSA will incorporate a planted earth bund on its southern boundary to provide visual and noise screening to properties on Lees Road.

At completion of construction works, all CSAs will be removed and the sites rehabilitated.

3.4.4 Earthworks

3.4.4.1 General

The Project will involve significant earthworks volumes, including for the establishment of temporary haul roads; ground improvements; cutting for culvert installation, stream realignments and stripping of excess soil; fill to achieve the proposed horizontal and vertical alignments.

The preliminary estimates of earthwork volumes show substantially more fill than cut (cut approximately 135,000 m³ and fill approximately 680,000 m³), reflecting the flat nature of the Project Site and the elevation of the alignment required to limit groundwater interactions. Given the very low cut requirements, there are limited opportunities for cut to fill and the majority of fill material will be imported hardfill.

Site won fill will likely be reused for landscaping or noise bunds where engineering specifications are less prescriptive. Fill sourced from Hazardous Activities and Industries List (**HAIL**) sites or other potentially contaminated sites will be subject to testing to confirm its suitability for reuse. The volume of material requiring off-site disposal will be minimal and will occur at a suitably licensed facility.

3.4.4.2 Gladstone Road Landfill

Options for constructing the proposed alignment through the Gladstone Road landfill are currently under consideration subject to detailed design. Landfill material that sits higher than the surrounding ground will be excavated and either removed offsite to an appropriately authorised facility or reused within the Designation. Subject to detailed design, there are currently three options for below ground material:

- Remove landfill material to the extent practicable and replace with hardfill.
- Compact landfill material in place using impact rollers or similar.
- A combination of partial removal and compaction.

3.4.5 Ground improvements

Ground improvements are required at all proposed bridges to ensure the ground has sufficient bearing capacity to support bridge abutments, and on the road embankment at the Quarry Lakes. Ground improvements are also needed to ensure that performance under earthquake loading is satisfactory, especially where seismically induced ground liquefaction and lateral spreading may occur. The following range of ground improvements are proposed:

- **Stone Columns or Rammed Aggregate Piers (RAP):** Stone columns are constructed by forming holes in the ground and then backfilling using gravel or small stones. A vibroflot or displacement probe is used to create the holes. Stone Columns (8.5 m deep) are proposed at the Cam River / Ruataniwha and at Woodend Beach Road (6.5 m deep).
- **Rigid Inclusions:** Stiff columns frequently made of concrete or aggregate are placed into the ground to reinforce weak or compressible soils and transfer structural loads to deeper, more stable layers. Rigid inclusions are proposed at the Cam River / Ruataniwha and Williams Street. The rigid inclusions proposed at the Cam River / Ruataniwha are 11 m long, and the rigid inclusions proposed at Williams Street are 13 m long.
- **Dynamic Compaction:** Dynamic compaction is only proposed for the Quarry Lakes embankments (and potentially the land between the lakes) and involves repeatedly dropping a heavy weight (approx. 30 tonnes) from a height (approx. 30 m suspended by a crane) in a grid pattern, with multiple drops at each point. This densifies the soil and improves its seismic performance. Using a 30 t weight x 30 m drop is expected to compact up to 12 m of ground, most of which lies below the lake bed. Dynamic compaction is expected to take approximately three months (assuming operation six days a week), but will likely occur over a six month period due to the stop/start nature of the activity.
- **Bored Piles:** Drilling a hole into the ground before placing reinforcement and filling the hole with concrete. Ensures loading is transferred to deeper, more stable soil. Bored Piles are only proposed for the new Cam River / Ruataniwha Bridge. Piled foundations are expected to be 1.5 m and 14 m deep.

3.4.6 Dewatering

Construction activities that have the potential to intercept groundwater include excavations for culverts, stormwater infrastructure and utilities, as well as ground improvements that penetrate shallow groundwater. Dewatering is only necessary where a dry working environment is required, which is not typically required for ground improvements. Dewatering is expected to be limited to culvert and utility installation and may also be necessary at the Gladstone Road Landfill (if landfill material requiring removal is within groundwater).

All ground excavation and disturbance activities will be undertaken in accordance with a Groundwater Management Plan (GMP). Dewatering shall only occur for the purposes of facilitating construction works, and groundwater will not be taken from depths exceeding 10 m below ground level (**bgl**). The methods for dewatering, including the management of any discharge, will be determined by the contractor in accordance with the GMP. Dewatering water may be treated with coagulants and flocculants prior to discharge.

3.4.7 Works in waterways

Works in waterways will be necessary for permanent and temporary culvert installation, permanent stream realignment, the Cam River / Ruataniwha Bridge upgrades and southern remnant lake wetland creation. These works include:

- Where possible, culverts will be installed offline to the existing stream flow, however, temporary damming and over pumping will be required for the replacement of existing culverts on Wilsons and Rossiter Drains.
- Permanent stream realignments will also be constructed offline as far as possible before connecting into the flowing channel. Stream realignment will be undertaken at Taranaki Stream, Taranaki Tributary stormwater drain, Waihora Stream and McIntosh Drain.
- Where utilities are installed below riverbeds it is likely trenchless methods will be utilised, such as directional drilling.
- The Cam River / Ruataniwha Bridge upgrades will require activities within the bed of the river, but works are not expected within flowing water as the design does not include piers in the river.
- The southern remnant lake wetland creation will involve backfilling of the remnant lake with clean aggregate, re-contouring the fill to create different water depths, and progressive planting over multiple seasons.

3.4.8 Water take and use for construction

Up to 2,000 m³ of water per day may be abstracted from the Quarry Lakes and used across the Project Site for various construction-related purposes, including for dust suppression, to facilitate compaction of fill, and to support ecological and landscaping planting. Fish will be prevented from entering the water intake in accordance with the fish screen standards and guidelines in Schedule 2 of the Canterbury Land and Water Regional Plan (CLWRP), likely in the form of a 'box' type fish screen on pump inlets.

The contractor may also choose to source water for construction purposes from WDC's reticulated supply or from groundwater bores (which would be subject to allocation availability and potentially a separate resource consent process).

3.5 Operational and maintenance activities

Operation of the completed motorway will involve ongoing maintenance requirements, including:

- Routine pavement and surface maintenance, line marking, sign maintenance etc;
- Cleaning, maintenance and repair of bridge structures;
- Cleaning of culverts, swales, stormwater basins and other infrastructure;
- Weeding, mowing, and predator control of landscape and ecological planting.

Operation of the alignment will also involve the following ongoing activities (which trigger resource consent, see Volume 2H):

- Permanent diversions of water as a result of stream realignments;
- Permanent use of culverts in a bed;
- Operational stormwater discharge to land and water;
- Passive take, use and discharge of groundwater via subsoil drainage;
- Incidental take and use of groundwater within the stormwater system.

3.6 Management and mitigation measures

3.6.1 Overview

The potential effects of the Project will be managed primarily through a comprehensive package of conditions on the approvals, which include the preparation and implementation of management plans. Collectively, the conditions and management plans will ensure construction and operational effects are managed in line with good practice, while retaining sufficient flexibility to refine methodologies once a contractor is appointed and the design progresses. The management plans and conditions are discussed in greater detail below.

3.6.2 Management Plans

The conditions of the existing Project designation already require preparation of a CEMP¹⁵ and several other construction related management plans. These conditions were developed in 2013-2015 in the absence of any regional resource consents and some of the conditioned management plans are better aligned to the functions of ECan rather than WDC. Further, some elements of the management plans are not consistent with current knowledge and practice.

With this substantive application now seeking the regional council consents, it is an opportune time to revisit the full management plan suite required to implement the Project and ensure they are fit for purpose, and avoid duplication and inconsistencies across the implementation of the Designation and resource consents.

Table 3.3 below identifies the management plans proposed for the Project. The proposed content of all management plans is described in full in the conditions contained in Volumes 2C-2F of this SAR. The content has been developed in collaboration with relevant technical specialists.

Table 3.3 Proposed Management Plans

Management Plan	Relevant authority	Relevant approval
Construction Environmental Management Plan (CEMP)	ECan and WDC	Regional resource consents and Designation
Contaminated Sites Management Plan (CSMP)	ECan and WDC	Regional resource consents and NES-CS consent
Archaeological and Cultural Sites Management Plan (ACSMP)	WDC and HNZPT	Designation and archaeological authorities
Construction Noise and Vibration Management Plan (CNVMP)	WDC	Designation
Construction Traffic Management Plan (CTMP)	WDC	Designation
Heritage Management Plan (110 Parsonage Road) (HMP)	WDC	Designation
Urban and Landscape Design Management Plan (ULDMP)	WDC	Designation
Visual Effects Management Plan	WDC	Designation
Ecological Management Plan (EMP)	ECan	Regional resource consents
Construction Air Quality Management Plan (CAQMP)	ECan	Regional resource consents
Erosion and Sediment Control Management Plan (ESCMP)	ECan	Regional resource consents
Groundwater Management Plan (GMP)	ECan	Regional resource consents
Lizard Management Plan (LMP)	DOC	Wildlife approval

This substantive application also seeks a change to the process by which WDC will consider the management plans under the Designation. The existing Designation conditions require that most plans proceed through a separate certification process at or before the Outline Plan stage, but given the Project is also subject to a comprehensive Outline Plan process (condition 3 of the Designation), for efficiency NZTA now proposes to submit the management plans with the Outline Plan. Amendments are proposed to conditions 3-7 of the Project designation to provide for this new process. Under section 176A of the RMA, WDC may use the Outline Plan process to request changes to the management plans. NZTA may then make the changes, or if they choose not to, WDC may appeal the matter to the Environment Court.

¹⁵ Referred to in the existing conditions as a Construction Environmental and Social Management Plan (CESMP)

A certification process is proposed for all management plans where ECan, HNZPT, and DOC are the relevant authorities.

3.6.3 Conditions and additional mitigation measures

A comprehensive suite of proposed conditions to manage and monitor environmental effects is contained in Volumes 2C to 2F. The conditions have been developed in response to the recommendations of the technical assessments in Volume 3. They also address feedback from pre-lodgement consultation, as outlined in Part 5 of this report. The relevant effects and conditions are discussed in more detail within Parts 6-9 of this SAR.

With respect to the conditions of the existing Project designation, changes are proposed where the obligations imposed by existing conditions better fit within the functions of ECan rather than WDC or are misaligned with current practice and design. Existing conditions are proposed to be deleted where the effects are now addressed by the conditions of the regional resource consents (see Volume 2C).

3.7 Climate change and natural hazards

A description of whether and how the Project would be affected by climate change and natural hazards is required under Section 13(4)(v). The Project has been designed to remain resilient to the potential impacts of climate change and natural hazards, including flooding/hydrological and seismic hazards.

Climate change allowances will be embedded into the design where relevant, and hydraulic and flood modelling has been completed with allowances for climate change. This modelling has informed the design and sizing of culverts, bridges, stream realignment and stormwater storage requirements.

The modelling has also enabled an assessment of potential upstream and downstream effects of the Project, and with the incorporation of best practicable mitigation options, adverse flooding effects are assessed as less than minor.

Erosion and scour risks will also be considered at all culvert outlets, stream realignment and bridges, with design measures such as riprap protection, energy dissipation structures, and revegetation planting proposed to maintain channel stability and ensure long-term resilience.

Bridge and major culvert design is in accordance with the Project's seismic resilience philosophy which identifies appropriate importance levels, return periods and performance criteria for these structures.

The Project will also improve the resilience of the state highway network in North Canterbury to natural hazards by providing an alternative route between Kaiapoi and Pegasus (i.e. the bypass of Woodend).

4. PART 4: THE EXISTING ENVIRONMENT

4.1 Introduction

Part 4 provides a high-level description of the existing environment within which the Project will be constructed, operated, and maintained. It is principally a summary of the existing environment as described in the relevant supporting technical assessments appended in Volume 3 (and follows the same order as they are appended), but includes additional planning context. More in-depth descriptions can be found within the individual technical assessments.

The Project Site is defined as the land contained within the area delineated as “Project Site” in Volume 4C and the lizard relocation sites identified in Volume 3J Appendix A Figure 1. Key environmental features within the Project Site are also shown on the plans in Volume 4C.

As described in the Property and Landowner Information Report in Volume 1D, the land required for the Project is either currently owned or will be owned by the Crown. NZTA has been acquiring land for the Project on behalf of the Crown for several years, and in earnest over the past year. The Project Site includes small areas of public conservation land (as defined under the FTAA) which are also identified in Volume 1D, however, no construction works are proposed on public conservation land.

4.2 Planning context

The Project designation is contained within the OWDP as D058A: New Zealand Transport Agency Woodend Bypass, Portion of State Highway 1 East Woodend, Pegasus and Kaiapoi.

WDC is currently undertaking a District Plan review where the OWDP will be replaced by the POWDP. The Project designation has been rolled over to the POWDP as Designation NZTA-3. Multiple appeals (21) have been received on the POWDP, but none are of particular relevance to the Project. In relation to Designation NZTA-3, no appeals were received on the decision of the requiring authority.

The existing designation and the activities it authorises are considered part of the existing environment, even if those activities have not yet been undertaken on the site. For example, the effects of the proposed land use activities within the new areas of designation footprint have been assessed on an adjacent environment which is assumed to include the already designated Project (rather than existing residential and rural activities within the current designation footprint).

4.2.1 Zoning and planning notations

The requirements for resource consents are determined by the rules in the CLWRP, Canterbury Air Regional Plan (**CARP**) and relevant regulations within any applicable national environmental standards. The rules and regulations which apply are determined by the zoning of the site, any identified notations or overlays and the nature of the activities proposed. The relevant zoning and planning notations for the Project are outlined below in more detail.

Table 4.1 Zoning and planning notations

Zoning/ planning notations	Comment
NES-F	20 wetlands meet the definition of a natural inland wetland under the NES-F and NPSFM within the Project designation (Volume 3K).
NES-CS	There are two confirmed HAIL activities within the Project Site (788 Main North Road and Gladstone Road Landfill). A number of additional potential HAIL activities remain as locations of interest and are yet to be investigated (Volume 3F).
Groundwater aquifer system	The Coastal Confined Gravel Aquifer System largely underlies the Project Site. The semi-confined or unconfined aquifer is also prominent, featuring at the Kaiapoi River, Lineside Road Intersection and the northern half of Quarry Lakes.

Zoning/ planning notations	Comment
Īnanga Spawning Habitat	Īnanga Spawning Habitat is mapped along the Kaiapoi River. ¹⁶
Community Drinking Water Protection Zone (CDWPZ)	There are 6 community Drinking Water Protection Zones (cDWPZ) identified within the Project Designation. Kaiapoi River Bridge: <ul style="list-style-type: none"> ▪ M35/11908 Lineside Road Interchange: <ul style="list-style-type: none"> ▪ M35/11909 ▪ M35/11911¹⁷ ▪ BW24/0437 Gladstone Road: <ul style="list-style-type: none"> ▪ M35/7542 ▪ M35/11693
Wetlands	25 wetlands within 100 m of the Project designation and the surrounding environment. This includes 20 that meet the definition of a natural inland wetland under the National Policy Statement for Freshwater Management (NPS-FM). There are 3 that meet the definition under the CLWRP, 1 that meets the definition under the RMA and 1 constructed wetland (Volume 3K).
Clean Air Zone	The SH1 upgrade portion of the Project falls within the Kaiapoi Clean Air Zone.
Kaiapoi Airshed	The Kaiapoi Air Shed covers the northern on-ramps and off-ramps at Lineside Road Interchange. It also extends over the south-eastern side of the Kaiapoi Bridge and the remainder of the designation south.
Defences against water, Flood protection vegetation, drains and small watercourses¹⁸	Kaiapoi River <ul style="list-style-type: none"> ▪ Stopbanks and Flood Protection Vegetation extend along both banks of the Kaiapoi River. Cam River / Ruataniwha <ul style="list-style-type: none"> ▪ Stopbanks extend along the true right bank of the Cam River / Ruataniwha (southern bank at the Cam River Crossing). The Cam River/ Ruataniwha is classed as a drain.
Archaeological Sites¹⁹	Within the designation, there are a total of 16 archaeological sites (4 of which have been destroyed) (Volume 3H).
Silent File Areas (Ngāi Tahu)	SASM001, SASM002, SASM005 and SASM006 extend over the Project alignment and are known to be Wāhi tapu.
Scheduled Natural Character Freshwater Body²⁰	The Kaiapoi River and Cam River / Ruataniwha are deemed scheduled character freshwater bodies.

4.3 Cultural setting

Ngāi Tūāhuriri Rūnanga is one of the principal hapū of Ngāi Tahu and the Project lies fully within its takiwā. Whitiōra has been mandated by Ngāi Tūāhuriri to provide advice on environmental policy and consenting matters. The text in this section has been reviewed by Whitiōra.

4.3.1 Māori land, marae, and wāhi tapu

Section 13(4)(o) requires identification of parcels of Māori land, marae, and wāhi tapu within the project area. There are no parcels of Māori land or marae within the Project Site. Wāhi tapu within the project area is described below.

The POWDP records a number of Sites and Areas of Significance to Māori (**SASM**) which overlap the Project Site:

¹⁶ The Project ecologists have confirmed there is low-quality potential habitat around the Kaiapoi Bridge. No works are proposed within the Kaiapoi River as part of the works subject to this Application.

¹⁷ An additional bore; M35/11911 is shown with a CDWPZ defined on Canterbury Maps; however, it is understood that this bore does not provide water for the Public Water Supply (Hydrology Assessment)

¹⁸ As identified in the Flood Protection and Drainage Bylaw 2013 – Amended 2019

¹⁹ As recorded in the NZ Archaeological Association (NZAA) Site Recording Scheme

²⁰ As identified in the POWDP (Schedule 2)

- **SASM001** (Wāhi Tapu) – Silent File 017.
- **SASM002** (Wāhi Tapu) – Silent File 018.
- **SASM005** (Wāhi Tapu) – Silent File 021.
- **SASM006** (Wāhi Tapu) – Silent File 022.
- **SASM013** - Cultural Landscape encompassing an area of high coastal settlement (in both contemporary and ancestral senses). It comprises significant clusters of recorded archaeology of Māori origin and silent files. The SASM begins approximately 650m north of the Lineside Road interchange and extends over the remainder of the alignment heading north.
- **SASM019** – A small, former podocarp forest extent which occurred adjacent to the western portion of the Tuahiwi Reserve MR 873.
- **SASM022** – Waimakariri River and its tributaries with Mahinga environments, habitats and taonga species.
- **SASM024** - Cam River / Ruataniwha and its tributaries with Mahinga Kai environments, habitats and taonga species.
- **SASM025** – Ashley River / Rakahuri and its tributaries with Mahinga Kai environments, habitats and taonga species .

Along the alignment, there are other culturally significant sites, including middens, burials and borrow pits that have been found (see section 4.10 for further details).

Mahinga Kai for Ngāi Tahu is central to the traditional way of life, and therefore it is of utmost importance to protect this traditional process of food gathering. The Project alignment crosses five waterways; thus, any earthworks will be managed to ensure water quality and downstream habitats are not degraded.

The Kaiapoi Māori Reserve 873 was granted to Ngāi Tuahuriri during the 1840s which was part of the Kemp's Deed purchase and comprises mostly Māori and general property rights²¹. The Project designation previously extended over a section of the reserve near the Cam River / Ruataniwha. On 14 August 2025, NZTA provided notice that this part of the designation is no longer needed for the Project and on 19 August 2025 WDC removed this part of the designation from the OWDP (and the POWDP).

There are no Statutory Acknowledgement Areas along or near the alignment. The site is not within or adjacent to a protected customary rights area under the Marine and Coastal Area (Takutai Moana) Act 2011 or within ngā rohe moana o ngā hapu o Ngāti Porou.

4.3.2 Treaty settlements

Section 13(4)(l) requires a list of any Treaty settlements that apply to the project area, and a summary of the relevant principles and provisions in those settlements. The following sections have been prepared by Whitiara.

4.3.2.1 Deed of Account Settlement

Ngāi Tahu filed claims with the Waitangi Tribunal in 1986 and negotiations between the Crown and Ngāi Tahu began in 1991. Those negotiations followed a protracted path over a period of years.

In 1994, and relevant to this Application, the Crown made an offer, “as a sign of good faith and as a demonstration of the Crown’s goodwill, and in recognition of the long process of negotiation that has already taken place between the parties” to revoke the classification of Tūtaepatu Lagoon as a Government purpose (wildlife management) reserve; and to vest the Lagoon in Te Rūnanga o Ngāi Tahu.

Tūtaepatu Lagoon lies at the heart of the complex wetland system extending between the Waimakariri and Rakahuri awa, that sustained Ngāi Tūāhuriri life and culture development prior to colonisation by European settlers.

²¹ Waimakariri District Council. (n.d). *Unlocking Māori Reserve 873 for the descendants of the original grantees*. https://planning.org.nz/Attachment?Action=Download&Attachment_id=3816

It is the remnants of this wetland complex which is now being traversed by the Project. The final 1996 “Deed of Account Settlement” recognised that Tūtaepatu and its surrounding environs were significant, containing wāhi tapu, wāhi taonga and mahinga kai.

The fact that a lagoon in this location was selected as the symbol of goodwill and commitment for negotiations with Ngāi Tahu reflects the cultural significance of this landscape.

4.3.2.2 The Claim & the Settlement

The Ngāi Tahu claim was structured in nine parts – referred to as the Nine Tall Trees. Eight of the parts were concerned with major land sales, with the ninth representing the loss of mahinga kai.

The Preamble to the Ngāi Tahu Claims Settlement Act 1998 (**NTCSA**) provides a description of these major land sales, which includes the Canterbury Purchase Deed and the Crown’s failure to set aside the area defined by the Waimakariri and Kāwari Rivers, as requested by Ngāi Tahu. In so acting, the Crown breached its duty to act with the utmost good faith. The Project traverses this land.

The terms of the Canterbury Purchase are described more fully in Volume 1E Statement of Cultural Values, Interests & Priorities. The principles integral to those terms remain matters that Ngāi Tūāhuriri seek to be given effect to by the Crown in land development.

The Settlement included the following components:

- a. An apology;
- b. The return of Aoraki to Ngāi Tahu;
- c. A wide range of mechanisms for economic redress;
- d. A wide range of mechanisms for recognition of mana; and
- e. Recognition of, and provision for mahinga kai.

The NTCSA also provides for the special relationship between Ngāi Tahu and Taonga Species.

4.3.2.3 The Apology

The Crown’s apology recognised its repeated breaches of the principles of the Treaty of Waitangi in its purchases of Ngāi Tahu land. This included acknowledgement that the Crown had failed to preserve and protect Ngāi Tahu’s use and ownership of such land and valued possessions they wished to retain; as well as “past failures to acknowledge Ngāi Tahu rangatiratanga and mana over the South Island lands within its boundaries.”

Within the apology, the Crown recognises Ngāi Tahu as the tāngata whenua of, and as holding rangatiratanga within, the Takiwā of Ngāi Tahu Whānui. The apology concludes with a commitment to enter a new age of co-operation with Ngāi Tahu.

4.3.2.4 Mechanisms for recognition of mana

Mechanisms for recognising mana included the identification of Statutory Acknowledgements - being areas of particular cultural, spiritual, historic and traditional association. Relevant to the Project is the Statutory Acknowledgement - Te Tai o Mahaanui.

Te Tai o Mahaanui is the coastline from the Waimakariri River to the Waitaki River. It is recognised in Schedule 101 of the NTCSA as an attractive place to establish permanent settlements. It offered a bounty of mahinga kai, including a range of kaimoana, sea fishing, eeling and harvest of other freshwater fish in lagoons and rivers; marine mammals, waterfowl, sea bird egg gathering and forest birds; and a variety of plant resources. The coast was also a major highway and trade route. “The mauri of the coastal area represents the essence that binds the physical and spiritual elements of all things together, generating and upholding all life. All elements of the natural environment possess a life force, and all forms of life are related. Mauri is a critical element of the spiritual relationship of Ngāi Tahu Whānui with the coastal area.” Te Tai o Mahaanui will receive all of the water from water bodies (both surface and ground) that are impacted by the Project.

4.3.2.5 Mahinga Kai

The term mahinga kai was used in the Settlement to refer to many of the cultural aspects of the redress package including legal entitlements for nohoanga, rights to customary fisheries management, and taonga species (being birds, plants and marine mammals with whom Ngāi Tahu has a special relationship) management.

4.3.2.6 Relevance to this Project

Matters arising from the Ngāi Tahu Settlement that concern the natural and physical resources impacted by the Project and its environs include -

- a) Management of construction and operational stormwater to ensure that the quality of water which is being treated and then transported via freshwater bodies (ground and surface) do not adversely impact the downstream wetland complex, including Tūtaepatu Lagoon and its environs; and the receiving waters of Te Tai o Mahaanui – the coast.
- b) The impacts of construction activities on wāhi tapu, wāhi taonga, and the remnants of wetlands and streams that sustained mahinga kai as recognised in the Settlement legislation; and
- c) The impacts on mahinga kai resources, including taonga species, and the ability to practice mahinga kai which have been recognised as the foundation for many of the redress mechanisms in the Settlement legislation.

4.4 Built and social environment

As impacts on most of the built and social environment values (and effects thereon) are already authorised by the Project designation, the information provided here is for context only.

4.4.1 Land use

The majority of the Project alignment is a pastoral rural working environment, with the exception of residential areas; Kaiapoi, Williams Street and Ravenswood.

The southernmost part of the Project designation begins to the west of Kaiapoi township, approximately 7km north of Belfast and 15km north of Christchurch. On either side of the motorway lie residential suburbs which continue until the Kaiapoi Bridge. From Lineside Road, the motorway extends north following the existing Northern Motorway Corridor through rural farmland. The Pineacres Holiday Park is located between SH1 and the Project's corridor, accommodating both temporary and permanent occupants. Quarrying is ongoing within the wider site but has ceased within proximity to the Project designation.

The designation diverts northeast, which will involve the construction of a new four-lane state highway alignment between Williams Street and Pegasus Boulevard to bypass Woodend. This traverses through a rural landscape intersecting Woodend Beach Road and Gladstone Road and ending north of the existing Pegasus Roundabout; this connects Woodend, Pegasus and the Ravenswood Subdivision. Woodend lies approximately 1km south of the roundabout and Pegasus and Ravenswood are newer developments located to the east and west of the roundabout. North of the Pegasus roundabout, the alignment opens back up to a rural environment.

4.4.2 Network utilities

In addition to the transport alignment, the Network utilities listed below are located within the Project designation. Further information on the location of these utilities can be found in section 3.8 of Volume 3B.

- **Waimakariri District Council** – stormwater, water, wastewater and local roads.
- **Transpower New Zealand Limited** – electricity transmission.
- **EonFibre (Vodafone)** – underground fibre.
- **Chorus** - underground fibre and copper lines and ITS lines cameras and pits.
- **Land Information New Zealand (LINZ)** – survey marks.
- **MainPower** – overhead and underground power distribution.
- **Enable** – underground fibre.
- **GASCO** – underground pipe.

4.5 Transport environment

This section provides a brief summary of relevant information from the Design Statement (Volume 3B) and Transport Assessment (Volume 3C). Please refer to these documents for further details.

4.5.1 State Highway 1

SH1 is a national strategic freight route, connecting Picton to Bluff along the east coast of the South Island. It provides critical access to Christchurch City, the primary service centre for the South Island. The neighbouring communities of Woodend, Pegasus, and Ravenswood are experiencing rapid residential and commercial development, since the Christchurch earthquakes, with Ravenswood recently declared a 'key activity centre' in the Greater Christchurch area. These areas currently house a combined population of 8,720 residents, reflecting a 53% increase over the past five years. Continued growth is anticipated, with Pegasus expected to reach a population of 6,000, Ravenswood 4,000, and the wider Woodend area 3,960, bringing the total projected population to 13,960 by 2048.

Heading north from Christchurch, the State Highway 1 network comprises a four-lane dual carriageway. When the Christchurch Northern Motorway joins with SH1, the road corridor extends to six lanes. Continuing north to Pegasus, the road predominantly remains a 4-lane dual carriageway before reverting to a double lane dual carriageway at the Lineside Road interchange. Approaching Woodend, the road returns to a two-lane two-way road. Posted speeds range from 50 km/hr to 100 km/hr, as shown below:

Existing posted speed on the SH1 network:

- Ohoka Road to south of Williams Street – 100 km/h.
- South of Williams Street to Woodend Beach Road – 80 km/h.
- Woodend Beach Road to south of Pegasus Interchange – 50 km/h.
- South of Pegasus Interchange to Wards Road – 70 km/h.
- North of Pegasus Interchange – 80 km/h.

4.5.2 Local roads

Local roads that cross the Project alignment include:

- **Williams Street:** One of the major intersections along the alignment that connects onto SH1. Starting at the T-intersection and following Williams Street south, it is the main access road to Kaiapoi (existing posted speed 80 km/h).
- **Woodend Beach Road:** Is a no-exit road located off the current SH1 network and provides access to rural properties and farmland and a small residential settlement at Woodend Beach (existing posted speed 80 km/h).
- **Gladstone Road:** Main access to this local road is from the Woodend township. Along the road, a subdivision is located closest to Woodend and further along is farmland and Gladstone Park. The road changes here from a sealed to a dirt road (existing posted speed 60 km/h).
- **Bob Robertson Drive:** Located to the west of Pegasus Roundabout and provides access to Ravenswood (existing posted speed 50 km/h).
- **Pegasus Boulevard:** Located to the east of Pegasus Roundabout, and is the main thoroughfare to Pegasus (existing posted speed 70 km/h).
- **Garlick Street:** Located south of the Pegasus Interchange, Garlick Street is situated within the Ravenswood subdivision (existing posted speed 50 km/h).

4.5.3 Property, business and community facility accesses

There are numerous private properties, community facilities and businesses that have direct access to the existing SH1 alignment or local roads within the Project corridor. Private properties are mainly focused within the rural areas with access to local roads such as Woodend Beach Road and Gladstone Road. The Pineacres Holiday Park is the only major business that has direct access to SH1 at Main North Road. Located off Bob Robertson Drive and 150m from the SH1 network, there is a retail centre including a McDonald's, Harvey Norman, New World Supermarket and BP. Accessible via Gladstone Road, the

Woodend Tennis Club, Pegasus Dog Park and Woodend Rugby Football Club are located at Gladstone Park. There are no other major community facilities along the Project alignment.

4.5.4 Walking and cycling

The existing walking and cycling tracks that are accessible around the SH1 network²² are listed below:

- Cycleway underneath the Kaiapoi Bridge linking to the Lineside Road cycleway and Skewbridge Road.
- Cycleway at the Lineside Road connecting to Flaxton Road.
- Cycleway along Woodend Beach Road.
- Cycleway at Bob Roberston Drive extending onto Rangiora Woodend Road.
- Cycleway at Pegasus Boulevard connecting into Pegasus.

4.6 Noise

This section provides a brief summary of relevant information from the Construction Noise and Vibration Assessment (Volume 3D). Please refer to this assessment for further details.

Noise and vibration effects are already authorised by the Project designation, with the exception of some Project construction activities that were not anticipated at that time, and where alterations to the designation are sought.

The Project area is sparsely populated along sections of the alignment, most notably north of Cam Road to south of the Quarry Lakes and north of the Quarry Lakes to just north of Gladstone Road. North of Gladstone Road the density of residential Protected Premises and Facilities (**PPF**) increases. Where improvements are being made to the existing SH1 between Ohoka Road overpass and the Kaiapoi Bridge, there are residential PPFs along both sides of the state highway.

As construction noise thresholds are absolute, comparison to the existing noise environment is not required. For locations near the existing SH1, road-traffic noise may mask the noise of some construction activities. Whereas for those locations which do not experience SH1 road-traffic noise, construction noise may be perceived as being more dominant.

4.7 Air quality

This section provides a brief summary of relevant information from the Construction Air Quality Assessment (Volume 3E). Please refer to this assessment for further details.

Land uses surrounding the Project are predominantly rural, associated with common activities discharging dust such as paddock cultivation, unsealed roads and dry river beds. Dust discharge from quarrying activities has ceased within the immediate Project designation, although ongoing activities will continue at the north end quarry, approximately 310 m from any proposed construction.

The Kaiapoi Air Shed²³ extends over much of the urban area of Kaiapoi, and portions of the Project site fall within this airshed (generally from the Ohoka Road overpass to the Kaiapoi River and at the Lineside Road Interchange). Under Regulation 17(4) of the National Environmental Standards for Air Quality (**NES-AQ**), the airshed is considered “polluted” regarding measured ambient PM¹⁰ concentrations.

4.8 Contaminated land

This section provides a brief summary of relevant information from the Ground Contamination Investigation (Volume 3F). Please refer to that assessment for further details.

The Project Site is either already roading or predominantly rural in nature and the ground contamination potential reflects these broad types of land use activities. Potentially contaminating activities have occurred in isolated locations along the Project corridor and include sheep dipping, horticultural activities and farm

²² Waimakariri District Council's Walking and Cycling Network Plan.

²³ For the avoidance of doubt, the gazetted Kaiapoi Airshed does not cover the same geographic extent as the Kaiapoi Clean Air Zone

related fuel storage. A closed landfill is present near Gladstone Road which has been filled both below surrounding ground level and above ground level. The presence of occasional dwellings and other structures presents a potential for lead and asbestos related contamination. Table 4.2 outlines the known HAIL sites and a number of potential HAIL activities.

Table 4.2 Contaminated land – sites of interest

Address	Hazardous Activity and Industry List reference (HAIL)
788 Main North Road, Kaiapoi – livestock dip	Onsite HAIL A8, intercepted by earthworks
189 Woodend Beach Road, Woodend – former DJ Eder Blackcurrants	Onsite HAIL A10, intercepted by earthworks
167 Gladstone Road, Woodend - moto-cross track	Potential HAIL G5, to be intercepted by earthworks
162 Gladstone Road, Woodend – Gladstone Road Landfill	Onsite HAIL G3, to be excavated in full or partially as part of the works
160 Gladstone Road, Woodend	Onsite HAIL A17, intercepted by earthworks. Potential HAIL E1, I to be intersected by earthworks
c/o 70 Parsonage Road, Woodend – Woodlands Estate Subdivision	Onsite HAIL A10 and G5, to be intercepted by earthworks
138 Main North Road miscellaneous materials	Potential HAIL G5, E1, I to be intercepted by earthworks
788 Main North Road, Kaiapoi, agricultural buildings, 1 Fullers Road dwelling and associated outbuildings, 130b Main North Road historic homestead, 138 Main North Road buildings	Potential HAIL E1, I to be intercepted by earthworks

Ground contamination investigations have been completed where possible. Where access to sites has not been possible, or where investigation is best undertaken later (e.g. following demolition or removal of structures), characterisation of contamination conditions will be completed prior to earthworks commencing (proposed condition NES-CS.3) (Volume 2D).

Investigations have been completed at 788 Main North Road, Kaiapoi (livestock dip); 189 Woodend Beach Road, Woodend; and 162 Gladstone Road, Woodend.

4.9 Landscape, Visual and Natural Character

This section provides a brief summary of relevant information from the Urban, Landscape and Visual Effects Assessment (Volume 3G). Please refer to this assessment for further details.

The Project lies within the low plains part of the wider Canterbury plains landscape, encompassing a flat to gently undulating topography. Areas of the Project alignment exist on the low-lying coastal margin due to the coastline 2.5 km to the east of the Project.

The Project designation was included in the Operative Waimakariri District Plan (OWDP) in 2015 and authorises the urban and landscape effects of the built form of the alignment and structures of the Project, subject to complying with the designation conditions and except in relation to changes to the designation footprint and conditions now sought. Several aspects of the design differ from what was evaluated at the designation stage including the Cam River / Ruataniwha bridge design modifications, Pegasus Interchange design change, inclusion of the Construction Support Area at Lees Road, and infilling of a remnant quarry lake with creation of a wetland.

In regard to natural character and outstanding natural features as covered by regional plans, within the Project Site there are no Natural Features and Landscape, or Significant Natural Area (SNA) overlays. Maukatere/Mt Grey which is located approximately 30 km to the northeast of the Project, is a natural feature within an SNA and of cultural significance to Ngāi Tahu. Views of Mt Grey are visible from open locations along the Project however these views are currently often screened by intervening trees or buildings. The waterway and riparian landscapes along the alignment include the Kaiapoi River, Cam River / Ruataniwha, Quarry Lakes, McIntosh Drain, Waihora Stream and Taranaki Streams. Various wetland landscapes are associated with these waterways or are present elsewhere along the Project Site. Heritage related character

include Māori reserve land adjacent to the Project Site, a church, heritage residences and memorials. There are no notable plants within the Project Site.

4.10 Archaeology and heritage

This section provides a brief summary of relevant information from the Archaeology and Heritage Assessment (Volume 3H). Please refer to this assessment for further details.

The heritage effects of the Project are already authorised by the Project designation with the exception of where the designation alteration is being sought and archaeological authorities are required. The information below is provided in the context of the application for archaeological authority.

The Project traverses a portion of a significant pre-European Māori archaeological and cultural landscape consisting of a dense settlement pattern of interconnected mahinga kai, ngā māra (trade), urupa, pāpakainga, nohoanga, kainga and āra (travel routes) that link Kaiapoi Pā at its centre with other regional centres at Tuahiwi and Kaiapoi. Recorded sites identified within the designation overwhelmingly focus on Māori cultural practices explicitly associated with the Kaiapoi Pā papakainga landscape and include kāinga and nohoanga (domestic occupation associated with village sites and campsites), horticultural cultivation practises (borrow pits and modified soils), urupa and burials, and mahinga kai gathering and processing areas (middens/ovens). In comparison there are but a few recorded sites that focus on historic or built heritage values associated with the development of early colonial and later 19th century historic domestic, pastoralism/ horticulture/agriculture/ dairying and commerce and industry in the region.

Within the Project designation there are a total of 17 archaeological sites (4 of which have already been destroyed) recorded in the NZ Archaeological Association (**NZAA**) Site Recording Scheme (ArchSite). These range from middens, ovens, borrow pits and modified soils to an agricultural drain, historic domestic building, a relocated assembly hall building, creamery foundations, gum tree and historic homestead parcel associated with Reverend Raven. There are a further 8 archaeological sites recorded within 50 m of the Designation that have potential for subsurface remains and features to extend into the designation. There are no archaeological or heritage sites recorded within those areas of land proposed to be added to the Designation by the alteration. There is a high likelihood of other sites yet to be discovered within the Project Site; conditions are proposed on the archaeological authorities to appropriately manage this possibility (Volume 2F).

4.11 Ecology

This section provides a brief summary of relevant information from the Ecological Impact Assessment (Volume 3I). Please refer to this assessment for further details.

4.11.1 Overview

The Project is located within the Canterbury Plains Ecological Region and Low Plains Ecological District. Historically (pre-human settlement), the Low Plains ED mainly comprised tussockland and floodplain forest, with extensive areas of swamp wetland areas along alluvial valleys. In the local Project area, the historic vegetation likely comprised a mosaic of flaxland, sedgeland, and cabbage tree swamp wetland habitats grading into back-dune forest and grass/sedgeland habitats towards the coast. Broadleaved-hardwood species forest would have been present along the riparian margins of major rivers.

The Low Plains Ecological District has been highly modified for farming and urban expansion, which has resulted in < 1% native vegetation remaining. Remaining native areas are generally in small, scattered fragments. Current vegetation in the immediate vicinity of the Project is generally characterised by common native enhancement plantings, exotic trees (including as shelterbelts), rank exotic and pasture grasses, lawns and garden plantings. The native enhancement plantings that have occurred are starting to provide semi-contiguous native vegetated corridors within the local area.

Small areas of wetland are also present within and adjacent to the Project, but these are generally restricted to small, moderately to highly degraded remnant features located primarily along stream systems.

Existing broad landcover class categories²⁴ within the Project and adjacent areas include 'Exotic Grassland' (including high and low producing exotic grassland), 'Cropland', with some small areas of 'Exotic forest'.

²⁴ Per the Land Cover Database Version 5 (LCDB5)

No 'Critical habitats' (as per the **CLWRP**) or 'Significant habitats' (as per the Canterbury Regional Policy Statement (**CRPS**)) are located within the Project Site. Although, a distinct reach of critical habitat is located within Silverstream immediately upstream of its confluence with the Kaiapoi River (c. 1.2 km from the Project). In addition, Inanga spawning habitat has been identified and mapped in the CLWRP as being potentially present within the bed and banks of the Kaiapoi River in and around the Project designation.

4.11.2 Terrestrial ecology

Terrestrial ecology within the scope of the Project includes the terrestrial riparian margins within 10 m of wetlands and streams of relevance to regional resource consents being sought, and terrestrial ecology within the areas of the alterations to the Designation being sought. Other terrestrial effects are already authorised under the existing Designation.

Terrestrial ecosystems extending over the Project corridor in the areas described above that are within the scope of the Project include a combination of low-producing and rank grassland, hedgerows, shelter belts, exotic scrub, treeland and both indigenous and exotic riparian vegetation.

4.11.2.1 Vegetation

Most vegetation within the riparian margins are dominated by exotic species with no nationally 'At Risk' or 'Threatened' plant indigenous species recorded. A regionally-significant population of shore hard fern (*Austroblechnum banksii*) is present beneath the Kaiapoi River Bridge; however, this population will not be impacted.

4.11.2.2 Avifauna

The 10 m terrestrial riparian margin and the additional areas being added to the Designation provide habitat for a range of bird species. Woody vegetation (2.41 ha) provides habitat for common 'Not Threatened' forest bird species, including riroriro, pīwakawaka, tauhou, and korimako. These species were all observed within the Designation and woody vegetation provides potential foraging and nesting habitat for these species, together with other species such as pīpīwharau that were recorded in database searches but not observed. Rank grass and exotic grassland / scrub mosaic vegetation provide potential breeding habitat for pīhoihoi and kahu, and rank grass may also provide breeding habitat for pukeko. Pukeko and kahu were observed within the Project Site.

4.11.2.3 Herpetofauna

Desktop records show four indigenous lizard species within a 10 km radius of the Project Site (Canterbury Grass Skink, McCann's skink, Southern grass skink and Waitaha Gecko). Of these, Canterbury grass skink (At Risk-Declining) were considered most likely to be present. The other three species are unlikely to be present based on distribution and/or habitat requirements.

An initial habitat assessment for lizards was undertaken in October 2024, followed by targeted surveys for Canterbury grass skink across the broader Project Site. In total, 134 Canterbury grass skinks were recorded across the broader Project Site (c.105 ha). The distribution of lizards is not consistent along the alignment and is dependent on the habitat nature and location.

4.11.3 Wetlands

There are 25 identified wetlands within 100 m of the Project designation and the surrounding environment. 15 of those wetlands could be impacted by the Project.

Section 5 in the EclA (Volume 3I) describes each of the wetlands and their habitat types in more detail. Each wetland has an identifier that differentiates whether the wetland meets the definition under the NPS-FM, CLWRP or RMA. The wetlands are also shown on the plans in Volume 4C.

4.11.4 Freshwater

4.11.4.1 Kaiapoi River

The Kaiapoi River is a wide, soft-bottomed, spring-fed urban river that is tidally influenced near SH1. It is recognised as important Inanga spawning habitat due to its suitable vegetated banks and lack of barriers to

fish passage. Eleven native freshwater fish species have been recorded here, including several with a national conservation status of 'Threatened' or 'At Risk', being īnanga, tuna (longfin eel), paraki (common smelt), redfin bully, kōkōupara (upland bully), and māuru (giant bully).

4.11.4.2 Rossiters and Wilsons Drains

These two agricultural drains are tidally influenced and feature fine sediment substrates, with water levels fluctuating according to the tide and the presence of floodgates at their outlets. Instream habitat is limited, with poor macroinvertebrate communities and only residual pools during low flows. Ongoing maintenance further reduces habitat quality, and no notable 'At Risk' fish species are expected in these drains. Rossiters Drain is an artificial watercourse and Wilsons Drain is a modified natural stream.

4.11.4.3 Cam River / Ruataniwha

The Cam River / Ruataniwha is a spring-fed plains river with soft-bottomed substrate and mature riparian vegetation. Its lower reaches are tidally influenced, regulated by a floodgate that can restrict fish passage when closed. The river is valued for mahinga kai and supports ten native fish species, including 'Threatened' and 'At Risk –' species being tuna, paraki, kōkōupara, māuru; and īnanga,.

4.11.4.4 Quarry Lakes

These artificial lakes, formed from gravel and sand extraction, now support a self-sustaining fish community. Of the five freshwater fish species recorded, only the common bully (toitōi) is native ('Not threatened'), while the others are introduced coarse fish. The lakes are isolated from natural waterbodies, and fish populations are likely the result of human introduction.

4.11.4.5 McIntosh Drain

McIntosh Drain is a modified, intermittent natural watercourse with high sediment loads and limited natural habitat due to historical straightening and agricultural use. Restoration efforts in the upper catchment have improved some habitat values. A tidal flap gate near its confluence with the Waimakariri River is not a complete barrier to fish passage. Eight fish species have been recorded in the catchment, including four 'Threatened' or 'At Risk' species. At the project site īnanga and hao were detected.

4.11.4.6 Waihora Stream

Waihora Stream is a complex of wetland, intermittent natural, and ephemeral channels, with limited and variable aquatic habitat. The stream is dominated by silt and crack willow, with some barriers to fish passage. Only two native fish species (hao and toitōi - both 'Not threatened' species) have been detected in the intermittent reach, and the macroinvertebrate community is poor and dominated by tolerant species.

4.11.4.7 Taranaki Stream

Taranaki Stream is a natural modified watercourse, that is comprised of soft-bottomed substrates with patches of gravel and cobble, moderate macrophyte cover, and a cascade feature that may limit passage for some fish species. The stream supports a moderate diversity of native fish, including one 'Threatened' and one 'At Risk' species (īnanga and longfin eel), and its macroinvertebrate community is dominated by species tolerant of organic enrichment.

4.11.4.8 Taranaki Stream Tributary

This engineered tributary, now partially routed through a stormwater wetland, has soft substrates and moderate shading from riparian vegetation. It supports a low diversity fish community, including one 'Threatened' species, īnanga. The macroinvertebrate community is limited and dominated by tolerant taxa. This tributary is classified as a modified natural watercourse.

4.12 Hydrogeology

This section provides a brief summary of relevant information from the Hydrogeology Assessment (Volume 3K). Please refer to this assessment for further details.

The hydrogeological setting for the Project is characterised by shallow groundwater (typically within 2 m ground surface) of the predominantly Coastal Confined Gravel Aquifer defined in the CLWRP.

The shallow groundwater aquifer is the main focus of the assessment. A sequence of confined aquifers underlie the shallow groundwater system. Shallow groundwater is likely to be hydraulically connected to these underlying deeper aquifer where confining layers (e.g. silt stratum) are thin and allow leakage between the two aquifers.

Recharge of the shallow aquifer is via rainfall and, on a regional scale, from surface water losses, such as the Ashley River/Rakahuri, across the wider catchment area. At a local scale in the vicinity of the Project alignment, groundwater flow directions are expected to vary and be influenced by surface waters where groundwater is hydraulically connected to surface water.

Groundwater horizontal hydraulic gradients vary across the Project alignment. Due to the low lying area and shallow depth to groundwater, hydraulic gradients across the area are small, estimated to be approximately 0.0007 m and this is reflected in the small variation in groundwater levels. These gradients are steeper in the north and shallower in the south of the project. They also steepen inland from the coast. On a local scale the gradients in the unconfined aquifer may steepen where groundwater discharges to streams and rivers are observed.

The Quarry Lakes are directly connected with shallow groundwater and lake levels are maintained by groundwater throughflow. The combined effect of throughflow, rainfall, and evaporation at the lakes will affect the hydraulic gradients in the vicinity of the lakes.

All of the local surface waters are (and were for Waihora Stream) spring fed streams. These streams rise on the inland plains in areas at or near the boundary between the unconfined and semi-confined aquifers near or along the western margin of the coastal confined aquifer occurs. Other springs, separate from surface waters are present in the wider area. Only one spring is recorded in the Project area. Groundwater seepages, inferred to be from shallow groundwater, contribute to stream baseflows for Cam River / Ruataniwha, Waihora Stream and Taranaki Stream.

Not all reaches of the surface waters intersect the unconfined aquifer. The Project area includes surface waters that have been modified by previous developments such as at Ravenswood where both Taranaki Stream and Waihora Stream have gaining reaches and neutral/losing reaches. Waihora Stream channel continues as an overland flow path toward Gladstone Road where the groundwater surface becomes deeper and where groundwater flow is away from the surface water.

Groundwater dependent wetlands have formed at places where the groundwater surface is exposed and/or where groundwater is very close to the surface.

Groundwater quality is expected to be consistent with regional shallow groundwater quality conditions based on available information.

The Project alignment extends across the Eyre Groundwater Allocation Zone (**GAZ**), the Cust GAZ and the Ashley GAZ. These GAZ's lie in the Waimakariri Canterbury Water Management Strategy (**CWMS**) Zone. There is currently groundwater allocation available in each of these GAZ.

4.13 Stormwater and flooding

This section provides a brief summary of relevant information from the Stormwater and Flooding Assessment (Volume 3L). Please refer to this assessment for further details.

4.13.1 Existing stormwater catchments

The existing SH1 alignment interfaces with the Project at the north and south, with the central section of the Project widely deviating from SH1. The following sections outline the existing stormwater management systems along SH1, focusing on the major catchments that overlap with the Project.

The following major catchments which the Project traverses are outlined below (Figure 4.1).

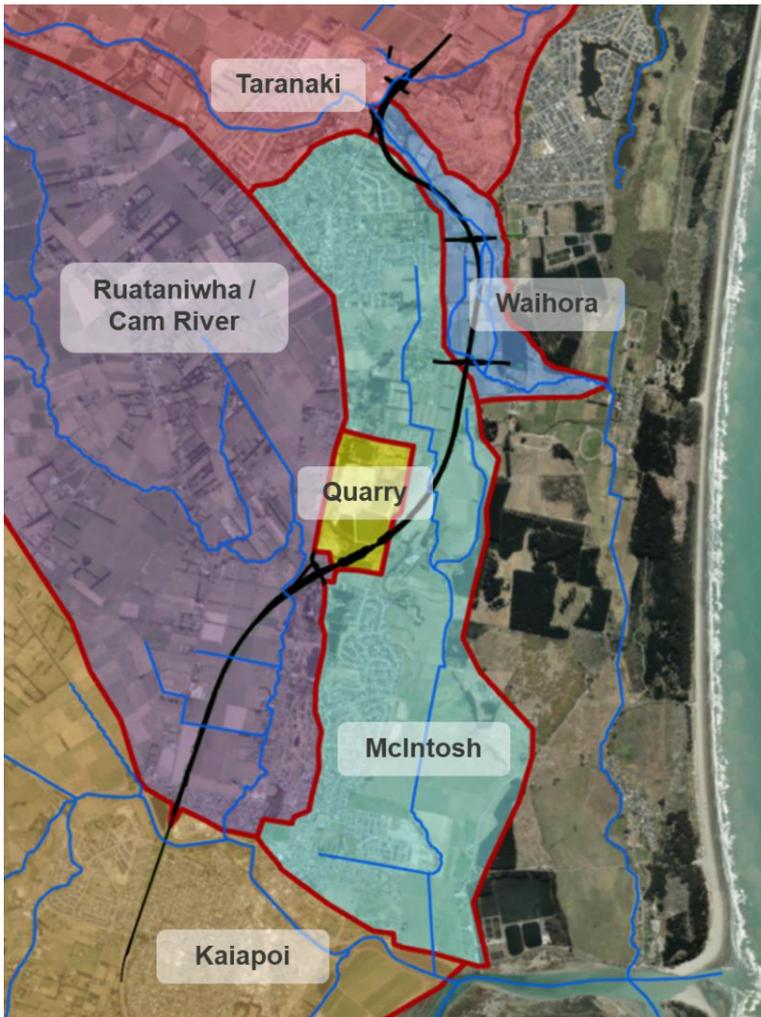


Figure 4.1 Wider catchments interfacing with the Project

4.13.1.1 Kaiapoi River

The Kaiapoi River has a catchment area of approximately 340 km². It is a major tributary to the Waimakariri River, which it discharges into approximately 2 km downstream of the motorway alignment. The Kaiapoi River experiences significant tidal effects, with high water levels largely driven by tidal tailwater.

4.13.1.2 Cam / Ruataniwha River

The Cam / Ruataniwha River is a perennial tributary to the Kaiapoi River, and its catchment extends over 60 km². The alignment crosses two drains, Rossiters Drain and Wilsons Drain, that discharge to the Cam River / Ruataniwha, just south of the Cam River / Ruataniwha crossing. The Cam River / Ruataniwha experiences significant tidal effects, with high water levels largely driven by tidal tailwater.

4.13.1.3 Quarry Lakes

The quarry lakes are large excavations that are filled with groundwater and do not have a primary outlet. Water that is discharged into these ponds flows directly to groundwater through the gravel bottom and sides of the excavations. The land use within the quarry ponds catchment entirely consists of the quarried areas and the associated gravel processing operation.

4.13.1.4 McIntosh Drain

McIntosh Drain runs parallel to the proposed motorway alignment, ultimately discharging into the Waimakariri River near its confluence with the Kaiapoi River. This drain has a catchment area of approximately 2.7 km², which encompasses the southeastern portion of Woodend township.

4.13.1.5 Waihora Stream

Waihora Stream is a distributary, or overflow channel, of the Taranaki Stream. Waihora Stream flows south, parallel to the proposed roadway alignment before turning east south of Woodend Beach Road, discharging to the broad interdunal area west of Woodend Beach. This area ultimately discharges south through Kairaki Creek into the Waimakariri River near its mouth. Surface flow into the upstream end of Waihora Stream is regulated by a weir along Taranaki Creek and only flows in high flow events. By the time the channel crosses Gladstone Road, (1700 m to the southeast of SH1), Waihora Stream has become a poorly defined channel that only flows during flood flows.

4.13.1.6 Taranaki Stream

Taranaki Stream has a catchment area of approximately 8 km². This captures water from the easternmost portions of Rangiora and the Ravenswood subdivision before crossing the existing SH1 alignment. It then drains to the east into the interdunal area, which ultimately discharges north to the Ashley River near its mouth.

4.13.2 Flooding

To understand potential flooding within the Project alignment, a TUFLOW flood model has been developed. The model was able to identify potential flooding for a 100-year ARI event. Results indicated that overland flow is confined to current flow paths and lower-lying areas. Some of these lower lying areas include the Quarry lakes, basins surrounding residential development and upstream Gladstone Road and Woodend Beach Road, where culvert capacity is exceeded and road embankments constrain flows. A broader floodplain extent is evident near McIntosh Drain at Fuller Road, where the channel is overtopped and floodwaters continue downstream.

Modelled flood depth and level maps for the 200-year ARI event show the flood patterns are generally consistent with those observed in the 100-year ARI event, except with an increased flood depths and a broader extent of inundation across the floodplain.

4.13.2.1 Kaiapoi River (Kaiapoi Urban Area)

Kaiapoi River Catchment (Kaiapoi Urban Area)

Within the Kaiapoi urban area, the Project interfaces with the southbound lanes of the existing motorway. In this area, the existing motorway drains to the east, and the southernmost area, the roadway runoff flows directly to Parnhams Drain, discharging to the Kaiapoi River. There do not appear to be any existing water quality or stormwater attenuation facilities in this reach.

Kaiapoi River Bridge Area

At the Kaiapoi River Bridge, flow from the bridge structure flows through deck drains directly to the underlying Kaiapoi River. North of the Kaiapoi River, runoff joins a broad swale against the Kaiapoi River stopbank from where it is piped to the Kaiapoi River.

4.13.2.2 Cam River / Ruataniwha

Lineside Road Interchange

South of the Lineside Road overpass, pipes discharge into channels that run parallel the motorway in the north side nose areas. Both channels flow through culverts that carry the flow under the northern on and off ramps, discharging into roadside channels that continue north. There does not appear to be any formalised water quality or flow attenuation however, the roadside channel is shallow, wide, and well grassed; providing some attenuation and treatment.

Lineside Road to Cam River / Ruataniwha

There are two major drains crossing the alignment, that discharge to the Cam River / Ruataniwha - Rossiters Drain and Wilsons Drain. Runoff from this portion of the roadway discharges into roadside drains. The existing roadside drains are generally relatively steep sided, but longitudinally flat, likely providing limited water quality or stormwater attenuation benefit.

Cam River / Ruataniwha Bridge

As the roadway approaches the Cam River / Ruataniwha, it begins climbing. As a result, runoff from the entire roadway south of the Cam River / Ruataniwha is directed away from the main Cam River / Ruataniwha and into the drains described above. At the Cam River / Ruataniwha Bridge, runoff flows directly off the existing bridge into the river. North of the bridge, the roadway is superelevated to the northwest and runoff is directed into the Cam River / Ruataniwha. There do not appear to be any formalised stormwater treatment or attenuation facilities in this area.

Williams Street Intersection

Just north of the Cam River / Ruataniwha Bridge, the proposed motorway alignment deviates from the existing roadway alignment, veering to the northeast. The existing roadway between the Cam River / Ruataniwha and Williams Street is proposed to be utilised as an offramp for the motorway to Williams Street. In this area, the existing roadway is superelevated with a single crossfall to the north, resulting in flow from the roadway discharging directly into the Cam River / Ruataniwha untreated and unattenuated.

4.13.2.3 Quarry Lakes

The existing SH1 roadway does not traverse the Quarry Lakes Area, passing to the east of it. As such, there are no existing roadway stormwater management systems in this catchment.

4.13.2.4 McIntosh Drain

The existing SH1 roadway does not cross McIntosh Drain, remaining well to the west of the drain. The motorway is proposed to cross McIntosh Drain approximately 1km to the east of the existing highway alignment in a location with no existing roadway infrastructure. In this area, the existing McIntosh Drain is steep sided and narrow, with minimal natural features.

4.13.2.5 Waihora Stream

As the proposed motorway traverses the Waihora Stream Catchment, it does not follow an existing roadway for the majority of the alignment. The only interactions with existing stormwater infrastructure are at the crossings of Woodend Beach Road, Gladstone Road, and at the northern end of the alignment, where it rejoins the existing SH1 alignment, near the Pegasus intersection.

Woodend Beach Road Area

The mainline alignment of the proposed motorway crosses Woodend Beach Road approximately 200 m to the east of the location where Waihora Stream crosses beneath Woodend Beach Road. In this area, a channel on the north side of Woodend Beach Road collects flow from the poorly defined flowpaths that make up Waihora Stream, directing it to a 300 mm culvert under Woodend Beach Road. There are no apparent water quality or stormwater attenuation features in this area.

Gladstone Road Area

The mainline alignment of the proposed motorway crosses Gladstone Road approximately 120 m to the east of the location where Waihora Stream crosses under Gladstone Road via a 1250 mm x 500 mm box culvert. In this area, the channel upstream and downstream of the crossing is very poorly defined, consisting of a series of normally dry shallow overland flowpaths. There are no apparent water quality or stormwater attenuation features in this area.

Ravenswood Area

The proposed motorway rejoins the existing SH1 alignment at the location where Waihora Stream crosses the alignment. This location is 150 m downstream of the location where Waihora Stream splits from Taranaki Stream, immediately intercepting spring flow.

The existing Waihora Stream culvert is a 4 m x 2 m box culvert under the SH1 roadway. Flow from the immediate vicinity of the Waihora culvert (approximately 200 m to the south and 100 m to the north) discharges into roadside channels that discharge directly into the Waihora Stream.

Approximately 185 m north of the Waihora Road main crossing, a remnant Waihora branch intersects the roadway alignment. In this location, there is no culvert, so there is no split from the Taranaki Stream and all flow from the west side of the roadway is directed to the Taranaki Stream. A small portion of roadside channels on the east side of the roadway (approx. 75 m) discharge into this branch.

There are no apparent existing water quality or stormwater attenuation features in this area.

4.13.2.6 Taranaki Stream

North of the Waihora Stream Crossing, the roadway enters the Taranaki stream catchment.

Pegasus Interchange

Taranaki Stream parallels the roadway to the west from the Waihora Stream Culvert to its crossing, approximately 120 m north of the existing Pegasus roundabout. Runoff from the western side of the roadway is collected in kerb and channel, which discharges into a broad, shallow swale that parallels the roadway, discharging into Taranaki Stream just upstream of it.

On the eastern side of the roadway, runoff is collected in kerb and channel, and which is discharged directly into the golf course pond on the southeast quadrant of the intersection. This pond is the uppermost of a series of ponds throughout the Pegasus Golf Club that subsequently discharge into the Taranaki Stream.

The broad swale that collects and conveys the western side of the roadway appears to have been designed to provide swale based water quality treatment. There are no other apparent existing water quality or stormwater attenuation features treating road runoff in this area.

North of Pegasus

The final reach of the Project extends 700 m north of the Pegasus intersection along the existing alignment of SH1. This reach is bisected by a branch of the Taranaki that passes under the roadway in a 650 x 850 mm brick barrel culvert, 130 m north of the main Taranaki culvert. The northbound portion of the roadway drains to the west, where a roadside channel intercepts it, discharging into the Taranaki branch. The southbound portion of the roadway runs off across the grass verge directly onto the Pegasus Golf Club, ultimately discharging to the course's pond system.

5. PART 5: CONSULTATION AND ENGAGEMENT

5.1 Introduction

Section 11 of the FTAA requires NZTA to consult with (relevantly)²⁵:

- Relevant local authorities (WDC, ECan),
- Relevant iwi authorities, hapū and Treaty Settlement entities (Whitiora, mandated by Ngāi Tūāhuriri), and
- Relevant administering agencies:
 - Ministry for the Environment²⁶.
 - Ministry for Culture and Heritage (MfCH) and Heritage New Zealand Pouhere Taonga.²⁷
 - Department of Conservation²⁸.

Section 13(4)(k) requires a summary/record of consultation of any consultation undertaken on the Project, and how that consultation has informed the project, with the groups listed above and:

- Persons with a registered interest in the land that may need to be acquired under the Public Works Act 1981 (**PWA**);
- Other persons and groups who may be affected by the Project.

The FTAA also requires the following further information in relation to consultation:

- In relation to resource consents, identification of persons who may be affected by the activity and any response to the views of any persons consulted, including the views of iwi or hapū that have been consulted in relation to the proposal, and, if iwi or hapū elect not to respond when consulted on the proposal, any reasons that they have specified for that decision (Schedule 5, Clause 6(1)(e) and (f));
- In relation to alterations to a designation, a description of any consultation undertaken with parties likely to be affected by the project or work and the designation (Schedule 5, Clause 12(1)(j));
- In relation to wildlife approvals, provide proof and details of all consultation, including with hapū or iwi, on the application specific to wildlife impacts (Schedule 7, Clause 2(1)(n));
- In relation to archaeological authorities, a statement as to whether consultation with tangata whenua, the owner of the relevant land (if the applicant is not the owner), or any other person likely to be affected has taken place, with details of the consultation, including the names of the parties and the tenor of the views expressed; or has not taken place or been completed, with the reasons why consultation has not occurred or been completed (as applicable) (Schedule 8, Clause 2(i)).

Section 13(4)(j) requires identification of the persons and groups that are likely to be affected by the Project. These are identified as follows:

- ECan and WDC (relevant local authorities);
- Whitiora, mandated by Ngāi Tūāhuriri (relevant iwi authority, hapū and Treaty Settlement entities);
- MfE, MfCH, HNZPT, and DOC (relevant administering agencies); and
- Affected property owners as outlined in Volume 1D (persons with a registered interest in land that may need to be acquired under the PWA).

²⁵ Section 11 applies to listed projects by virtue of section 29. Note section 11(1) also requires consultation with other listed groups. Those other groups not specified here are not relevant to this Project.

²⁶ As the administering agency for the Fast-Track Approvals Act 2024.

²⁷ As the administering agency for the Heritage New Zealand Pouhere Taonga Act 2014. The Ministry for Culture and Heritage have deferred their role as administering agency to HNZPT.

²⁸ As the administering agency for the Wildlife Act 1953 and the Freshwater Fisheries Regulations 1983.

As summarised in Section 5.2 below, consultation in relation to the Project extends back over ten years and pre-dates the FTAA. As a result, the consultation process for the Project has been extensive and encompassed a wider range of groups than those required under the FTAA, including a number of general stakeholders and the wider public.

More focused consultation on the Project has been undertaken over the last 12-18 months specific to the approvals sought in this FTAA application. This consultation, and other requirements of section 13 (including how the consultation has informed the Project), is addressed in the remaining sections of Part 5. Volume 2I of this SAR contains written records of key consultation undertaken along with feedback received.

Consultation with all relevant groups is ongoing and will continue throughout the FTAA consenting process and into the construction phase.

5.2 Past consultation and engagement

Consultation on the route options and selection process for the Project dates back to 2007. Leading up to lodgement of the Notice of Requirement (**NOR**) in 2013, detailed consultation focused on two main options, being four-laning through Woodend and the bypass option (referred at that time as the 'Short Eastern Alignment'). Consultation was carried out through letters, consultation brochures, public open days, business visits, and workshops. Key stakeholders identified and consulted included:

- The wider community.
- Affected property owners on and adjacent to the corridors.
- WDC.
- Woodend Community Association.
- Woodend – Ashley Community Board.
- ECan
- Automobile Association.
- Road Transport Association.
- Historic Places Trust.
- Department of Conservation.
- Fish and Game.
- Te Ngāi Tūāhuriri Rūnanga.
- Infinity Group.
- Todd Investments.
- Services and Utility operators.
- KiwiRail.

The NOR went through a publicly notified process between lodgement in 2013 and inclusion in the district plan in 2015. Submissions were made by a range of stakeholders and the general public, and a hearings process was undertaken. This is set out in detail in the NOR decision documentation.

Consultation with directly affected landowners and occupiers, including property purchase processes, has been ongoing since that time.

5.3 Recent consultation and engagement

Over the past 12-18 months, consultation has been targeted to the matters relevant to the FTAA, with respect to the approvals sought and the relevant parties specified in the FTAA. This culminated in supply of a pre-lodgement consultation pack on 8 September 2025 to specific parties (WDC, ECan, HNZPT, DOC, Whitiora and MfE), consisting of preliminary drafts of:

- The technical reports in Volume 3 (with the exception of the economic benefits report),
- Proposed conditions (Volumes 2C-2F),

- Regional rule assessment (Volume 2H), and
- Designation alteration drawings (Volume 4D).

The recent consultation undertaken is described in the sections below. Section 5.4 describes how the consultation has informed the Project. Further consultation records are attached in Volume 2I.

5.3.1 Relevant local authorities

Recent consultation with ECan and WDC began in 2024 and has continued through to lodgement of this substantive application. Consultation has encompassed regular planned meetings to discuss the Project process, design phases, and any key issues. In addition to these meetings, both ECan and WDC have been supplied with an email and phone contact for any specific issues they want to discuss. ECan and WDC were informed of NZTA's intention to lodge this substantive application. Records of consultation with ECan and WDC are included in Volume 2I.

5.3.2 Relevant iwi authorities, hapū and Treaty Settlement entities

Whitiora has been mandated by Ngāi Tūāhuriri to provide advice on environmental policy and consenting matters. The Project lies fully within Ngāi Tūāhuriri's takiwā and there are no other relevant hapū or Treaty Settlement entities.

Since mid-2024, NZTA and Whitiora have met monthly to discuss the Project programme, risks, input and areas of co-operation. The consenting programme and updates on technical assessments have been discussed as recurring agenda items at these meetings. NZTA and Whitiora have also agreed the Terms of Reference for a Cultural Advisory Group (**CAG**) required to be formed as a condition of the Designation. The tasks to be performed by the CAG include the joint preparation of an ACSMP and advice on cultural art, naming, and planting for the Project. NZTA and Whitiora expect to continue meeting on an "as needed basis" and Whitiora will have an ongoing role as the Project reaches construction.

During the investigation and design stages of the Project, Whitiora has provided cultural monitoring services which have informed key elements along the alignment and proposed construction methods. Whitiora also provided their support in identifying suitable lizard release areas and reviewed the wildlife permit application (Permit 1) prior to lodgement. NZTA has worked closely with Whitiora during the geotechnical testing and Early Works resource consent applications.

Whitiora was provided with the pre-consultation package by NZTA on 8 September 2025. Comments and feedback from Whitiora have been provided to NZTA. How these have influenced the Project is summarised under section 5.4 below. Whitiora has directly drafted or reviewed a number of sections of this SAR, as noted within these sections.

Whitiora were informed of NZTA's intention to lodge this substantive application and NZTA will continue to engage with Whitiora throughout the duration of the Project.

A Statement of Cultural Values, Interests and Priorities reflecting on the Project has been prepared by Whitiora and is attached in Volume 1E.

5.3.3 Relevant administering agencies

5.3.3.1 Ministry for the Environment

The pre-lodgement consultation pack was issued to the Ministry for the Environment (**MfE**) on 5 September 2025. MfE provided feedback on 17 September 2025 in response to the consultation pack outlining high-level advice on national policy which should be considered as part of the substantive application (Volume 2I). These requirements have been addressed, in particular in Part 6.7 of this SAR. MfE have been informed of NZTA's intention to lodge this substantive application.

5.3.3.2 Ministry for Culture and Heritage

NZTA contacted the Ministry for Culture and Heritage (**MCH**) on 9 July 2025. A Senior Adviser, Operational Policy & Investment at MCH responded on 10 July 2025 and advised that MCH's role under the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA) is limited to policy matters and deferred to HNZPT's statutory role and expertise under the HNZPTA. MCH advised they do not expect to be consulted separately

nor have any pre-lodgement engagement but encouraged ongoing consultation with HNZPT²⁹. No further consultation has therefore been carried out with MCH.

5.3.3.3 Heritage New Zealand Pouhere Taonga

Consultation commenced with HNZPT in late 2024 to introduce the Project and included discussions around archaeological authority requirements specific to geotechnical testing and Early Works. Approvals for these works have been sought separately from the substantive application. Further consultation on this substantive application then occurred on 23 October 2024, which included a meeting via MS Teams and an in-person meeting at HNZPT's Christchurch office. Following the meeting, ongoing phone and email contact occurred between NZTA and HNZPT.

Pre-lodgement consultation requirements of the FTAA between NZTA and HNZPT were discussed in June 2025. A follow-up meeting was held on 8 July 2025 to outline the Project overview, approval timeframes and the overall proposed approach towards archaeology. HNZPT provided advice under the FTAA and key matters that they would look to see covered in the assessments.

The pre-lodgement consultation pack was issued to HNZPT on 5 September 2025. HNZPT have provided written feedback, which has been considered part of the substantive application as summarised in section 5.4 below. HNZPT have been informed of NZTA's intention to lodge this substantive application.

5.3.3.4 Department of Conservation

Consultation with DOC commenced in early 2025 to introduce the Project and discuss a wildlife permit and lizard management plan associated with Early Works (approvals for these have been sought separately from the substantive application). Following this initial consultation, NZTA engaged with DOC via email and phone conversation regarding pre-lodgement consultation requirements under the FTAA. The relevant approvals that would be sought that are relevant to DOC as the administering agency were also discussed.

An MS Teams meeting between NZTA and DOC was undertaken on 28 August 2025. The wildlife permit approach was discussed, and the proposed mitigation and management plan associated with the permit. NZTA provided a PowerPoint presentation, which led to further discussions between ecologists from DOC and those advising NZTA.

NZTA issued the pre-lodgement consultation pack to DOC on 5 September 2025, and written feedback was received from DOC on 22 September 2025. This feedback has been considered and how this has informed the Project is summarised in section 5.4 below. DOC have been informed of NZTA's intention to lodge this substantive application.

5.3.4 Environmental Protection Authority

NZTA made contact with the Environmental Protection Authority (**EPA**) in April 2025 to discuss the Project scope and listing description under Schedule 2 of the FTAA. A meeting was held between NZTA and the EPA on 1 May 2025 to engage on these matters. Advice was received from the EPA that they cannot confirm any scope details prior to lodgement and subsequent completeness assessment.

NZTA is engaging with the EPA in the lead up to lodgement of the substantive application in relation to the lodgement process and administrative matters.

5.3.5 Utility Providers

All relevant utility providers (WDC, Transpower, EonFibre, Chorus, LINZ, Spark, MainPower, Enable, GASCO and ELGAS) have been engaged with. This engagement has occurred primarily during the design stages and has been led by NZTA through regular meetings with the individual network providers. The engagement has enabled utility providers to be kept informed of the developing Project design, which has been critical to ensure there will be no effects on existing utility infrastructure. Discussions have led to some utility services being relocated.

²⁹ Full response from MCH on 10 July 2025 is contained in Volume 2I

5.3.6 Landowners and occupiers

Landowners of land within the Project Site were consulted prior to the existing Project designation through a publicly notified NOR process. Consultation with landowners regarding land acquisitions for the Project began mid-2025. The majority of the land required for the Project has since been secured or is close to being secured via agreements. Landowners have been contacted and engaged with through meetings and provided with information directly during this time.

The Property and Landowner Information Report in Volume 1D sets out:

- The full name and address of³⁰:
 - Each owner of the site (within the Designation boundary) and of land adjacent to the site; and
 - Each occupier of the site and of land adjacent to the site (whom NZTA has been able to identify after reasonable inquiry).
- A list of persons with a registered interest in land to be acquired under the PWA³¹;
- A description of the processes undertaken under the PWA³²;
- The approach to identifying owners and occupiers of land within, and adjacent to, the site.

Land adjacent to the site has been identified as land that is not part of a parcel of land that includes the site, but is contiguous with the site (i.e. contiguous with the designation boundary) or is across a road or a watercourse from the site. Where there are large parcels which are only partially within the designation boundary, the entire land parcel has been identified as the 'site'. Land adjacent to the site is shown in Volume 1D.

5.3.7 Community consultation and public engagement

Detailed consultation with the public began before the Project was designated in 2015. The public was consulted on the route option selection process, and other approaches included multiple open days and workshops within the Woodend community, meetings with local businesses and Woodend School. One of the key ways was through a publicly notified NOR process.

The NZTA Board approved funding for the design phase for the Project in November 2024, which initiated the development of a clear communications and engagement approach. This outlined the key tools, tactics and approach through which information would be shared and communicated to partners, stakeholders and the community.

The Project's engagement approach is aligned with the 'always on' approach outlining that NZTA will provide information as needed to targeted groups, stakeholders and the interested public to keep decisions moving and using stories regarding the development and progress of the Project.

NZTA set up a Project webpage in November 2024³³, which acts as a primary source of information for the public, providing a general overview of the Project, background information, progress and publications. The webpage also has a contact email for any Project enquiries and a subscription link to the e-newsletter. The e-newsletter has more than 3,600 subscribers and is a primary channel that shares frequent information with interested members of the community. The following activities have been carried out to raise awareness of the Project, and to encourage people to subscribe to updates:

- Project email and inbox set up in November 2024 for general project enquiries and is promoted on all external material.
- Six e-newsletters sent to subscribers between November 2024 and September 2025. Over this time, more than 3,600 people have signed up.
- 300 project overview brochures printed and delivered to 46 directly affected landowners and Waimakariri District Council Service Centres and Libraries in May 2025.

³⁰ Clause 5(1)(d) and 12(1)(f) of Schedule 5

³¹ Section 13(4)(j)(viii) persons with a registered interest in land that may need to be acquired under the Public Works Act 1981.

³² Section 13(4)(m)

³³ <https://www.nzta.govt.nz/projects/sh1-belfast-to-pegasus-motorway-and-woodend-bypass>

- Flyers delivered to 2000 properties, including schools and businesses in Woodend, Ravenswood, Pegasus, Tuahiwi, Pineacres and Woodend Beach in May 2025.
- Boosted Facebook awareness campaign and regular use of social media to share information and progress.
- Meetings with landowners and adjacent or interested people have been held as required.
- Tolling consultation with the public between 12 August and 9 September.
- Woodend and Pegasus Community information sessions in November 2025.

5.4 How consultation has informed the Project

The consultation referred to in preceding sections, in particular the recent feedback received via the parties who responded to the pre-lodgement consultation pack, has informed the Project subject to this substantive application. Following the consultation feedback, further internal reviews by NZTA have also informed the Project, in particular the proposed conditions (Volumes 2C-2F). A summary is provided below.

5.4.1 Assessment of effects (technical reports)

Various technical reports in Volume 3 have been updated to address the consultation feedback, in particular received from ECan and DOC. Key examples include:

- Effects on non-vascular plants and fungi, and smaller terrestrial fauna groups, has been added to the EclA in Volume 3I (feedback from ECan).
- Clarifications on groundwater effects relating to preferential pathways for contaminant migration, and provision of full versions of earlier assessments completed for NZTA used as part of the assessment, has been addressed in the Hydrogeology Assessment in Volume 3K (feedback from ECan).
- Further detail and justification within the stormwater design and effects assessment including realignment geometries, geomorphic processes within culverts, has been addressed in the Stormwater and Flooding Assessment in Volume 3L (feedback from ECan).
- Clarifications have been added to the scope of the Wildlife Approval Assessment (Volume 3J), including how unexpected discoveries of species other than Canterbury grass skink will be managed and further information on the presence of lizards within the proposed release areas (feedback from DOC).
- Sensitive details have been removed from the Archaeological and Heritage Assessment in Volume 3H (Whitiara feedback).

There are some instances where NZTA does not support implementing the feedback on technical assessments. Key examples include:

- Supply of the LMP with the substantive application (feedback from DOC): NZTA considers the LMP does not need to be supplied with the substantive application because the potential effects and procedures of salvaging and relocating lizards is well understood and appropriately addressed in the Volume 3J report, and via the proposed content of the LMP set out in the conditions in Volume 2E. Furthermore, Schedule 7 of the FTAA does not specify that a LMP be provided in a substantive application.
- Offsetting and compensation required for loss of lizard habitat within wildlife approval scope (feedback from DOC): NZTA considers that effects on terrestrial habitat fall under the scope of the RMA approvals rather than the Wildlife Act approvals (the Wildlife Act being limited to consideration of the effects of the wildlife approvals, i.e. salvaging and relocating wildlife). In that regard, the loss of terrestrial habitat as a result of Project activities is principally already authorised by way of the Project designation. The EclA included with this Application addresses the loss of terrestrial habitat within the scope of the approvals sought, which relates to areas of land within 10 m of water bodies and the areas sought to be added to the designation. Off-setting and compensation is proposed for residual effects via the regional resource consents sought.
- Supply of the ACSMP with the substantive application (feedback from HNZPT): NZTA considers the ACSMP does not need to be supplied with the substantive application because the potential effects and procedures of modifying and destroying archaeological sites is well understood and

appropriately addressed in the Volume 3J report, and via the proposed content of the ACSMP set out in the conditions in Volume 2F.

5.4.2 Proposed conditions

Numerous improvements have been made to the scope, clarity and certainty of the proposed conditions of the approvals sought (Volumes 2C-2F) as a result of pre-lodgement consultation feedback. This includes:

- Construction management plan content and processes have been further clarified and refined (see Section 3.6.2 of this SAR for further information),
- Additions to the CEMP, EMP, and ESCMP to provide for monitoring outcomes to be provided to Whitiora, and for protocols to be developed with Whitiora for liaison during the construction period,
- Reference to external documents (including guidance and standards) have largely been removed from conditions, with relevant content now included (where appropriate) directly in the conditions.
- Refinements to condition structure and more consistent use of terminology across conditions.
- Minor changes to wording (in particular following feedback from DOC and Whitiora).

Broadly, feedback which has not been implemented relates to requests for more detailed monitoring and reporting conditions, either as independent conditions or as content of future management plans. The existing condition set is already considered appropriate to manage the actual and potential effects of the Project.

5.4.3 Statutory assessment

A statutory assessment was not provided in the pre-lodgement consultation pack. This has been completed in this substantive application and addresses the matters raised in particular by MfE and ECan. The statutory assessment is contained within Parts 6-9 of this report, and with respect to regional and district matters, in Volume 2G.

6. PART 6 – RESOURCE MANAGEMENT ACT 1991

6.1 Introduction

As addressed in Table 1 in Part 1, this substantive application under the FTAA seeks the following types of approvals for the Project that would otherwise be applied for under the RMA:

- Resource consents that would otherwise be required from:
 - ECan under sections 9, 13, 14 and 15 of the RMA.
 - ECan under regulations 45 and 57 of the NES-F.
 - WDC under regulation 11 of the NES-CS.
- An alteration to a designation usually administered by WDC under s181 of the RMA.

The matters required to be addressed by the FTAA are addressed for each type of approval below (Sections 6.2 and 6.3, respectively). Alternatives are considered in Section 6.4 and other activities are assessed in Section 6.5. An assessment of effects of the environment is provided in Section 6.6. A statutory assessment of the Project against relevant RMA provisions and documents is contained in Section 6.7. Overall conclusions regarding the RMA approvals are provided in Section 6.8.

6.2 Resource consents

6.2.1 Requirement for resource consents

The requirements for resource consents for the Project are determined by the rules and regulations within the NES-F, NES-CS, CLWRP, and CARP. The following sections provide a summary of the Project's activities against the applicable rules and regulations, including identification of activities that are permitted. A detailed assessment is provided in Volume 2H, including the activity status for each activity.

6.2.1.1 National Environmental Standards for Freshwater

Regulation 45

The Project requires a resource consent as a discretionary activity under regulation 45 for the construction of specified infrastructure³⁴ for the following activities:

- Vegetation clearance within, or within a 10 m setback from, a natural inland wetland.
- Earthworks or land disturbance within, or within a 10 m setback from, a natural inland wetland.
- The taking, use, damming, or diversion of water within, or within a 100 m setback of, a natural inland wetland.
- The discharge of water into water within, or within a 100 m setback from, a natural inland wetland.

The EclA (Volume 3I) identifies 17 natural inland wetlands within or within 100 m of the Project Site. The above activities will occur within or within 100 m of the specified setbacks of natural inland wetlands.

³⁴ Specified infrastructure has the meaning given by the NPS-FM and includes (a) infrastructure that delivers a service operated by a lifeline utility (as defined in the Civil Defence Emergency Management Act 2002) and (b) regionally significant infrastructure identified as such in a regional policy statement or regional plan. The Project satisfies both of these components of the definition of specified infrastructure: NZTA is a lifeline utility by virtue of providing a road network (including State highways) as per Schedule 1 Part B of the Civil Defence Emergency Management Act 2002; and the state highway network comprises a strategic transport network, thereby meeting the definition of strategic infrastructure and consequently regionally significant infrastructure under the Canterbury Regional Policy Statement 2021.

Regulation 57

The Project requires a resource consent as a discretionary activity under regulation 57 for the reclamation³⁵ of the bed of a river. Realignment and/or culverting of sections of Waihora Stream, Taranaki Stream, Taranaki Stream Tributary and McIntosh Drain is required to accommodate the road alignment and will involve reclamation of the abandoned portions of the river.

Regulation 46

The Project includes maintenance and operation of specified infrastructure activities that are permitted under Regulation 46.

- Vegetation clearance within, or within a 10 m setback from, a natural inland wetland.
- Earthworks or land disturbance within, or within a 10 m setback from, a natural inland wetland.
- The taking, use, damming, diversion, or discharge of water within, or within a 100 m setback from, a natural inland wetland.

Regulation 71

The Project includes the placement, use, alteration, extension and reconstruction of culverts in, on, or under the bed of a river or connected area. The Project includes 17 permanent new or replacement culverts, 5 of which are within the bed of a river. There may also be temporary culverts for the purposes of haul roads. All temporary and permanent culverts will provide fish passage as informed by the New Zealand Fish Passage Guidelines (**NZFPG**) and the design will seek to meet all permitted activity conditions of Regulation 70.

Resource consent is sought as a discretionary activity under Regulation 71 in the event that it is not possible for all permanent and temporary culverts to meet the permitted activity conditions of Regulation 70.

6.2.1.2 National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health

The Detailed Site Investigation (**DSI**) (Volume 3F) identifies three confirmed HAIL activities within the Project Site and a number of additional potential HAIL activities where site investigations have not yet been undertaken. Resource consent is triggered as a discretionary activity under clause 11 for disturbing the soil on a piece of land that is not a permitted, controlled or restricted discretionary activity.

6.2.1.3 Canterbury Land and Water Regional Plan

The Project requires resource consent under many rules of the CLWRP, with consents being required as either restricted discretionary or discretionary activities. At a high level, resource consents are required for the following:

- For the use of land for earthworks and land disturbance (section 9 of the RMA).
- For works and structures within and over the bed of a lake or river (section 13 of the RMA).
- To take, use, dam and divert water (section 14 of the RMA).
- To discharge contaminants to land, water and air (section 15 of the RMA).

The Project also involves many activities permitted under the CLWRP. Given the extent of rules assessed under the CLWRP, a summary is not provided here, however, the full assessment can be found in Volume 2H.

6.2.1.4 Canterbury Air Regional Plan

The Project requires resource consent as a restricted discretionary activity under Rule 7.36 of the CARP for the discharge of contaminants to air from the outdoor storage of bulk solid materials (stockpiling).

³⁵ Reclamation means the manmade formation of permanent dry land by the positioning of material into or onto any part of a waterbody, bed of a lake or river or the coastal marine area, and: (a) includes the construction of any causeway; but (b) excludes the construction of natural hazard protection structures such as seawalls, breakwaters or groynes except where the purpose of those structures is to form dry land.

The discharge of dust beyond the boundary of origin from land development activities, unsealed surfaces or unconsolidated land has been assessed as a permitted activity under Rule 7.32 of the CARP.

6.2.1.5 Bundling of consents

The resource consents required for the Project are interrelated and overlapping and cannot realistically be considered separately. Therefore, it is appropriate for the resource consent applications to be bundled together and considered jointly. Applying the most restrictive activity status, the applications are a discretionary activity.

6.2.1.6 Summary of resource consents sought

Table 6.1 identifies the resource consents required for the construction, operation and maintenance of the Project under the NES-F, NES-CS, CLWRP and CARP.

Table 6.1: Summary of RMA resource consents sought

Ref	Phase	RMA consent type	Duration
C1	Construction	Land use (s9) – earthworks and land disturbance	20 years
C2	Construction	Land use (s13) – structures and works in river and lake beds	20 years
C3	Construction	Water permit (s14) – take, use, divert and dam surface and ground water	20 years
C4	Construction	Discharge permit (s15) – discharge water and contaminants to land, water, and air	20 years
O1	Operations & maintenance	Land use (s13) – structures and works in river and lake beds	35 years
O2	Operations & maintenance	Water permit (s14) – take, use, divert and dam surface and ground water	35 years
O3	Operations & maintenance	Discharge permit (s15) – discharge water and contaminants to land, water, and air	35 years
NES-CS	Construction	Land use (s9) – land disturbance	20 years

6.2.2 Resource consent conditions

Proposed resource consent conditions have been developed to ensure the potential adverse effects of the Project's construction, operation and maintenance are appropriately managed. The full proposed condition set is included in Volume 2D.

NZTA provided an earlier draft version of the proposed resource consent conditions to ECan, WDC, Whitiora (and other parties) as part of the 'Pre-lodgement Consultation Pack'. Feedback from these parties and further internal reviews have informed the proposed conditions in Volume 2D, as addressed further in Section 5.4 of this SAR.

6.3 Alteration to designation

6.3.1 Alterations to designation sought

6.3.1.1 Existing Designation status

NZTA is seeking an alteration to the existing Project designation, to both the designation boundaries and its conditions. A designation³⁶ is a provision in an operative plan³⁷, pursuant to s43AA and s166 of the RMA.

³⁶ **designation** means a provision made in a district plan to give effect to a requirement made by a requiring authority under [section 168](#) or [section 168A](#) or [clause 4](#) of Schedule 1

³⁷ **district plan**— (a) means an operative plan approved by a territorial authority under [Schedule 1](#); and (b) includes all operative changes to the plan (whether arising from a review or otherwise)

Therefore, this substantive application seeks an alteration to the Project designation within the Operative Waimakariri District Plan (**OWDP**), identified in Chapter 35 as:

D058A: New Zealand Transport Agency Woodend Bypass, Portion of State Highway 1 East Woodend, Pegasus and Kaiapoi.

SH1 within the Project Site is also subject to three other designations, however no alteration is sought to these designations:

- D054: Transit New Zealand State Highway, State Highways 1 and 71 (Lineside Road).
- D055: Transit New Zealand Motorway, Portion of State Highway 1.
- D056: Transit New Zealand Road widening for State Highway purposes, State Highway 1 Ashley River to Woodend Road.

WDC is currently undertaking a district plan review and the Partially Operative Waimakariri District Plan (**POWDP**) came into effect on 14 July 2025. NZTA's designations in the OWDP have been rolled over to the POWDP: the Project designation (D058A) has been rolled over to designation NZTA-3; and all remaining designations relating to SH1 have been rolled over and amalgamated into a single designation NZTA-1.

At the time of writing this SAR, the POWDP is currently the appeals version with 21 appeals received during the appeals period (none of which are of particular relevance to the Project). No appeals were received on the requiring authority's decision on NZTA-3, and it is understood that once the alteration sought by this substantive application is included within the OWDP, it will automatically roll over to the POWDP. Clarification on the timing of the rollover process has been sought from WDC.

6.3.1.2 Alteration to designation boundaries

This substantive application seeks to alter the boundaries of the Project designation in the OWDP (D058A) to include additional land at two discrete locations. The alterations sought and reasons are described below:

Pegasus interchange

The scheme design that informed the Project's designation included a double-lane roundabout for the SH1 / Pegasus Boulevard / Bob Robertson Drive intersection. However, updated traffic modelling undertaken in 2024 indicated that the roundabout would no longer perform adequately, largely due to higher-than-anticipated growth in Woodend, Pegasus, and Ravenswood (see Part 2 of this SAR). Safety concerns were also identified for pedestrians and cyclists crossing SH1 at this location.

To address these capacity and safety issues, a grade-separated interchange is now proposed, incorporating new shared-use paths running beneath SH1 along Pegasus Boulevard / Bob Robertson Drive (described in Part 3 of this SAR). The revised design is mostly able to be contained within the existing designation footprint, however a narrow strip of additional land on the eastern side of SH1 is now required. Additionally, the revised design necessitates a longer culvert and diversion of the Taranaki Stream than was previously considered, resulting in a small encroachment outside the current designation boundary.

A total of 7,981 m² of additional land is required to accommodate the revised Pegasus Interchange design, including the culvert.

Lees Road Construction Support Area and southern remnant lake wetland

The existing designation is primarily aligned to the road corridor itself and does not provide adequate space for a centralised CSA. While smaller CSAs are able to be accommodated within the existing designation, a project of this scale and multi-year construction period requires a larger construction support area to provide centralised facilities including staff facilities, plant and equipment laydown, and material stockpiling (as described in Part 3 of this SAR).

Additional land is required at Lees Road to establish a primary CSA. Following completion of construction works, NZTA will disestablish the CSA and may consider the uplift of the designation from this area if it is no longer necessary.

The scheme design that informed the Project's designation envisaged the quarry lakes (referred to as "Shingle Pits" in the original NOR documentation) would be 'filled in' below the road alignment. Quarrying has been ongoing since that time and has consequently enlarged the lakes' footprint. While the road design

and alignment remain largely unchanged through this area, the expanded southern lake now requires the embankment to function as a causeway, effectively creating two smaller waterbodies.

To avoid the potential for eutrophication of the smaller remnant lake and to provide wetland offset for the Project, wetland will be established within this area (as described in Part 3 of this SAR).

Property and areas affected

The proposed changes to the designation boundary are shown on the Designation Alteration Plans included in Volume 4D. Table 6.2 below identifies the directly affected land parcels and the corresponding areas that will be included within the designation boundary.

Table 6.2 Alterations sought to Project designation boundaries

Location	Directly affected parcels	Area to be designated (m ²)	Reasons
Pegasus Interchange	Lot 1 DP 16151	124	Design change from round-about to grade-separated intersection and culvert extension
	Lot 2 DP 16151	116	
	Lot 2 DP 481513	1,114	
	Lot 3 DP 16151	132	
	Lot 4 DP 16151	147	
	Lot 5 DP 16151	163	
	Part RS 3093, 3129, 3141-3144, 3169, 3170	846	
	Part RS 3093, 3129, 3141-3144, 3169, 3170	153	
	Part RS 864	300	
	Sub-total:	3,095 m²	
Lees Road Construction Support Area and southern remnant lake wetland	Lot 1 DP 359788	6,339	Use of land for primary construction yard and creation of ecological offset wetland
	Lot 1 DP 423296	36,918	
	Lot 2 DP 35988	30,870	
	Sub-total:	74,127 m²	
Total area to be added to designation D058A:		77,222 m²	

6.3.1.3 Alteration to designation conditions

Appendix 35.7 of the OWDP lists the conditions that apply to the Project designation D058A. This substantive application seeks to alter the designation's conditions, including deletions, amendments, and the addition of new conditions. A full tracked-changes version of the alterations sought, along with the full reasoning, is provided in Volume 2C. In summary, the alterations seek to address the following key items:

- **General and administrative updates:** Various amendments to reflect the 2025 design and reflect current circumstances (relative to the 2013 design that supported the original NOR).
- **Management plans:** Updated process to require relevant management plans to be supplied to WDC under the Outline Plan process.
- **Removing duplication:** Deletion of conditions that relate to matters under ECan's jurisdiction to avoid duplication and inconsistencies, principally erosion and sediment control, dust discharges, stormwater and groundwater. Conditions with equivalent scope are proposed under the resource consents sought.
- **Archaeological matters:** Deletion of conditions relating to archaeological matters as these matters are now addressed under the application for archaeological authorities.
- **Wildlife matters:** Deletion of conditions relating to wildlife matters as these are now addressed under the application for wildlife approval.
- **Landscape and visual effects:** New conditions to mitigate effects as a result of alterations to the designation sought. Minor updates to the ULDMP to reflect updated design and land acquisitions.
- **Contaminated land matters:** Deletion of conditions relating to contaminated land matters as these are now addressed under proposed resource consent conditions.
- **Monitoring conditions:** Deletion of monitoring conditions that impose requirements on WDC rather than NZTA as these are *ultra vires*.

- **Construction hours:** Removal of prescribed limits on construction hours within the CEMP, given that related effects are already managed by other conditions on the designation (in particular, the CEMP and CNVMP).

NZTA provided an earlier draft version of the proposed amended designation condition set to WDC and Whitiara (and other parties) as part of the 'Pre-lodgement Consultation Pack'. Feedback from these parties has informed the proposed conditions included in Volume 2C, as addressed further in Section 5.4 of this SAR.

6.3.2 Reasonable necessity of the designation

An assessment of whether the Project and the designation sought are reasonably necessary for achieving NZTA's objectives is required³⁸ under the FTAA. NZTA's project objectives are set out in section 2.4 of this SAR.

As described in Part 2 of this SAR, the Project seeks to provide an efficient and reliable state highway connection between Belfast and Pegasus, while improving access, community safety and public health outcomes, and reducing severance through Woodend. The Project is aligned with NZTA's strategic priorities, as a Road of National Significance, and is reasonably necessary for achieving NZTA's objectives as it will:

- Meet identified transport network deficiencies, improving travel times and reducing crash risks.
- Reduce severance and improve community connectivity by reducing traffic volumes through Woodend and providing a shared path connection between Pegasus and Ravenswood.
- Improve the efficiency and reliability of the state highway network between Belfast and Pegasus.

The mechanism of an alteration to the Project designation is reasonably necessary and appropriate to achieving NZTA's objectives for the Project because:

- The alterations to the boundaries of the designation allow additional parts of the Project that will help the Project as a whole to better achieve NZTA's objectives as identified above.
- The alterations to the conditions will allow NZTA to more efficiently construct the Project which will achieve its objectives.
- The Project is consistent with the purpose of the existing designation so an alteration is the most efficient mechanism, making use of existing statutory approvals and avoiding a process which would duplicate prior assessments unnecessarily.
- An alteration largely maintains consistency with the existing designation, providing certainty to the community and landowners of the nature and general location of the Project.
- The effects of the Project have already been assessed and managed under the existing designation conditions. The relatively minor nature of the changes (to both the boundary and the conditions) means an alteration is consistent with the collaborative work undertaken to develop the original suite of conditions for inclusion in the district plan.

6.4 Consideration of alternatives

Where alternatives have been considered, the FTAA requires³⁹ that these are to be described in the substantive application.

The process that NZTA has followed to consider alternative sites, routes and methods for the Project is summarised below, including a brief background on the alternatives considered as part of the original designation process.

Options for SH1 to bypass Woodend have been the subject of comprehensive investigations and public consultation for nearly 20 years. Early investigations began with the Woodend Transportation Issues Position Paper (2006) which documented rapid land and population growth in the area. Public consultation (via mail, open days and online feedback) identified that 88% of respondents supported relocating the state highway outside the township, with twice as many preferring an eastern alignment to a western one.

³⁸ Schedule 5, clause 12(1)(g) of the FTAA

³⁹ Schedule 5, clause 12(h) of the FTAA

Subsequent studies⁴⁰ evaluated multiple options to address the traffic growth and associated vehicle safety and community severance issues: four-laning the existing SH1 corridor, a western bypass, an eastern bypass, a long eastern bypass and an interim (western) heavy-vehicle route. The western and long eastern options were ultimately discounted. The preferred options became the foundations of the Scheme Assessment Report which evaluated:

- Four-laning SH1 from Lineside Road to Pegasus.
- Four-laning SH1 from Lineside Road to Pineacres and a new route east of Pegasus, east of Woodend (then named the Short Eastern Alignment (**SEA**)).

The Scheme Assessment Report identified the SEA as the preferred option, and this was carried forward to the Notice of Requirement in 2013 and ultimately inclusion in the Operative Waimakariri District Plan in 2015 as designation D058A.

In 2017 the SH1 Inter-regional Programme Business Case (2017) reconfirmed the traffic problems still existed and Project objectives and suggested delivery of the Project in the medium-term, recognising land use growth had accelerated post the Canterbury Earthquake Sequence. In 2024 the Government Policy Statement on Land Transport prioritised the Project for delivery as a Road of National Significance in recognition of the Project's national importance and the need to support growing regional demand (see Part 2 of this SAR).

The SH1 Belfast to Pegasus Investment Case (2024) sought to reconfirm the scope and suitability of the Project in light of updated growth forecasts, traffic modelling, and design standards. The Investment Case tested key elements such as the design using updated traffic modelling at safety reviews, including:

- Pegasus Interchange: Alternative intersection configurations were tested to address the increased traffic flow and safety risks for pedestrians and cyclists. A fully grade-separated diamond interchange was confirmed as the most effective solution.
- Quarry Lakes: Multiple options were considered in response to the enlargement of the quarry lakes, which had occurred since the designation was confirmed, including bridge construction or altering the designation to avoid the quarry lakes, before the existing alignment was confirmed as the preferred solution. Alternative treatments for the southern remnant lake were also assessed to avoid eutrophication, including infilling the area, utilising large culverts to retain water flows, before wetland creation was selected as the preferred option.
- Cam River / Ruataniwha crossing: An alternative option at the Cam River / Ruataniwha included constructing only one new bridge instead of two new bridges. The proposed new bridge is located to the east of the existing Cam River / Ruataniwha bridge and will carry the main SH1 northbound and southbound lanes, as well as the southbound on-ramp. The existing bridge will remain and be repurposed as the northbound off-ramp. This alternative minimises construction activity at Cam River / Ruataniwha, provides an easier constructable solution in regard to managing traffic during construction and provides economic benefits.

The key conclusions of the Investment Case were that the Project would improve freight efficiency, reduce severance and enhance safety. The Investment Case was endorsed and funding secured for property acquisition, detailed design and consenting. Ongoing design work has resulted in further refinement of the Project design.

During detailed design it was determined the existing designation does not provide sufficient space for a single, centralised CSA. Consideration was given to having multiple smaller CSAs distributed across the designation rather than a centralised CSA, but given the duration and scale of the Project this was considered unfeasible. Site selection for a centralised CSA considered a range of constraints and practical factors, including the need for a centrally located site to minimise travel time, avoidance of interference with other construction activities, and availability of land already under or readily accessible to NZTA.

Since inception of the Project there have been a range of assessments to identify the preferred solution and progressively refine the Project and consequently its effects and land requirements. This history demonstrates that NZTA has undertaken a reasonable and proportionate assessment of alternative sites, routes, and methods, meeting the threshold of adequate consideration.

⁴⁰ including the Woodend Transportation Study – Accompanying Report for Public Consultation Round Two (2007) and the SH1: Woodend Transportation Summary Feasibility Estimates Report (2008)

6.5 Other activities and approvals

6.5.1 Existing approvals

There are enabling and early works activities associated with the Project that have been authorised separately and do not form part of this substantive application. These are addressed in Table 1.2 in Part 1 of this SAR.

6.5.2 Future approvals

6.5.2.1 Resource Management Act 1991

NZTA will seek written consent from KiwiRail under s177 of the RMA for activities within designation KRH-6 (noting these activities will be on the SH1 bridge over the Kaiapoi River, and there is unlikely to be any disturbance of land within the KiwiRail designation).

NZTA is required to submit an Outline Plan for the Project to WDC under section 176A of the RMA (and condition 3 of the Project designation). This will occur prior to construction works commencing.

A contractor(s) for the Project has yet to be appointed. While this substantive application seeks all necessary approvals for the Project under the FTAA, with appropriate flexibility in their scope and conditions, it is possible a future contractor may propose methodologies which require additional consents (for example, taking water for construction purposes from bores). In this event, any additional consents required would be sought separately at a later date.

6.5.2.2 Canterbury Flood Protection and Drainage Bylaw 2013

The Canterbury Flood Protection and Drainage Bylaw provides for the ongoing management and efficient operation of flood protection and flood control works that are owned or controlled by ECan, including defences against water and flood protection vegetation. When undertaking activities in the vicinity of flood protection and flood control works, an authority to carry out these activities may be required under the Bylaw. The Bylaw is not addressed by the FTAA.

As identified in the Bylaw, the Cam River / Ruataniwha is classed as a drain, and stopbanks extend along its true right bank. The construction of the second Cam River / Ruataniwha bridge may trigger the activities listed below and require Bylaw authorisation (to be sought separately):

- Section 5.1(e)(i) states that no person shall construct or locate any structure in, over, through or under any drain or small watercourse.
- Section 5.1(g) states that no person shall connect any pipe, channel or other flow conduit, to any drain or small watercourse. The Cam River / Ruataniwha is classified as a drain under the Bylaw and construction activities will impact.
- Section 5.3 states that no person shall plant or allow to grow any shrub, hedge, tree or part thereof on any defence against water or within 7.5 m of the landward side of any defence against water.
- Section 5.3 (h) states that no person shall carry out any earthworks or excavation, including for construction of a drain or for building foundations on, in, under or over or through any defence against water.
- Section 5.3 (i) states that no person shall construct any crossing in, over, through, along or under any defence against water.

6.5.2.3 Other approvals

There may also be other routine approvals or legal authorisations sought separately in the future to authorise various activities such as the relocation of utilities, activities on private properties (e.g. constructing driveways or provision of replacement water supply), within the road reserve, or approvals under the Building Act 2004. These will be sought separately.

6.6 Assessment of Effects on the Environment

6.6.1 Introduction

This section assesses the actual and potential effects on the environment of the Project⁴¹, both positive and adverse, in relation to the resource consents and designation alteration sought. It presents a summary of the findings of the supporting technical assessments in Volume 3 of this SAR (and follows the same order as they are appended), providing information in sufficient detail⁴² to enable a robust assessment of effects. The Volume 3 reports should be referred to for comprehensive details.

For the purposes of this SAR, the Project has been developed to a 30% design level and with an indicative construction methodology, meaning the assessments have been undertaken on a conservative basis to allow flexibility for future refinement of both the design and construction approach. Conservatism has been applied in several ways, including:

- Assuming vegetation clearance and earthworks to the full extent of the Project site, even though this is unlikely in practice.
- Applying conservative parameters to calculations and assessments where uncertainty exists.
- Allowing for longer construction durations than the baseline programme to ensure potential effects are not underestimated.

The Project is already designated in the OWDP and therefore district land-use activities undertaken in accordance with the designation's purpose and conditions are already authorised. Accordingly, the effects of activities already authorised by the designation (such as earthworks, construction traffic, noise and vibration, and landscaping) have not been reassessed. However, because this application seeks alterations to the designation boundary and conditions, effects relating specifically to those alterations have been assessed.

The assessment has been prepared using an iterative, collaborative approach between the Project team and specialist technical experts. Draft technical reports were shared with Whitiora, WDC, ECan, and the relevant administering agencies as part of pre-lodgement consultation, as outlined in Part 5 of this SAR. Comments and feedback from these parties has been considered and incorporated where appropriate.

6.6.2 Positive effects

The Project's overall purpose is to provide an efficient and reliable state highway connection between Belfast and Pegasus, while delivering improved access, community safety and public health outcomes, and reduced severance through Woodend. The Project will result in significant transport benefits, as described in full in Part 2 of this SAR (and in detail within the reports in Volumes 3C and 3M), which by way of summary includes:

- Significant **efficiency and reliability benefits**, providing reliable 3-minute travel time savings along SH1, with up to 10-minutes saving during peak commuter times.
- Significant **accessibility benefits** by reducing severance, strengthening connectivity, and improving accessibility between Woodend, Ravenswood, and Pegasus; traffic demand on the existing SH1 will be reduced from 21,000 vehicles per day to around 8,000 vehicles per day at opening.
- Significant **safety benefits**, with an estimated reduction in vehicle-related deaths and serious injuries along the existing alignment from 5.6 per year to 1.25 per year.

⁴¹ In accordance with Schedule 5 Clause 6 and 7 of the FTAA

⁴² In accordance with section 44 of the FTAA

- Significant **economic benefits**, with an anticipated \$320 million injection into the Canterbury economy, and generating an estimated 624 full-time equivalent jobs during the peak construction year.

In addition to the above social, safety, and economic benefits, the technical assessments have identified the following positive effects on the environment:

- Minor beneficial effects on natural character through the implementation of native revegetation along waterways and creation of the southern remnant lake wetland.
- Potential net gains for wetlands through proposed offset measures (creation of the southern remnant lake wetland).
- Positive effect to indigenous lizards through increasing habitat provision through compensation measures.

6.6.3 Cultural effects

On behalf of Ngāi Tūāhuriri Rūnanga, Whitiōra has prepared a Statement of Cultural Values, Interests and Priorities with respect to the Project and its effects on cultural matters, contained in Volume 1E. The Statement should be read in full for a more detailed understanding of the cultural context and discussion on the cultural effects. The following section is a summary of the Statement as it relates to cultural effects.

The Project traverses an area of high cultural significance and involves activities that affect land, waterways and sites of high cultural significance and sacredness. The Statement evaluates the potential for the Project to impact Wāhi Tapu and Wāhi Taonga and summarises the effects on these sites and taonga, having regard to the findings of the technical reports prepared for the substantive application, notably drawing on the EclA (Volume 3I).

A summary of anticipated cultural effects is provided below (and has been reviewed by Whitiōra):

- **Effects on wetlands.** Wetlands have a high degree of cultural significance and adverse effects on wetlands represent an adverse effect on cultural values. A number of wetlands will be temporarily and / or permanently affected. Measures for offsetting residual effects, in the form of the southern remnant lake, are supported by Whitiōra.
- **Effects on waterways.** Waterways (including streams, springs and lagoons in the wider environment) have a high degree of cultural significance and adverse effects on waterways / Ngā Wai also represent an adverse effect on cultural values. The Project will result in the permanent loss of or modification to stream extent and habitat values through stream realignment and culverting. Measures for offsetting residual effects through enhancement of McIntosh Drain are supported by Whitiōra. It is expected effects on water quality through construction discharges, stormwater and road runoff will be addressed through appropriate and best practice erosion and sediment control, stormwater management, and riparian planting. Measures to treat and manage stormwater are supported. It is noted by Whitiōra that implementation of ecological mitigation and offsetting/compensation, combined with improved stormwater treatment, can positively contribute to the restoration of environmental values that also hold cultural value.
- **Effects on fauna and flora.** The Project will result in the loss of lizard habitat, with effects in birds less adverse due to their mobility. It is acknowledged by Whitiōra that effects on fauna can be managed through an Ecological Management Plan and there is the potential to enhance indigenous planting through the corridor.
- **Effects on Wāhi Tapu and the Cultural Landscape.** The Project designation represents a permanent and irreversible change to the cultural landscape and the activities to be authorised by the substantive application will have cumulative effects on cultural values through the permanent loss of wetlands, modifications to waterbodies and the loss of indigenous biodiversity. The mitigation and offsetting proposed are all necessary to assist with some degree of restoration of cultural values within the landscape.
- **Transport effects.** The Project will provide benefits in the form of improved traffic safety and efficiency for all road users (noting it will come at a cost to the cultural landscape) but there remains the potential for unintended effects of displaced local traffic short-cutting through Tuahiwi, both during construction and operation of the Project. It is acknowledged that the Traffic Management Plan for early works at the Quarry Lakes was amended to address these concerns as they relate specifically to early works.

- **Cumulative effects** The Project will contribute to a cumulative sense of loss of cultural wellbeing and identity in this part of the Ngāi Tūāhuriri takiwā through the further erosion of the cultural landscape, intrusion into Wāhi Tapu and the loss of sacred or archaeological sites. These are intangible and irreplaceable values.

The Statement advises a number of requirements for the Project, as follows:

- The Traffic Management Plan should include monitoring of traffic on local roads through Tuahiwi during the construction period.
- Any works undertaken to remedy or mitigate the effects of construction traffic on the condition or efficiency of local roads within or to Tuahiwi provides for integration of infrastructure or services where possible.
- The mitigation, offsetting and compensation measures recommended in the technical reports be carried through as conditions of consent.
- The Construction Environmental Management Plan, Ecological Management Plan, and Erosion and Sediment Control Management Plan include specific provisions requiring:
 - A summary of monitoring outcomes be provided to Whitiara every six months during construction.
 - Protocols for Whitiara and/or Ngāi Tūāhuriri to efficiently liaise with NZTA and its contractors in respect of any concerns or issues in relation to effects on the environment during construction.

NZTA agrees to all these requirements. NZTA acknowledges the cultural impacts of the Project and the outcomes sought by Ngāi Tūāhuriri and remains committed to working with Whitiara and the CAG throughout the approvals and construction processes.

6.6.4 Transport effects

The transport effects of the Project, principally relating to the updated design at the Pegasus Interchange (relative to the 2013 scheme design), are assessed within Transportation Assessment (Volume 3C). This section provides a high-level summary of that assessment.

Construction and operational transport effects associated with the Project are largely authorised by way of the existing Project designation. Consideration of effects in this SAR is therefore limited to the effects arising from the current (2025) 30% design relative to the 2013 scheme design.

The only material design change on the transport network is at the Pegasus Interchange, where the upgraded roundabout has been changed to a signalised grade-separated diamond interchange. Modelling shows the signalised grade-separate interchange performs better than the previously proposed roundabout configuration, particularly under the projected 2048 traffic volumes. The interchange layout also addresses pedestrian safety concerns through the provision of controlled crossings and therefore, overall, provides a better balance of safety and operations compared to the roundabout. It is noted further optimisation will occur during detailed design, but this is not expected to materially change the assessed effects.

Construction traffic effects are already appropriately managed by the existing designation conditions, which require a Construction Traffic Management Plan (CTMP) to be prepared prior to construction works commencing. No changes to the content of this condition are proposed under these applications, however, a process change is sought to provide the CTMP with the Outline Plan to WDC rather than via a certification process. The reasons for this change are discussed above.

In summary, beyond those effects already authorised by way of the existing Project designation, the designation alteration is expected to result in positive transport effects due to the design changes to the Pegasus interchange.

6.6.5 Noise and vibration effects

Construction noise and vibration effects from the Project are assessed within the Construction Noise and Vibration Assessment (Volume 3D). This section provides a high-level summary of that assessment.

Both construction and operational noise and vibration effects are largely authorised by way of the Project designation. Consideration is therefore limited to the effects arising from the current (2025) 30% design relative to the 2013 scheme design and activities that were not considered or not wholly considered as part of the 2013 NOR. These include:

- Ground improvements (primarily stone columns) for bridges, including the new Pegasus interchange.
- Potential night works, primarily for bridges.
- Dynamic compaction of the early works embankments across the Quarry Lakes.
- Alterations to the designation boundaries proposed.

An effects envelope has been developed to account for potential refinement to activities and programme, such that minor changes to methodology or programme are unlikely to change the level of effects identified and assessed. The assessment also conservatively assumes noise walls (for operational purposes) will not be installed ahead of construction activities.

The existing Project designation conditions require a Construction Noise and Vibration Management Plan (CNVMP) to be prepared prior to construction works commencing. The conditions prescribe noise and vibration criteria to be achieved during construction where it is practical to do so, and the CNVMP outlines the approach to be taken when these criteria are not practicable to achieve. Implementing noise management and mitigation measures via a CNVMP is the most effective (and best practice) way to control construction noise and vibration impacts. No changes to the content of this CNVMP are proposed under these applications, however, a process change is sought to provide the CNVMP with the Outline Plan to WDC rather than via a separate certification process.

In relation to noise and vibration effects of installing stone columns for bridges, there are limited sensitive receptors that will be affected, and effects will be appropriately managed through the CNVMP. Ground vibrations may be noticeable for occupants of buildings within 100 m, but the anticipated vibration levels are generally considered safe for residential buildings in terms of avoiding cosmetic damage and vibration monitoring is not warranted.

Night works for bridge construction and dynamic compaction may exceed the noise and vibration criteria specified in the Project designation conditions and have the potential to generate significant noise and vibration at specific locations. Exceedances are typical for large-scale infrastructure projects, are anticipated by the designation conditions (condition 11 requires the criteria be met *where practicable*), and exceedances will be managed in accordance with the CNVMP.

Alterations sought to the designation boundaries will not result in any change to the extent of noise or vibration effects experienced at any sensitive receptor for the following reasons:

- The minor extension at the Pegasus interchange will not change the degree of noise effects at any sensitive receptor.
- Noise generated at the Lees Road Construction Support Area will be generally limited to vehicle and equipment movements. Mitigation is proposed in the form of solid hoarding along the southern boundary of the compound and with this mitigation in place noise effects will be reasonable at all times.
- The southern remnant lake wetland will involve tipping of material with no compaction and the spatial separation from the nearest sensitive receptor will mean noise levels remain below the criteria specified in the designation conditions.
- In summary, construction noise and vibration effects will continue to be appropriately managed by the existing designation conditions, minimising impacts on adjacent communities and structures while maintaining construction efficiency. There are no changes to operational noise and vibration effects as a result of the proposed alteration to the designation.

6.6.6 Air quality effects

The air quality effects of the Project have been assessed within the Construction Air Quality Assessment (CAQA) (Volume 3E). This section provides a high-level summary of that assessment.

Air quality effects were considered within the 2013 NOR and the existing Project designation conditions require preparation and implementation of a Construction Air Quality Management Plan (CAQMP). However, regional consents were not sought at that time and therefore the CAQA provides a comprehensive

assessment of air quality and takes a conservative approach, assuming construction activities (which could give rise to discharges to air) could occur anywhere within the Project Site.

The air quality effects of the Project are limited to the discharge of dust (coarse particulate matter) to air during construction. Various construction activities associated with the Project, generally involving mechanical disturbance or handling of soil, aggregate or bulk solid materials, have the potential to generate dust emissions. A relatively small component of fine particulate matter (PM₁₀ and PM_{2.5}) may also be emitted during construction. Other potential discharges, such as respirable crystalline silica (RCS), odour and combustion emissions, are likely to be small in scale and the associated air quality effects are considered to be negligible and have therefore not been considered.

The requirements for resource consent under the CARP for dust generating activities are different depending on the source of discharge. For the Project, discharges of dust resulting from *land development and unsealed surfaces* has been assessed as permitted, while discharges of dust resulting from the *outdoor storage of bulk solids materials* (stockpiling) require resource consent. However, both of these activities (and construction activities more broadly) have been assessed within the CAQA, as an assessment of the potential for offensive and objectionable effects beyond the boundary is required to determine compliance with the permitted activity conditions. Additionally, both activities constitute 'earthworks'⁴³ and distinguishing the effects from the particular form of earthworks is difficult, particularly when both may occur almost anywhere within the Project site. This builds further conservatism into the assessment of air quality effects.

The sensitivity of neighbouring activities to air pollutants, including dust, varies depending on a range of factors including expectations for amenity, duration of human occupation, and presence of particularly sensitive sectors of the community. Sensitivity to dust impacts will generally be higher in the urban settings of Kaiapoi and Woodend, with a medium level of sensitivity within the rural environment. Similarly, the sensitivity to the health effects of PM₁₀ are high in urban environmental settings and low in the rural environment.

The CAQA recommends that specific mitigation measures be included in a CAQMP to address the matters requiring consent (stockpiling). The CAQMP is a proposed consent condition on the regional consent (see Volume 2D). The measures include specific procedures for stockpiling and handling material, including maximum heights for stockpiles, screening of uncovered stockpiles in certain locations (in proximity to sensitive receptors), and covering or otherwise stabilising stockpiles.

A FIDOL⁴⁴ assessment has been used to assess the potential effects of dust from the Project, taking into account the recommended mitigation measures and monitoring within the CAQMP. The FIDOL analysis indicates that, provided the mitigation measures recommended are implemented, the anticipated intensity, frequency, and duration of exposure to dust from construction of the Project is unlikely to result in offensive or objectionable dust impacts in the surrounding environment.

Cumulative effects with the nearby North End Quarry have been considered and are expected to be negligible due to the relatively large separation distances.

Overall, the CAQA concludes that with implementation of the CAQMP, discharges to air from construction of the Project will be avoided or appropriately mitigated and offensive and objectionable effects beyond the Project Site are unlikely.

6.6.7 Ground contamination effects

The actual and potential effects posed by ground contamination have been assessed within the Ground Contamination Investigation Report (Volume 3F). This section provides a high-level summary of that assessment.

6.6.7.1 General

A high-level assessment of ground contamination effects was included within the 2013 NOR. However, a consent under the NES-CS was not sought at that time, nor were any regional resource consents. The

⁴³ Under the Institute of Air Quality Management's Guidance on the assessment of dust from demolition and construction 2024

⁴⁴ Frequency, Intensity, Duration, Offensiveness, and Location in accordance with MfE's *Good Practice Guide for Managing and Assessing Dust* 2016

Contamination Report assesses ground contamination risks across the Project footprint, including the potential contamination-related effects of the Project on human health and the environment.

The majority of the Project site shows no evidence of potential HAIL⁴⁵ activities and therefore contaminant concentrations are likely to be at or below background. The disturbance, reuse and retention of soil from non-HAIL areas is not expected to have contamination-related adverse effects on human health or the environment. If unforeseen ground contamination is countered during construction, it will be managed in accordance with the Accidental Discovery Protocols prescribed in the Contamination Site Management Plan (CSMP).

A number of potential HAIL areas have been identified, some of which have been investigated (where access was practicable) to characterise contaminant concentrations and some where only partial or no soil contamination data is available (although will be obtained prior to construction in these areas). The other potential HAIL sites will be investigated before construction commences.

Potential effects of ground contamination will be managed in accordance with the CSMP; the preparation and implementation of which is included within the proposed conditions sets for the NES-CS consent and the regional consents (Volumes 2D). The CSMP will include:

- Contamination-related training requirements for project staff.
- Soil management procedures including segregation, stockpiling and reuse, and disposal.
- Contamination-related health and safety controls.
- An accidental discovery protocol for contamination.

6.6.7.2 Gladstone Road Landfill

The most significant HAIL activity within the Project Site is the Gladstone Road Landfill. Investigations have identified that the site is predominantly filled with soil and gravel, with minor demolition material and wastes such as tyres, concrete, wood, and plastic, and trace amounts of other waste materials. The soil contains low-level contaminant concentrations (on average below environmental protection criteria). However, given the nature of the site, there is the potential for higher concentrations of contaminants to be present, particularly in deeper fill.

The construction methodology for the proposed alignment through this site, including the Gladstone Road overbridge, is still to be determined, but will likely involve excavation of some or most landfill material that sits below the road alignment (landfill material beyond the road alignment will likely remain in situ). If landfill material is retained below the road alignment it will likely be subject to compaction. The effects of the range of construction methodologies related to the Gladstone Road Landfill have been assessed.

Potential environmental effects associated with earthworks in contaminated soil arise from dust discharges, sediment discharges (via tracking or runoff) and leaching of contaminants to groundwater or surface water during rainfall. Effects from dust and sediment discharges can be managed through implementation of measures within the CAQMP, ESCMP, and further investigations to confirm the presence of asbestos (which may result in additional measures to protect human health).

In relation to potential effects on groundwater or surface water, it is noted that contaminants at the Gladstone Road landfill generally have low solubility and are likely to comply with groundwater protection criteria. Construction activities are unlikely to increase the potential for contaminants to enter groundwater or surface water beyond that which currently exists given the area is unsealed. Minimising the extent / duration of ground disturbance and backfilling excavations as quickly as practicable would further limit the potential for short-term adverse effects.

Reuse of suitable material from the landfill for noise bunds or landscaping (non-engineered fill) is not likely to result in more than minor adverse effects, as mean contaminant concentrations are likely to comply with criteria for the protection of surface water and groundwater quality. The proposed resource consent conditions specify criteria / limits for reuse of any site-won material in three circumstances: within 20 m of a surface waterbody, beyond 20 m from a surface waterbody; and specific criteria for asbestos including handling, stockpiling and encapsulation.

⁴⁵ MfE's Hazardous Activities and Industries List 2021

Dewatering may be necessary at the Gladstone Road Landfill, particularly if the option to remove landfill material to the extent practicable is taken forward. Any associated discharge of dewatering water would be to land and there are no nearby surface waterways. Investigations indicate groundwater quality at the landfill does not present a risk to groundwater users, and the effect of discharging dewatering water to land is expected to be low to negligible. The GMP will specify any requirements for groundwater quality sampling and pre-treatment.

Ground improvements which result in compaction of landfill material may also occur. This is unlikely to have more than short term and minor effects on groundwater as the majority of landfill material is above groundwater level; the contaminants generally have low solubility and are likely to comply with groundwater protection criteria; and compaction (and road construction) will reduce infiltration.

6.6.7.3 Other confirmed or potential HAIL areas

Other confirmed or potential HAIL areas, such as 788 Main North Road (a former livestock dip), may contain shallow, localised contamination. These areas will be fully investigated before construction, and standard controls (segregation of soils, dust suppression, stockpile stabilisation) will mitigate potential effects on surface and groundwater quality and human health. Reuse will be in accordance with the proposed resource consent conditions mentioned above which specify contaminant concentration limits for reused materials.

6.6.7.4 Summary

The effects related to contaminated ground are able to be appropriately managed through the implementation of the CSMP and the proposed resource consent conditions which specify maximum contaminant concentrations for the reuse of site-won fill. Based on the findings of the Contamination Assessment, residual effects on human health and the environment are considered to be no more than minor.

6.6.8 Landscape, visual and natural character effects

The landscape, visual and natural character effects of the Project are assessed within Urban, Landscape and Visual Effects Assessment (**ULVEA**) (Volume 3G). This section provides a high-level summary of that assessment.

Landscape and visual effects associated with the construction and operation of the Project are largely authorised by way of the Project designation. A comprehensive suite of conditions managing these effects is already included on the Project designation, including preparation and implementation of an Urban and Landscape Design Management Plan (ULDMP) which will outline strategies to avoid, remedy or mitigate adverse visual and landscape effects of the Project.

Given the existing designation, the ULVEA limits consideration to the effects arising from the current (2025) 30% design relative to the 2013 scheme design, including the alterations sought to the designation's boundaries and conditions. The following changes/additions have the potential to give rise to landscape and visual effects:

- Cam River / Ruataniwha crossing. The scheme design included demolition of the existing bridge and three new bridges, while 30% design includes retention of the existing bridge and a new bridge immediately to the east.
- Pegasus interchange: The scheme design included an upgraded roundabout, while the 30% design includes a grade separated diamond interchange and realignment of Taranaki Stream.
- Alterations to the designation to include Lees Road Construction Support Area (CSA) and southern remnant lake wetland.

Changes to the Cam River / Ruataniwha crossing are not expected to give rise to any adverse landscape or visual effects, during construction or operation. This is because views of the Cam River / Ruataniwha bridge are predominantly viewed from the existing bridge during construction, and during operation the only added view will extend from the new SH1 alignment once it has been constructed. There will be no changes to landscape character zones during construction or operation, therefore, it is deemed that there will be no adverse effects.

Similarly, inclusion of the southern remnant lake is not expected to contribute to any adverse landscape or visual effects during construction or operation. Landscape character and natural features will instead

experience a low beneficial change, reflected by the replacement of a low-value lake with a functional wetland environment. The wetland is not expected to be seen from public vantage points and will contribute positively to the local environment without adversely affecting visual amenity.

Changes at the Pegasus interchange will result in increased landscape and visual effects during the construction period as a result of corridor widening, stream realignment and construction activities. The proposed designation conditions (new Condition 39A, Volume 2C) require planting on the western boundary of Pegasus Resort to screen the future overbridge. Operationally, the new grade-separated diamond interchange will result in both adverse and positive effects. While there is no mitigating the prominence of the new bridge, design of the bridge in accordance with the ULDMP will improve its appearance and minimise adverse visual effects. Over time the positive effects, including improved connectivity, outweigh the adverse visual effects as landscape planting develops, and in the long term there is a shift to net beneficial outcomes.

The Lees Road CSA has the potential to adversely impact the visual amenity of residents on Lees and Barkers Roads. The proposed designation conditions (new Condition 39B, Volume 2C) require a planted earth bund along the southern boundary of the CSA to screen the site and minimise visual effects. With the implementation of the earth bund, minor visual effects are expected during the construction period, while there will be no operational effects as the site will be restored following construction.

The ULVEA also considers effects on natural character of relevance to the regional resource consent applications. The natural character effects of the Project are largely limited to effects on waterways and wetlands. During construction, natural character effects on waterways / wetlands are assessed as none – minor adverse effects, primarily due to the removal of vegetation and the loss of some wetlands.

Ongoing natural character effects are largely positive, except Kaiapoi River where no effects are identified. Wetland offsets and native planting will create biodiversity corridors that compensate for permanent wetland loss, resulting in beneficial ecological improvements. Removal of exotic pest vegetation and replacement with endemic species will improve habitat quality and natural character. Overall, there are expected to be ongoing negligible to minor beneficial effects on natural character and related environmental values due to restoration and improved habitat connectivity.

6.6.9 Archaeological and heritage effects

The archaeology and heritage effects of the Project are assessed within the Archaeology and Heritage Assessment (Volume 3H). This section provides a high-level summary of that assessment.

The Archaeology and Heritage Assessment was prepared to support both the archaeological authorities and the alteration to the designation sought by this substantive application. It conservatively assumes all archaeological sites within the Project site will be destroyed, representing a worst-case scenario, although in practice it is likely portions of the Project Site will not be subject to ground disturbance.

The archaeological and heritage effects of the Project, insofar as they relate to district plan matters, are authorised by way of the existing Project designation. The existing designation conditions (conditions 28 and 29) include the requirement for preparation and implementation of an Archaeological and Cultural Sites Management Plan (ACSMP) to prescribe training, methods, protocols and procedures for the possible discovery of archaeological sites and investigation and recording of discoveries. The required content to be included in the ACSMP, as outlined in the designation conditions 28 and 29, is not proposed to be changed. Minor proposed amendments only include updating Mahaanui Kurataiao to Whitiara regarding who the reports must be given to on completion (this change has already been made to the existing designation and is shown in the online version of the OWDP).

The existing designation also included two additional conditions (conditions 26 and 27) relating to archaeological matters. These conditions are sought to be deleted as these matters will now be addressed under the archaeological authorities sought by this substantive application (see Part 8 of this SAR).

There are 16 recorded⁴⁶ archaeological sites (4 of which have already been destroyed) within the existing Project designation which will likely be destroyed, and a further 9 recorded archaeological sites within 50m of the designation that may potentially have archaeological remains and features which extend into the existing Project designation. There are no recorded archaeological sites within additional land proposed for inclusion

⁴⁶ Recorded in the NZ Archaeological Association (NZAA) Site Recording Scheme (ArchSite)

in the designation, although unrecorded archaeological sites may be encountered anywhere within the Project Site.

Where avoidance is not feasible due to design and location constraints, archaeological sites will likely be destroyed by the Project. Effects on archaeological and heritage values will be managed via the archaeological authorities sought for the Project and the ACSMP managing construction effects. The archaeological authorities will prescribe processes for archaeological monitoring, investigation, analysis and recording of any affected archaeological features. These investigations may result in positive outcomes in terms of developing a heritage archive and providing historic heritage narratives to be incorporated within the ULDMP.

The Archaeology and Heritage Assessment concludes that with implementation of the ACSMP and compliance with the archaeological authority conditions, archaeological and heritage effects will be less than minor.

6.6.10 Ecological effects

6.6.10.1 Introduction

The ecological effects of the Project are assessed within the *Ecological Impact Assessment (EclA)* (Volume 3I). This section provides a high-level summary of that assessment.

The EclA provides a full assessment of the actual and potential effects of the Project on wetlands and streams. Effects on terrestrial ecology (from land disturbance, earthworks, and vegetation clearance) are largely authorised by the existing Project designation; effects on terrestrial ecology in the EclA are limited to the following circumstances:

- Terrestrial ecology within 10 m of wetlands and streams (within the scope of the regional resource consent applications sought).
- Terrestrial ecology within the additional land sought to be included within the Project designation through the alteration.

Potential effects arising from the salvage and relocation of lizards, which fall within the scope of the wildlife approval sought, are addressed in Volume 3J and Part 7 of this SAR.

The EclA assumes all vegetation and habitat (under the above scope) will be removed. This is a conservative assumption as it is likely some areas of the Project Site will remain undisturbed.

6.6.10.2 Terrestrial ecology

The Project has the potential to result in the permanent loss of up to 8.75 ha of predominantly exotic vegetation (3.48 ha along the margins of streams and wetlands and 5.27 ha within the areas of additional land to be included in the designation), and up to 5.53 ha of indigenous fauna habitat. These estimates are conservative and are expected to reduce through detailed design. Landscape planting of indigenous species and wetland habitat creation at the southern remnant lake wetland and ecological offset planting at McIntosh Drain will provide new habitat.

Vegetation clearance and earthworks have the potential to disturb or cause accidental injury and death to indigenous lizards and birds, in the absence of mitigation which is covered below.

Potential effects on lizards will primarily be managed through their salvage and relocation in accordance with a Lizard Management Plan (LMP), which is a proposed condition on the wildlife approval sought (see Part 7 of this SAR). A moderate residual adverse effect remains for the permanent loss of lizard habitat. This habitat loss will be managed through the offset and compensation 'lizard friendly' planting at the southern remnant lake wetland and McIntosh Drain (see residual adverse ecological effects below).

Potential effects on birds will be managed in accordance with an Ecological Management Plan (EMP), which is a proposed condition on the regional resource consents. Specific to indigenous birds, the EMP will address the procedures for pre-construction avifauna surveys, constraints on vegetation clearance, deterrents, exclusion zones, supervision and responses to accidental harm.

With implementation of measures to avoid, minimise and remedy effects, the level of residual effects on terrestrial ecology values are generally very low to low (except for a moderate level of effect as identified above in relation to loss of lizard habitat).

6.6.10.3 Wetland ecology

The Project has the potential to impact 15 wetlands. The EclA conservatively assumes all vegetation and habitat within the Project Site will be removed during construction, but that wetland catchments within the Project Site outside of the final highway alignment will be reinstated as far as reasonably practicable. Five wetlands will be directly affected through complete or partial loss of extent, which will result in a combined loss of 6,206 m² of wetland habitat. The effects on some of these wetlands may be reduced if works in their proximity are reduced or avoided entirely (through final design).

The Project has the potential to change the hydrological functioning of wetlands both temporarily during construction and permanently via altered catchment size, reduced groundwater / surface water inputs or increased water inputs. 12 wetlands have catchments that will be impacted by the Project during construction and operation. There is also the potential for habitat fragmentation impacts to three wetlands. Some of these effects may be reduced through design of the stormwater system to limit hydrological changes to the catchments.

Construction may cause temporary sedimentation to wetlands, which can smother wetland vegetation, increase ground height, alter hydrological patterns and enable establishment of pest plants. Potential sedimentation effects on wetlands during construction will be managed in accordance with the Erosion and Sediment Control Management Plan (ESCMP) which is a proposed condition on the regional resource consents.

With implementation of the mitigation measures proposed, the residual level of effect on the values of individual wetlands ranges from negligible to high. Biodiversity offsetting is proposed for moderate or above residual effects (see Residual adverse ecological effects below).

6.6.10.4 Stream ecology

Stream environments and the freshwater species present within are vulnerable to a range of temporary and permanent effects as a result of the Project.

Temporary construction-related effects include sedimentation, injury or mortality of freshwater fish, localised effects on stream flow, modifications of stream habitat, and modifications of fish passage and migration success. These temporary effects will be managed through implementation of the ESCMP and the EMP which will prescribe measures for fish salvage and relocation. Implementation of these measures will reduce the temporary effects on stream ecology during construction to very low to low.

Potential ongoing effects include the permanent loss or modification of fish passage and stream habitat and potential changes in receiving water quality from stormwater runoff. The Project has incorporated fish passage into culverts and stream realignment design so that fish movement up and downstream of the culverts/ stream reaches is maintained. Incorporation of fish passage into the design (and the proposed consent conditions in Volume 2D) reduces the level of effect on fish passage to very low to low.

The Project will result in the permanent realignment and culverting of a number of streams where these cross the alignment. The EclA describes the measures to avoid, minimise and remediate the loss of stream value and extent within the Project's design, including avoiding stream realignment and culverting to the extent practical within the designation; designing stream realignments and culverts to the shortest reach possible; and incorporating design principles to support fish passage. With the implementation of these measures, effects range from negligible to high. Biodiversity offsetting is proposed for moderate or above residual effects and McIntosh Drain has been selected as stream offset site (see next section).

Stormwater runoff from roads can be contaminated by toxicants that pose a risk to the freshwater environment. The Project includes the construction of stormwater infrastructure to treat and convey road runoff. Stormwater treatment will reduce the potential effects on stream habitat and freshwater fauna to very low to low.

6.6.10.5 Residual adverse ecological effects

The EclA identifies the following residual adverse effects (after measures to avoid, minimise, or remedy effects) of moderate or above:

- Permanent loss of 0.66 ha of indigenous lizard habitat.
- Permanent loss of 0.67 ha of natural inland wetland extent and habitat values.

- Permanent loss of, or modification to 428 linear metres of stream extent and habitat values due to stream realignment and culvert designs.

The EclA adopts the approach taken within the EclAG framework: where a moderate or higher effect remains after efforts to avoid, minimise and remedy effects, then further efforts should be taken to address these residual adverse effects in the form of offset and/or compensation. This framework is slightly different from that prescribed under the National Policy Statement for Freshwater Management 2020 (Amended January 2024) (NPS-FM) and the National Policy Statement for Indigenous Biodiversity 2023 (**NPS-IB**) effects management hierarchy, where offsetting and compensation are required where residual adverse effects remain that are more than minor. Despite the differences in terminology, in this case, the residual adverse effects identified in the EclA as moderate or higher are considered to equate to more than minor adverse effects.

The Project proposes compensation to address the residual moderate adverse effects associated with the loss of lizard habitat through the implementation of enrichment planting and habitat enhancement within up to 5.94 ha (approx. 6 ha) of low-stature landscape planting. The EMP, as proposed in the regional resource consent conditions, will include a section on residual effects management. This will specify the quantum of compensation (and offset) required and the specific actions to be undertaken, including any monitoring measures, reporting, principles, methodologies, targets and processes to ensure any offset or compensation actions are achieved. This enables exact extent of compensation planting to be calculated following the final design.

The Project proposes offsetting to address the residual adverse moderate to high effects associated with the permanent loss of natural inland wetland extent and stream extent. The southern remnant lake has been selected as the wetland offset site for the permanent loss and modification of wetland extent and values. The southern remnant lake has been selected as it is close to the impact sites, NZTA owns the land, the lake is groundwater fed so water supply is assured, and all Project wetland offset measures can be completed at a single site.

McIntosh Drain has been selected as the stream offset site for the permanent loss and modification of stream extent and habitat. McIntosh Drain has been selected as it is close to the impact sites, NZTA owns the land, and allows offset actions to be completed on a single and highly modified stream section.

The EclA states that the proposed offset measures will result in a minimum of no net loss for both wetlands and streams, and have the potential to result in a net gain for wetlands. The terrestrial compensation proposed would result in a positive effect on indigenous lizards through increasing habitat provision. Additionally, the creation of terrestrial, wetland and enhancement of stream habitat will result in good quality, achievable ecological outcomes that will offset the residual ecological effects that will have occurred by the completion of the Project.

The EclA concludes that the actual and potential temporary and permanent adverse ecological effects of the Project can be adequately managed through proposed ecological effects management measures (including offset and compensation recommendations).

6.6.11 Hydrogeological effects

The hydrogeological effects of the Project are assessed within the Hydrogeology Assessment (Volume 3K). This section provides a high-level summary of that assessment.

The Hydrogeology Assessment evaluates the potential temporary and permanent groundwater related effects associated with the Project, including potential changes in groundwater levels, flow and quality that may affect groundwater receptors. When assessing the potential effects of the Project on groundwater, the Hydrogeology Assessment has adopted a conservative approach in a number of ways:

- A shallow groundwater level representative of winter conditions has been assumed, as site specific data on seasonal levels is not yet available.
- It has been assumed earthworks could occur across the full Project Site.
- A broad range of hydrogeological parameters have been applied.

The Hydrogeology Assessment identifies where earthworks may impact wetland extents or catchments, but consideration of the effects and potential measures to manage these are contained within the EclA (Volume 3I) and described above.

The Project Site is situated on relatively low-lying land with shallow groundwater (typically less than 2 m below ground surface), with a series of confined aquifers below the shall groundwater system. The bulk of the Project works are above ground, raised on embankments, and will not intercept groundwater. There are a number of construction activities that have the potential to cause groundwater effects, including:

- Excavations for culverts, stormwater infrastructure and utilities, shallow foundations have the potential to intercept shallow groundwater depending on excavation depths and groundwater levels.
- Ground improvements may penetrate the deeper semi-confined to confined aquifers and rigid inclusions and piling involve use of concrete.
- Localised dewatering for culvert and utility installation and at the Gladstone Road Landfill will result in temporary localised changes in groundwater levels.
- CSAs involve minor earthworks and material and equipment storage.
- A construction water take from the Quarry Lakes may affect groundwater levels and consequently groundwater users and nearby surface water features.
- Dynamic compaction of the Early Works embankment may result in increased turbidity to groundwater.

The Hydrogeology Assessment concludes the temporary construction related effects on groundwater receptors are predominantly negligible to low⁴⁷. The only exception being moderate effects on groundwater level and flow (mixing aquifers and artesian groundwater) from ground improvements at the Williams Street overbridge. These effects will be managed in accordance with the Groundwater Management Plan (GMP), which is proposed as a condition on the regional resource consents.

Specifically in relation to the temporary water take from the Quarry Lakes for construction purposes, the Hydrogeology Assessment considers potential effects of the water take on groundwater levels, other groundwater users and nearby surface water features and determines these effects to be negligible to low.

There is also the potential for permanent effects on groundwater as a result of the Project, primarily from road embankments which could result in changes to the local groundwater regime and the operational stormwater system. The Hydrogeological Assessment concludes that the permanent effects on groundwater receptors are negligible to low⁴⁸.

The GMP will detail the key procedures and methods to minimise effects on groundwater from excavation and disturbance activities, including procedures for: management of confined aquifer and artesian pressure; mixing and placement of concrete ground improvements; dewatering management; bore flushing, sealing and decommissioning.

6.6.12 Stormwater and flooding effects

Stormwater and flooding effects during the operational phase of the Project are assessed within the Stormwater and Flooding Assessment (Volume 3L). This section provides a high-level summary of that assessment and also addresses potential stormwater quality effects during the construction phase.

6.6.12.1 Stormwater quality (construction phase)

Construction phase stormwater discharges have the potential to result in sedimentation and associated water quality effects on nearby receiving environments. These effects primarily arise from exposed soils and unconsolidated surfaces, stockpiles and works in or near waterways if these are not appropriately managed.

To address these potential effects, erosion and sediment control measures will be implemented in accordance with an ESCMP for certification by ECan, as proposed as a condition on the regional resource consents.

The CMS (Volume 3A) sets out the overall approach to erosion and sediment control. In summary, key measures will include:

⁴⁷ Moderate and High effects are identified in relation to the loss of wetland extent and catchment. Management of these effects is addressed within the EclA in Volume 3L.

⁴⁸ ⁴⁸High effects are identified in relation to the loss of wetland extent and catchment. Management of these effects is addressed within the EclA in Volume 3L.

- Use of perimeter controls and clean water diversions around work sites to reduce runoff from exposed areas.
- Staging of earthworks and progressive stabilisation to minimise exposed soil.
- Stabilisation of site entrances and haul roads to prevent sediment tracking.
- Use of sediment retention structures such as ponds or decanting earth bunds to capture and settle sediment before discharge.
- Site specific procedures for more sensitive areas and higher risk activities.
- Daily monitoring of controls and regular documented inspections to ensure effective operation of controls.

With the above measures in place, discharges of construction phase stormwater will be effectively managed and potential adverse effects on the receiving environment are expected to be temporary and no more than minor.

6.6.12.2 Stormwater quality (operation phase)

During the operational phase, the Project may generate increased surface runoff contamination, particularly through direct vehicular activity and atmospheric deposition. Stormwater pollutants such as heavy metals, if left untreated, may degrade water quality in the receiving environment. Where the Project adds impervious surfaces to the existing SH1, it is expected to result in improved stormwater quality discharging to the receiving environment as there is currently limited formal stormwater treatment at these locations. Along the by-pass alignment, the Project has the potential to increase contaminant loading (particularly heavy metals and suspended sediments) compared to the existing, predominately agricultural environment.

Operational runoff will be managed through a suite of stormwater treatment and conveyance measures, including swales, biofiltration and bioretention basins and channel realignments. These proposed treatment devices are capable of removing contaminants, including total suspended solids, hydrocarbons, nutrients and heavy metals. This will ensure discharges are treated prior to entering the receiving environment. The proposed stormwater management system for the construction and operation of the Project will be designed to appropriately manage the effects of proposed earthworks, increased impervious surfaces, altered flow paths, and hydraulic structures.

Proposed resource consent conditions require that, prior to discharge to the receiving environment, operational stormwater run-off from added trafficable pavement areas must be treated, where practicable. Dedicated stormwater management devices will be designed to achieve a greater than 75% TSS removal and not unreasonably cause or exacerbate groundwater-related flooding (Volume 2D).

6.6.12.3 Stormwater quantity and flooding (operation phase)

Flooding modelling has confirmed that the Project introduces changes to flow regimes, however, the proposed design will effectively address potential adverse flooding outcomes reducing any adverse effects to less than minor. The design consists of culverts, channel diversions, and localised storage. Any residual increases in water levels are confined to existing drainage features or NZTA property and do not result in material effects on third-party assets.

Scour and erosion risks at culverts, bridges, and realigned watercourses have been addressed through targeted design measures, including riprap protection and engineered stabilisation. With these mitigations in place, the residual risk of erosion and scour is expected to be low, and long-term channel stability will be maintained.

6.6.13 Hazardous installations

If the project includes the use of hazardous installations, the FTAA requires⁴⁹ an assessment of any risks to the environment that are likely to arise from such use of hazardous installations. The term 'hazardous installations' is not defined in the FTAA or RMA, however, construction of the Project may involve the temporary storage and use of hazardous substances such as diesel, petrol or other substances in small quantities such as oils or lubricants. These substances will be stored within the CSA's and managed in

⁴⁹ Schedule 5, Clause 6(1)(b)

accordance with the CEMP. The CEMP will specify procedures for storage and use of hazardous substances and spill response protocols. No hazardous substances will be stored within any Community Drinking Water Protection Zone.

All storage and use of hazardous substances will comply with relevant regulations and standards including the Health and Safety and Work (Hazardous Substances) Regulations 2017.

Within implementation of the above measures, including those prescribed in the CEMP, potential risks to the environment from the use or storage of hazardous substances are assessed as minimal.

6.7 Statutory assessment

6.7.1 Introduction

The FTAA requires⁵⁰ applications for resource consents and alterations to existing designations to include an assessment of the Project against the following:

- Sections 5, 6 and 7 of the RMA.
- Any relevant provisions of the following documents:
 - A national environmental standard.
 - Other regulations made under the RMA.
 - A national policy statement.
 - A New Zealand coastal policy statement.
 - A regional policy statement or proposed regional policy statement.
 - A plan or proposed plan.
 - A planning document recognised by a relevant iwi authority and lodged with a local authority.

When considering a resource consent application (including its conditions) the FTAA directs⁵¹ the panel to *take into account* the following (with the greatest weight to be given to the purpose of the FTAA):

- The purpose of the FTAA.
- The provisions of Parts 2, 3, 6, and 8 to 10 of the RMA that direct decision making on an application for a resource consent (excluding s104D).
- Relevant provisions of any other legislation that directs decision making under the RMA.

When considering a notice of requirement, (including conditions), the panel must take into account the following (with the greatest weight to be given to the purpose of the FTAA):

- The purpose of the FTAA.
- The provisions of Part 8 of the RMA that direct decision making on an application for a designation (except section 170).
- Relevant provisions of any other legislation that directs decision making under the RMA.

Those matters that must be taken into account and the information required as set out above are addressed throughout the following sections, except for the purpose of the FTAA, which must be given the greatest weight, and which is discussed in Part 2, Section 2.6 of this SAR.

Information relating to standard freshwater fisheries activity is provided in Part 9 of this SAR.

⁵⁰ Schedule 5, Clause 5(1)(g) and (h); Clause 12(1)(d) of the FTAA

⁵¹ Schedule 5, Clauses 17(1) and 24(1) of the FTAA

6.7.2 National Policy Statement for Freshwater Management 2020

6.7.2.1 Principles and objective

The National Policy Statement for Freshwater Management 2020 (NPS-FM) provides direction on the management of freshwater in a manner that gives effect to Te Mana o te Wai, which is described in clause 1.3(1) as:

“a concept that refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. It protects the mauri of the wai. Te Mana o te Wai is about restoring and preserving the balance between the water, the wider environment, and the community.”

The six principles of Te Mana o te Wai are (Clause 1.3(4)):

- *Mana whakahaere: the power, authority, and obligations of tangata whenua to make decisions that maintain, protect, and sustain the health and well-being of, and their relationship with, freshwater*
- *Kaitiakitanga: the obligation of tangata whenua to preserve, restore, enhance, and sustainably use freshwater for the benefit of present and future generations*
- *Manaakitanga: the process by which tangata whenua show respect, generosity, and care for freshwater and for others*
- *Governance: the responsibility of those with authority for making decisions about freshwater to do so in a way that prioritises the health and well-being of freshwater now and into the future*
- *Stewardship: the obligation of all New Zealanders to manage freshwater in a way that ensures it sustains present and future generations*
- *Care and respect: the responsibility of all New Zealanders to care for freshwater in providing for the health of the nation.*

The sole objective of the NPS-FM (clause 2.1) is to ensure that natural and physical resources are managed in a way that prioritises:

- First, the health and well-being of water bodies and freshwater ecosystems;*
- Second, the health needs of people (such as drinking water); and*
- Third, the ability of people and communities to provide for their social, economic and cultural well-being, now and in the future.*

The Resource Management (Freshwater and Other Matters) Amendment Act was passed in October 2024 which amends sections 92, 104 and Schedule 4 of the RMA, directing that a consent authority must not have regard to clauses 1.3(5) and 2.1 (both of which relate to the hierarchy of obligations) of the NPS-FM when considering resource consent applications. As the panel cannot take these matters into account as part of its consideration of RMA provisions under Schedule 5, Clause 17(1)(b), they are not addressed here.

6.7.2.2 Policies

Table 6.3 assesses the Project against the relevant policies of the NPS-FM.

Table 6.3: NPS-FM Policy Assessment

Policy	Assessment
<p>Policy 1</p> <p><i>Freshwater is managed in a way that gives effect to Te mana o te Wai.</i></p>	<p>The Project has incorporated the principles of Te Mana o te Wai through both process and design. Consultation has taken place with Whitoria as the mandated representative for Ngāi Tūāhuriri on consenting matters. This has informed option refinement, particularly the avoidance of effects on the Cam River / Ruataniwha (Mana whakahaere / Kaitiakitanga). The construction methodology and consent conditions will include measures to protect water quality during earthworks and rehabilitate riparian margins (Manaakitanga / Care and respect). Design of the Project has considered freshwater health, for example through avoiding wetlands / streams where possible, provision of fish passage, and integration of stormwater treatment (Governance / Stewardship). More than</p>

Policy	Assessment
	<p>minor residual effects on wetlands and streams have been addressed through ecological offsetting to achieve no net loss, and there is potential for a net gain in terms for wetlands.</p>
<p>Policy 2</p> <p><i>Tangata whenua are actively involved in freshwater management (including decision making processes), and Māori freshwater values are identified and provided for.</i></p>	<p>Ngāi Tūāhuriri (via Whitiara) have contributed to decision-making processes by providing high-level feedback throughout the development of the Project. This includes monthly meetings and provision of a Statement of Cultural Values, Interests and Priorities (see Volume 1E) on the Project. Whitiara has also provided feedback on specific Project components. NZTA has taken on board this feedback and where appropriate adapted the design or incorporated conditions on the approvals.</p> <p>NZTA recognises the high cultural value associated with freshwater resources along the alignment and their connectivity with a complex of streams and wetlands between the Waimakariri and Rakahuri awa (Ashley River).</p>
<p>Policy 3</p> <p><i>Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis, including the effects on receiving environments.</i></p>	<p>This substantive application assesses the actual and potential effects of the Project on the receiving environment and has considered broader hydrogeological and freshwater values than that of the immediate construction footprint. Hydraulic and flood modelling has informed the design and sizing of culverts, bridges, stream realignment and stormwater storage requirements and the potentially upstream and downstream flooding effects of the Project.</p>
<p>Policy 6</p> <p><i>There is no further loss of extent of natural inland wetlands, their values are protected, and their restoration is promoted.</i></p>	<p>The Project will result in the loss of extent and values of natural inland wetlands that cannot be avoided due to the functional need for a linear corridor. The EclA conservatively assumes all vegetation and habitat within the Project Site will be removed during construction, resulting in the complete or partial loss of extent of five natural inland wetlands, noting the area of loss may be reduced through final design and construction processes. Whilst temporary loss in extent and values is unavoidable, the Project includes migration measures (such as implementation of erosion and sediment controls) and the creation of a wetland offset at the southern remnant lake. The southern remnant lake will result in no net loss for wetlands and a potential net gain (given the remnant lake wetland will likely cover a greater area than the expected loss of wetland extent).</p> <p>While Policy 6 directs there be no further loss of extent of natural inland wetlands, clause 3.22 of the NPS-FM specifically provides for the loss of extent of wetlands and their values in certain circumstances, including for construction of specified infrastructure where the tests under 3.22 (b)(i) are met. These are assessed below and it is concluded the Project meets these requirements.</p> <p>Given there will be no net loss of wetlands (and potentially a net gain) and in light of the pathway for construction of specified infrastructure, it is considered the Project is generally consistent with the intent of Policy 6.</p>
<p>Policy 7</p> <p><i>The loss of river extent and values is avoided to the extent practicable.</i></p>	<p>The Project will avoid direct permanent impacts on the Kaiapoi and Cam / Ruataniwha Rivers. The proposed work on existing bridge structures and the building of new ones will not involve the loss of river extent or values.</p> <p>While measures have been taken to avoid, minimise and remediate the loss of stream value and extent within the Project design, several smaller streams tributaries will be impacted by culverts and realignments as it is not practicable to avoid them given the linear nature of the Project. The Project proposes biodiversity offsetting in McIntosh drain such that there will be no net loss for streams.</p> <p>Similarly to Policy 6, Policy 7 directs there be no loss of river extent, but clause 3.24 of the NPS-FM provides for the loss of river extent and values where there is a functional need for the activity in that location and the effects of the activity are managed by applying the effects management hierarchy. The Project meets these tests, as described below.</p> <p>Given there will be no net loss of rivers, and in light of the pathway afforded by clause 3.24, the Project is considered to be generally consistent with the intent of Policy 7.</p>

Policy	Assessment
<p>Policy 9</p> <p><i>The habitats of indigenous freshwater species are protected.</i></p>	<p>The Project will protect habitats of freshwater species through various measures, including improving fish passage, restoring more natural waterways when realigning streams to achieve no net loss, as described in the EclA. Where it is not practicable to protect habitat, such as natural inland wetlands, the effects are managed through the effects management hierarchy. No works will be undertaken within the beds of the Kaiapoi River nor the Cam River / Ruataniwha, protecting Īnanga spawning. The common bullies, which are the only native fish identified in Quarry Lakes, are tolerant to elevated suspended sediments and are capable of avoiding affected areas during infilling.</p>
<p>Policy 15</p> <p><i>Communities are enabled to provide for their social, economic, cultural well-being in a way that is consistent with this National Policy Statement.</i></p>	<p>The Project delivers a safer, more reliable state highway between Belfast and Pegasus, reducing crashes and congestion and improving access to services for the fast growing communities of Woodend, Ravenswood and Pegasus. These transport benefits support social and economic wellbeing by improving travel time reliability for commuters, freight and emergency services and reducing severance within Woodend township. These benefits are set out in Part 2 of the SAR. The design and construction of the Project is consistent within the NPS-FM, including consideration of the six principles of Te Mana o te Wai and implementation of the effects management hierarchy to address adverse effects on rivers and wetlands.</p>

Subpart 3 of the NPS-FM contains specific requirements in relation to natural inland wetlands and rivers are assessed below.

6.7.2.3 Natural inland wetlands

Clause 3.22 (corresponding to Policy 2A.3 of the CLWRP) states:

The loss of extent of natural inland wetlands is avoided, their values are protected, and their restoration is promoted, except where:

- (a) or
- (b) *the regional council is satisfied that:*
 - (i) *the activity is necessary for the purpose of the construction or upgrade of specified infrastructure; and*
 - (ii) *the specified infrastructure will provide significant national or regional benefits; and*
 - (iii) *there is a functional need for the specified infrastructure in that location; and*
 - (iv) *the effects of the activity are managed through applying the effects management hierarchy; or*

There are 25 wetlands within proximity to the Project site, including 15 natural inland wetlands which have the potential to be impacted by the Project. Consideration of the policy tests under Clause 3.22 (b)(ii) to (iv) is therefore required, and provided below.

The activity is necessary for the purpose of the construction or upgrade of specified infrastructure

The Project meets the definition of specified infrastructure within the NPS-FM (as set out in Footnote 26, located in Part 6, Section 6.2.1.1) as a regionally and nationally significant state highway upgrade, and therefore consideration must be given to whether the activities that give rise to the loss of wetland extent and values are necessary for the construction of the Project. These activities are predominantly earthworks and vegetation clearance within and in proximity to natural inland wetlands which directly affect the wetlands. Other activities, such as pavement construction and temporary dewatering, will have indirect effects on wetlands by altering the wetland hydrology or causing habitat fragmentation. These activities are integral to construction and ongoing maintenance and operation of the Project.

The specified infrastructure will provide significant national or regional benefits

The Project has significant national and regional benefits, as described in Part 2, Section 2.5.

There is a functional need for the specified infrastructure in that location

The NPS-FM defines functional need as *'need for a proposal or activity to traverse, locate or operate in a particular environment because the activity can only occur in that environment'*.

There is a functional need for the Project to occupy a corridor between Belfast and Pegasus, in order to achieve the Project's objectives to create an efficient and reliable state highway connection between these points (as described in Part 2, Section 2.4). The location of the corridor is largely fixed by the existing Project designation and the history of the alignment, including consideration of alternatives, is provided in Part 6, Section 6.4.

With regard to wetlands, the Project has sought to avoid these where practical, but as linear transport infrastructure, there is a functional need to traverse these features where they cannot be avoided as part of the corridor between Belfast and Pegasus. As described in the EclA (Volume 3I) adverse effects on some wetlands are unavoidable, including the permanent loss of extent and values.

The effects of the activity are managed through applying the effects management hierarchy

The effects of activities on natural inland wetlands have been managed through applying the effects management hierarchy. The effects management hierarchy (in relation to both natural inland wetlands and rivers) is defined in the NPS-FM as:

"...an approach to managing the adverse effects of an activity on the extent or values of a wetland or river (including cumulative effects and loss of potential value) 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, aquatic offsetting is provided where possible; then*
- (e) if aquatic offsetting of more than minor residual adverse effects is not possible, aquatic compensation is provided; then*
- (f) if aquatic compensation is not appropriate, the activity itself is avoided"*

The Project involves many activities with the potential to directly and indirectly cause adverse effects on the extent and values of natural inland wetlands, most notably earthworks and vegetation clearance within and within proximity to natural inland wetlands.

As previously described, there is a functional need for the Project to traverse wetlands between Belfast and Pegasus, meaning there are very limited opportunities to completely 'avoid' loss of extent and values where wetlands overlap or are in close proximity to the Project Site. As avoidance is not practical, the balance of the effects management hierarchy has been applied.

Measures to minimise effects on wetlands where they cannot be avoided include minimising the extent of physical disturbance to wetland catchments and wetlands themselves, minimising changes to hydrological functioning, and implementation of erosion and sediment controls.

Measures to remedy effects on wetland where they cannot be minimised include reinstating wetland catchments post construction.

The EclA identifies that following measures to avoid, minimise and remedy adverse effects on natural inland wetlands, the residual effects on individual wetlands range from negligible to high, with the permanent loss of 0.67 ha of natural inland wetland extent and habitat values. As outlined in the EclA, moderate or higher residual effects trigger the requirements for offset and compensation under the EclAG framework. The NPS-FM uses different terminology and requires residual effects be offset or compensated where residual adverse effects are more than minor. Despite the differences in terminology, in this case, the residual adverse effects identified in the EclA as moderate or higher are considered to equate to more than minor adverse effects.

Residual adverse effects on natural inland wetlands will be addressed through creation of the southern remnant lake wetland. The EclA identifies that creation of a wetland in this area is sufficient to offset all more

than minor adverse effects on natural inland wetlands and no compensation is required for natural inland wetlands. The EclA further states that creation of the southern remnant lake wetland also has the potential to result in a net gain as the area of wetland creation exceeds that required to offset more than minor adverse effects.

Having regard to the above assessment, the loss of wetland extent and values as a result of the Project meets the policy tests for an exception under Clause 3.22 (b)(i) to (iv) of the NPS-FM.

6.7.2.4 Rivers

Clause 3.24 (1) (and corresponding Policy 2A.4 in the CLWRP) states:

“...The loss of river extent and values is avoided, unless the council is satisfied that:

(a) there is a functional need for the activity in that location; and

(b) the effects of the activity are managed by applying the effects management hierarchy.”

A number of rivers / streams cross the Project Site and the Project has the potential to adversely affect streams temporarily through construction related activities and permanently through the modification of stream habitat and changes to water quality. The EclA identifies the Project will result in the permanent loss of extent and values as a result of culvert installation and stream realignment. Consideration of the policy tests under Clause 3.24 (1) is therefore required, and provided below.

There is a functional need for the activity in that location

As described in relation to natural inland wetlands, there is a functional need for the Project to occupy a corridor between Belfast to Pegasus, and the location of the corridor is largely fixed by the existing Project designation which went through an extensive alternatives assessment as described in Part 6, Section 6.4.

The Project has sought to avoid effects on streams where practical, but as linear transport infrastructure, there is a functional need to traverse these features, between Belfast and Pegasus, where they cannot be avoided.

The effects of the activity are managed by applying the effects management hierarchy

The effects management hierarchy set out in relation to natural inland wetlands above also applies to rivers under the NPS-FM. The EclA sets out those measures which have been undertaken to avoid, minimise and remediate the loss of stream value and extent from stream realignment and culvert installation in Table 6.8. Following these measures, the EclA identifies that there will be very low to high residual effects at some locations due to the permanent loss of stream extent on Taranaki Stream Tributary, and permanent modification of stream habitat for Taranaki Stream, McIntosh Stream and Waihora Stream. In total there will be permanent loss of, or modification to, 428 linear metres of stream extent and habitat values due to stream realignment and culvert designs.

Moderate or higher residual adverse effects will be managed through ecological enhancements (offsets) at McIntosh Drain. The EclA states that, with ecological offsetting at McIntosh Drain, there will be no net loss of stream extent and values. No compensation is required for the loss of stream values or extent.

Having regard to the above assessment, the loss of stream extent and values as a result of the Project meets the policy tests for an exception under Clause 3.24 of the NPS-FM.

Overall the Project is considered to be consistent with the NPS-FM, including the relevant policies and clauses 2.22 and 2.24.

6.7.3 National Policy Statement for Highly Productive Land 2022

The National Policy Statement for Highly Productive Land (**NPS-HPL**) sets out the objective and policies for the management of highly productive land under the RMA. The objective of the NPS-HPL is:

“To protect highly productive land for use in land-based primary production, both now and for future generations.” Highly productive land needs to be recognised, identified, managed, mapped, and prioritised.

Clause 3.4 requires regional councils to map highly productive land, in collaboration with relevant territorial authorities and in consultation with tangata whenua. Clause 3.5 requires regional councils to include maps of

identified highly productive land in regional policy statements, with notification of these maps by October 2025. Territorial authorities must then include these maps in district plans. ECan has mapped highly productive land in the draft Canterbury Regional Policy Statement and this document does not identify any highly productive land within the Project Site. However, development of the draft Canterbury Regional Statement was paused in November 2024, and the document has not been notified so has no legal effect and carries no weight.

Until highly productive land is mapped in an operative regional policy statement, Clause 3.5(7) directs that consent authorities must consider land that is zoned general rural or rural production and is Land Use Capability (**LUC**) classes 1, 2 and 3 as highly productive land (unless the land is identified for future urban development or subject to Council initiated or adopted notified plan change to rezone general rural or rural production land).

The POWDP identifies the following zones within the Project Site:

- Medium Density Residential Zone.
- Rural Lifestyle Zone (applies to the majority of the Project Site).
- Large Format Retail Zone.
- Large Lot Residential Zone.
- Open Space Zone.
- Natural Open Space Zone.
- Special Purpose Zone Kainga Nohoanga.
- Special Purpose Zone Pegasus Resort.

None of these zones (including Rural Lifestyle Zone) constitute general rural or rural production.

The OWDP identifies the following zones within the Project Site:

- Residential 2.
- Business 5.
- Rural (applies to the majority of the Project Site).
- Residential 6.
- Rural Pegasus.

The Rural Zone constitutes general rural and therefore consideration of LUC classes is required to determine whether there is highly productive land within the Project Site, in advance of this being mapped in an operative regional policy statement.

LUC classes 2, 3, 4 and 6 are identified within the Project Site. LUC 2 and 3 land is predominantly located between Lineside Road and the Cam River / Ruataniwha Bridge, and along sections of the bypass alignment from Quarry Lakes to Woodend Beach Road and from Gladstone Road to the Pegasus Interchange.

Those areas of the Project Site that are identified as LUC classes 2 and 3 and are zoned Rural under the OWDP are considered to be highly productive land for the purposes of the NPS-HPL. It is noted the classification of this land as highly productive land will fall away within the OWDP when the POWDP becomes fully operative. An assessment of the Project against the objective and relevant policies of the NPS-HPL is required for the purposes of this application.

The Objective of the NPS-HPL seeks that: *Highly productive land is protected for use in land-based primary production, both now and for future generations.* Similarly Policy 8 seeks that highly productive land is protected from inappropriate use and development. Clause 3.9(2) states that development of highly productive land is inappropriate unless one of the specified exceptions applies. These exceptions include:

- (h) *it is for an activity by a requiring authority in relation to a designation or notice of requirement under the Act...*
- (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 development, operation, or decommissioning of specified infrastructure, including (but not limited to) its construction, maintenance, upgrade, expansion, replacement, or removal:*

The Project is being undertaken by NZTA in relation to a designation. Further, there is a functional and operational need for the Project (which constitutes specified infrastructure under the NPS-HPL⁵²) to be on the highly productive land as it constitutes linear transport infrastructure between defined points (Belfast and Pegasus), within which highly productive land exists and cannot be avoided.

Clause 3.9(3) states that territorial authorities must take measures to ensure that the use and development of 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*
- (b) *avoids if possible, or otherwise mitigates, any actual or potential reverse sensitivity effects on land-based primary production activities from the use or development.*

The Project has been designed to minimise impacts on primary-production activities as far as practicable by closely following the existing SH1 alignment along the four-laning section. Productive land use can continue to operate around and up to the Project Site and is unlikely to be materially affected by construction related activities, given implementation of the broad package of mitigation. Given its nature as a state highway, the Project is unlikely to give rise to any reverse-sensitivity effects on land-based primary-production activities in proximity to the Project Site.

On the basis of the above, the Project is consistent with the NPS-HPL.

6.7.4 National Policy Statement on Urban Development 2020

The National Policy Statement for Urban Development 2020 (**NPS-UD**) seeks to ensure New Zealand's towns and cities are well-functioning urban environments that meet the changing needs of diverse communities. It seeks to remove barriers to development to allow growth 'up' and 'out' in locations that have good access to existing services, public transport networks and infrastructure.

The Resource Management (Enabling Housing Supply and Other Matters) Amendment Act was passed into law on 20 December 2021 (Enabling Housing Act). The Enabling Housing Act amended the RMA by bringing forward and strengthening several aspects of the NPS-UD. Its stated aim is increase housing supply in urban areas where it is needed most by requiring the Medium Density Residential Standards (**MDRS**) to be implemented for specified urban areas in 'Tier 1' high growth areas, to increase housing supply and to enable a wider variety of housing choice.

The NPS-UD identifies WDC as being a 'Tier 1' high-growth local authority. The NPS-UD requires WDC to have sufficient development capacity for housing, business land and available infrastructure to support growth as well as quality liveable urban environments and future development strategies in place. The Project is part of the transport infrastructure required to support and unlock urban growth in the WDC area and wider Canterbury region.

The Project supports planned further growth of Woodend, Ravenswood and Pegasus townships and may enhance public transport use by making the existing SH1 available as a local road. Statistics New Zealand's high-growth scenario forecasts that the population of the Waimakariri District may rise from 66,000 (2023) to 100,000 by 2048⁵³.

Legislative requirements under the NPS-UD and Housing Enabling Act require Tier 1 councils to produce an intensification planning instrument which gives effect to nationally defined intensification requirements. There is a specific requirement for WDC to adopt MDRS in relevant urban zones of the urban environment⁵⁴. This

⁵² Specified infrastructure is defined under the NPS-HPL a meaning any of the following: (a) infrastructure that delivers a service operated by a lifeline utility; (b) infrastructure that is recognised as regionally or nationally significant in a National Policy Statement, New Zealand Coastal Policy Statement, regional policy statement or regional plan; (c) any public flood control, flood protection, or drainage works carried out: (i) by or on behalf of a local authority, including works carried out for the purposes set out in section 133 of the Soil Conservation and Rivers Control Act 1941; or (ii) for the purpose of drainage, by drainage districts under the Land Drainage Act 1908

⁵³ Stats NZ. (2023). 2023 *Census Population Change*. Census Data.

⁵⁴ A relevant urban zone is defined as an urban environment with a population of 5000 people or more, or area that is urban in character but intending to become part of an urban environment, and does not include large residential zones or settlement zones (s2 RMA).

was enacted as Variation 1 to the POWDP in August 2022 (with immediate legal effect) with Medium Density Residential Zones (**MDRZ**) being implemented in Woodend and Pegasus. The POWDP's provisions will enable between 14,000 and 17,000 dwellings to be built over the next 30 years. The OWDP and POWDP (through their objectives and policies) both support provision of necessary transport infrastructure.

Table 6.4 provides a more detailed assessment of the Project against the relevant objectives and policies.

Table 6.4: NPS-UD Objectives and Policy Assessment

Objective/policy	Assessment
<p>Objective 1 <i>New Zealand has well-functioning urban environments that enable all people and communities to provide for their social, economic and cultural wellbeing, and for their health and safety, now and into the future.</i></p>	<p>The Project will support a well-functioning urban environment, improving the connectivity and accessibility between Christchurch and north Canterbury. The Project will provide much safer access to Woodend township with the addition of the Woodend bypass which will direct larger and higher volumes of traffic away from the local community.</p>
<p>Objective 6 <i>Local authority decisions on urban development that affect urban environments are:</i></p> <p><i>integrated with infrastructure planning and funding decisions; and</i></p> <p><i>strategic over the medium term and long term; and</i></p> <p><i>responsive, particularly in relation to proposals that would supply significant development capacity.</i></p>	<p>The Project has been designated in the OWDP since 2015. Therefore, WDC decision making on the urbanisation of wider north Canterbury, including the Woodend township, Ravenswood and Pegasus, has been based on the assumption that the upgrades to SH1 will occur.</p>
<p>Policy 1 <i>Planning decisions contribute to well-functioning urban environments, which are urban environments that, as a minimum:</i></p> <p>...</p> <p><i>(c) have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces, including by way of public or active transport; and....</i></p> <p><i>(f) are resilient to the likely current and future effects of climate change</i></p>	<p>The Project improves accessibility between Christchurch and other parts of the Waimakariri District by providing a safe and efficient state highway. Public transport opportunities will remain along the existing alignment, which connects north Canterbury with Christchurch city and beyond.</p> <p>Allowances for climate change have been included in the detailed design phase. Flood modelling has informed the sizing of culverts, bridges, stream realignments and stormwater storage. The flood modelling has demonstrated that adverse flooding effects are less than minor. Modelling has also enabled an assessment of potential upstream and downstream effects of the Project, meaning the best practicable mitigation options can be integrated</p>
<p>Policy 6 <i>When making planning decisions that affect urban environments, decision-makers have particular regard to the following matters:</i></p> <p><i>...(c) the benefits of urban development that are consistent with well-functioning urban environments (as described in Policy 1)</i></p> <p><i>(d) any relevant contribution that will be made to meeting the requirements of this National Policy Statement to provide or realise development capacity</i></p>	<p>The Project will support and unlock the urban growth of the Woodend township, Ravenswood and Pegasus. To accommodate this growth the introduction of MDRZ's have been incorporated into the POWDP. This enables MDRZ landholders to build up to three levels and three units per site which is more intensive than the original zoning. This has been adopted as part of the Intensification Planning Instrument (IPI) requirements of a Tier 1 local authority under the NPS-UD.</p>
<p>Policy 10 <i>Tier 1, 2, and 3 local authorities:</i></p> <p><i>....(b) engage with providers of development infrastructure and additional infrastructure to achieve integrated land use an infrastructure planning; and</i></p>	<p>WDC is a Tier 1 local authority and has engaged with NZTA over several years to integrate the transport infrastructure provided by the Project. This has helped align the Project with the future transport network and urban development.</p>

Objective/policy	Assessment
(c) engage with the development sector to identify significant opportunities for urban development	

On the above basis, the Project supports the overall purpose and objectives of the NPS-UD and in turn is supported by the objectives and policies of the NPS-UD.

6.7.5 National Policy Statement for Indigenous Biodiversity 2023

NPS-IB provides direction to local authorities to protect, maintain and restore indigenous biodiversity in the terrestrial environment. Indigenous biodiversity is defined in the NPS-IB as “*the living organisms that occur naturally in New Zealand, and the ecological complexes of which they are part, including all forms of indigenous flora, fauna, and fungi, and their habitats*”.

The NPS-IB applies to the terrestrial environment throughout New Zealand and provisions relating to restoration and increasing indigenous vegetation cover extend to include natural inland wetlands (clauses 3.21 and 3.22).

As noted elsewhere in this SAR, the Project’s effects on terrestrial ecology from earthworks, land disturbance and vegetation removal are already largely authorised by the existing Project designation. Therefore, the NPS-IB only needs to be considered with respect to terrestrial ecology within 10 m of water bodies (the regional resource consents sought) and in the additional areas to be included in the Project designation.

Part 2 of the NPS-IB sets out its objectives and policies, with the overarching objective (clause 2.1) being “*to maintain indigenous biodiversity across Aotearoa New Zealand so that there is at least no overall loss in indigenous biodiversity after the commencement date.*” This objective is supported by 17 policies.

Part 3 contains a non-exhaustive list of things that must be done to give effect to the objective and policies, including setting out provisions relating to the identification of Significant Natural Areas (SNAs), the management of adverse effects on SNAs, and the general management of indigenous biodiversity outside SNAs. The NPS-IB defines SNAs as:

- a) *any area that, after the commencement date, is notified or included in a district plan as an SNA following an assessment of the area in accordance with Appendix 1; and*
- b) *any area that, on the commencement date, is already identified in a policy statement or plan as an area of significant indigenous vegetation or significant habitat of indigenous fauna (regardless of how it is described); in which case it remains as an SNA unless or until a suitably qualified ecologist engaged by the relevant local authority determines that it is not an area of significant indigenous vegetation or significant habitat of indigenous fauna.*

Neither the OWDP nor the POWDP identify any SNAs within, or within close proximity to, the Project Site. Nor are there any areas identified within the CRPS as areas of significant indigenous vegetation or significant habitat for indigenous fauna within or within close proximity to the Project site.

Clause 3.16 relates to indigenous biodiversity outside SNAs and requires significant adverse effects from new subdivision, use, or development on indigenous biodiversity to be managed by applying the effects management hierarchy. Where adverse effects are not significant, Clause 3.16 directs that they must be managed to give effect to the objectives and policies of the NPS-IB. As described in the EclA and summarised in Section 6.6.10.2 of this SAR, the Project will not result in significant adverse effects on indigenous biodiversity in the terrestrial environment (within the scope of applications made). Therefore, adverse effects must be managed to give effect to the objectives and policies of the NPS-IB, rather than by applying the effects management hierarchy.

An assessment of the Project against the objective and relevant policies is set out in Table 6.5 below.

Table 6.5: NPS-IB Objectives and Policy Assessment

Objective/policy	Assessment
Clause 2.1 Objective 1 <i>The objective of this National Policy Statement is:</i>	The EclA (Volume 3I) has assessed effects on indigenous biodiversity in the terrestrial environment as it relates to the scope of the approvals sought (within 10 m of water bodies and in the areas sought to be added the designation).

Objective/policy	Assessment
<p>(a) <i>to maintain indigenous biodiversity across Aotearoa New Zealand so that there is at least no overall loss in indigenous biodiversity after the commencement date; and</i></p> <p>(b) <i>to achieve this:</i></p> <p>(i) <i>through recognising the mana of tangata whenua as kaitiaki of indigenous biodiversity; and</i></p> <p>(ii) <i>by recognising people and communities, including landowners, as stewards of indigenous biodiversity; and</i></p> <p>(iii) <i>by protecting and restoring indigenous biodiversity as necessary to achieve the overall maintenance of indigenous biodiversity; and</i></p> <p>(iv) <i>while providing for the social, economic, and cultural wellbeing of people and communities now and in the future.</i></p>	<p>Overall effects can be avoided or minimised to a low to very low level, however, due to residual moderate effects associated with the loss of 0.66 ha of indigenous lizard habitat, compensation in the form of “lizard friendly” enrichment planting and habitat enhancement will be implemented. Overall, there will be no overall loss in indigenous biodiversity in the terrestrial environment.</p> <p>The role of tangata whenua as kaitiaki is addressed below in relation to Policy 2.</p>
<p>Policy 2 <i>Tangata whenua exercise kaitiakitanga for indigenous biodiversity in their rohe, including through:</i></p> <p>(a) <i>managing indigenous biodiversity on their land; and</i></p> <p>(b) <i>identifying and protecting indigenous species, populations and ecosystems that are taonga; and</i></p> <p>(c) <i>actively participating in other decision-making about indigenous biodiversity.</i></p>	<p>NZTA recognises the significance of the cultural landscape that the Project lies within, particularly in regard to indigenous biodiversity. Consultation with Whitiara has helped inform the detailed design of the Project and approaches to protect indigenous biodiversity where possible. The CAG will also provide advice on cultural planting.</p>
<p>Policy 8 <i>The importance of maintaining indigenous biodiversity outside SNAs is recognised and provided for.</i></p>	<p>There are no SNAs identified within the Project Site, and as noted above, indigenous biodiversity will be maintained (no overall loss).</p>
<p>Policy 10 <i>Activities that contribute to New Zealand’s social, economic, cultural, and environmental wellbeing are recognised and provided for as set out in this National Policy Statement.</i></p>	<p>Benefits of the Project and its ability to contribute to New Zealand’s social, economic and cultural and environmental well-being are addressed in Part 2 of this SAR. The Project is capable of providing these benefits whilst appropriately managing adverse effects on indigenous biodiversity.</p>
<p>Policy 14 <i>Increased indigenous vegetation cover is promoted in both urban and nonurban environments.</i></p>	<p>Indigenous vegetation planting is proposed across the Project corridor and at the southern remnant lake wetland.</p>

Appendix 4 of the NPS-IB prescribes the principles of biodiversity compensation for lizards. Compensatory planting for the loss of lizard habitat has adhered to these principles, as described in Appendix H of the ECLA (Volume 3I).

6.7.6 National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011

The requirement for resource consent under the NES-CS is provided in Volume 2H and Part 6, section 6.2.1. In summary resource consent is required for a discretionary activity under clause 11 for disturbing a piece of soil on a piece of land, that is not otherwise a permitted, controlled or restricted discretionary activity.

6.7.7 National Environmental Standard Freshwater 2020

The NES-F is closely related to and implements the objectives and policies of the NPS-FM via regulations requiring resource consents, and associated provisions. The need for resource consent under the NES-F has been assessed in Volume 2H and Part 6, section 6.2.1.1. In summary resource consent is required

under Regulation 45 as a discretionary activity for activities within proximity to natural inland wetlands and Regulation 57 as a discretionary activity for reclamation⁵⁵ of the bed of a river. Resource consent is sought on a precautionary basis under Regulation 71 as a discretionary activity for the placement, use, alteration, extension and reconstruction of culverts.

The Project also includes activities that are permitted under Regulations 46.

Regulation 45 (6) states that a discretionary activity consent under this regulation must not be granted unless the consent authority is satisfied that:

- (a) The specified infrastructure will provide significant national or regional benefits; and
- (b) There is a functional need for the specified infrastructure in that location; and
- (c) The effects management hierarchy has been applied.

These matters are the same as those set out in Clause 3.22 (b)(ii) to (iv) of NPS-FM and have been addressed in section 6.7.2 above. The above assessment demonstrates the Project satisfies all three subclauses and therefore Regulation 45 (6) does not present a barrier to granting consent for activities for the construction of specified infrastructure within proximity to natural inland wetlands.

6.7.8 National Environmental Standards for Sources of Human Drinking Water 2007

The Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007 (**NES-DW**) aims to reduce the risk of contamination of drinking water sources by requiring regional councils to consider the effects of certain activities on drinking water sources when granting water permits or discharge permits.

There are six community Drinking Water Protection Zones (cDWPZ) within the Project Site, with resource consents to take water from these supply points held by WDC. Four cDWPZs extend over the Project Site in proximity to the Kaiapoi River Bridge / Lineside Road Interchange, with these wells predominantly providing water for the Rangiora township public water supply⁵⁶. There are also two cDWPZs which extend over the Project Site at Gladstone Road, with resource consents held by WDC and water used for the Woodend township public water supply.

As outlined in the Hydrogeology Assessment (Volume 3K) and Ground Contaminated Investigation (Volume 3F), these wells have deep water sources, taking water from very deep confined aquifers. Due to the depth of abstraction and the position of the wells in relation to the Project, water sourced from the bores and the bores themselves will not be affected by the Project.

On this basis, the Project is consistent with the NES-DW.

6.7.9 Measurement and Reporting of Water Takes Regulations

The Resource Management (Measurement and Reporting of Water Takes) Amendment Regulations 2010 (as amended in 2020) apply to holders of water permits which allow freshwater to be taken at a rate of 5 l/s or more.

The substantive application seeks resource consent to take and use water for construction purposes. As the rate of take will exceed a rate of 5 l/s the applicant is required to:

- Keep records that provide a continuous measurement of the water taken under a water permit, including water taken in excess of what the permit allows (Regulation 6).
- Electronically submit water use records to daily (Regulation 7A).
- Have a suitably qualified person verify that the device or system that keeps records for a water permit is accurate (Regulation 7).

⁵⁵ Reclamation means the manmade formation of permanent dry land by the positioning of material into or onto any part of a waterbody, bed of a lake or river or the coastal marine area, and: (a) includes the construction of any causeway; but (b) excludes the construction of natural hazard protection structures such as seawalls, breakwaters or groynes except where the purpose of those structures is to form dry land.

⁵⁶ As outlined in the Hydrogeology Assessment (Volume 3K. Section 4.6.2)

The proposed water take for construction purposes will be consistent with the requirements of these regulations.

6.7.10 Regional and district planning documents

An assessment of the relevant objectives and policies of the relevant regional and district planning documents is included in Volume 2G of the SAR, with a brief summary of the scope of these documents is provided below for brevity. Overall, the Project is consistent with these documents.

6.7.10.1 Canterbury Regional Policy Statement

The Canterbury Regional Policy Statement (CRPS) provides an overview of the significant resource management issues facing the region and contains the objectives, policies and methods to resolve the resource management issues and achieve integrated management of Canterbury’s natural and physical resources. As the CRPS became operative ahead of the CLWRP, it can be assumed that the CLWRP was prepared to give effect to the CRPS.

6.7.10.2 Canterbury Land and Water Regional Plan

The purpose of the CLWRP is to identify the resource management outcomes or goals (objectives in the Plan) for managing land and water resources in Canterbury to achieve the purpose of the RMA. The CLWRP includes objectives and policies to address issues of use, development and protection of land resources, and freshwater resources, including the beds and margins of water bodies.

6.7.10.3 Canterbury Air Regional Plan

The CARP manages discharges to air in the Canterbury Region in the best practicable manner. The principal purpose of the CARP is to maintain air quality, where it provides for cultural wellbeing and health of the people in a manner which also recognises the significant contribution of industrial and trade activities that discharge to air.

6.7.10.4 Operative and Partially Operative Waimakariri District Plan

The OWDP and the POWDP set out a framework for the integrated and sustainable management of natural and physical resources in the Waimakariri District. Both district plans achieve this by setting out rules for how the district land can be used, developed and subdivided.

6.7.11 Mahaanui Iwi Management Plan

The Mahaanui Iwi Management Plan (MIMP) is an expression of kaitiakitanga and rangatiratanga. The plan incorporates the collective efforts of the six Papatipu Rūnanga, which represent the hapū who hold mana whenua over the lands and waters within the takiwā from the Hurunui River to the Hakatere River and inland to Kā Tiritiri o Te Moana. The MIMP contains objectives and policies on matters of importance to Ngāi Tūāhuriri Rūnanga.

As outlined in the Statement of Cultural Values, Interests and Priorities (Volume 1E), Whitorā have identified objectives and policies it considers most relevant to the Substantive Application. The remainder of section 6.7.11 has been taken directly from this statement (changes for formatting consistency but no additions/alterations or amendments to text).

6.7.11.1 Wai Māori

Table 6.6 provides an assessment against the relevant Wai Māori provisions.

Table 6.6: Mahaanui Iwi Management Plan Objectives and Policy Assessment (Wai Māori)

Objective/Policy	Comment
<p>Overall Objectives for Wai Māori</p> <p>1 Water management effectively provides for the taonga status of water, the Treaty partner status of Ngāi Tahu, the importance of water to cultural well-</p>	<p>The technical reports that have informed the design of the <i>Woodend By-pass Project</i> and the Substantive Application reflect an intent to treat and manage stormwater, road run-</p>

Objective/Policy	Comment
being, and the specific rights and interests of tāngata whenua in water.	off, floodwaters and interaction with groundwater to best practice industry standards.
3 Water and land are managed as interrelated resources embracing the practice of Ki Uta Ki Tai, which recognises the connection between land, groundwater, surface water and coastal waters.	Whitiora expects that the proposed design and treatment of all water management will be the subject of conditions that include monitoring and adaptive management as needed, to ensure the best outcome for waterways.
6 Wetlands and waipuna are recognised and protected as wāhi taonga, and there is an overall net gain of wetlands in the takiwā as wetlands are restored.	Technical reports indicate a permanent loss of wetlands and possible hydrological changes to others. The <i>Woodend Bypass Project</i> does not therefore meet policy expectations. In this context the proposal for compensation and off-setting of effects on wetlands is supported and should be reflected in conditions.
7 All waterways have healthy, functioning riparian zones and are protected from inappropriate activities, including stock access.	Whitiora supports the riparian planting and restoration proposed in the Substantive Application, particularly in relation to the Taranaki Stream, the tributary to the Taranaki Stream, Waihora Stream and McIntosh Drain.
<p>Discharges WM6.11</p> <p>Consented discharge to land activities must be subject to appropriate consent conditions to protect ground and surface water, including but not limited to:</p> <p>(b) Set backs or buffers from waterways, wetlands and springs;</p> <p>(c) Use of native plant species to absorb and filter contaminants, including riparian and wetland establishment and the use of planted swales; and</p> <p>(d) Monitoring requirements to enable assessment of the effects of the activity.</p>	<p>The Substantive Application proposes to treat and convey stormwater and road runoff through a complex of swales, cut-off drains, planted biofiltration and bioretention swales and basins.</p> <p>It is noted that the current State Highway has limited treatment of road run-off.</p> <p>The proposed stormwater and run-off management methodologies are supported and Whitiora expects that these methods will be the subject of conditions of consent and monitored throughout construction and operation.</p>
<p>Controls on land use activities to protect water quality WM6.17</p> <p>To require the development of stringent and enforceable controls on the following activities given the risk to water quality:</p> <p>(b) Subdivision and development adjacent to waterways;</p> <p>(d) Activities in the bed and margins of waterways....</p>	
<p>Environmental Infrastructure WM6.19</p> <p>To promote the restoration of wetlands and riparian areas as part of maintaining and improving water quality, due to the natural pollution abatement (treatment) functions of these taonga.</p>	<p>The Substantive Application includes off-setting for the loss of wetlands. The creation of new wetland habitat is supported and positively contributes to the policy of restoring wetlands. Additionally, the use of biofiltration and bioretention basins and swales align with this policy to improve water quality.</p>
<p>Water Quantity WM8.2 (g) and (j)</p> <p>(g) There is sufficient water to sustain the wetlands and waipuna associated with waterways.</p> <p>(j) Flows are consistent with protecting and enhancing mahinga kai and indigenous biodiversity values;</p>	<p>The construction methodology proposes to maintain flow in waterbodies throughout construction, including the return of dewatering water and the installation of culverts offline before connection. These steps will accord with policy WM8.2(g).</p> <p>There are however potential indirect impacts on up to five wetlands due to changes to wetland hydrology and habitat fragmentation. In this context Whitiora supports the proposed off-setting of residual effects with the creation of new wetland habitat. Whitiora expects that conditions of consent will ensure the new wetlands are implemented.</p>

Objective/Policy	Comment
<p>Riparian areas WM12.2</p> <p>To require the protection and restoration of native riparian vegetation along waterways and lakes in the takiwā as a matter of priority..</p>	<p>Acknowledging that the existing native habitat within the designation is already moderately to highly degraded, Whitiara supports the proposed offset-compensation actions proposed. These include fencing, planting with indigenous species within the constructed wetlands, and planting the riparian margins of streams. These actions will accord with policy WM12.2.</p>
<p>Structures in the beds and margins of waterways WM12.13</p> <p>To require that any structure, essential or otherwise, in the bed or margin of a waterway (e.g. floodgate) supports and enables passage for migratory indigenous fish species and does not compromise any associated kōhanga.</p>	<p>The Ecological Impact Assessment identifies that modification to stream geomorphology including culverting has the potential to impact fish passage and migration success. These effects are to be managed through fish salvage and relocation and requiring/ensuring fish passage through culvert design. This mitigation would align with Policy WM12.13 and Whitiara expects that conditions of consent will ensure that these mitigations are implemented along with monitoring before, during and after construction.</p>
<p>Wetlands, Waipuna and Riparian Margins WM13.1, WM13.3, WM13.5 and WM13.7</p> <p>To recognise and protect all wetlands, waipuna and riparian areas as wāhi taonga that provide important cultural and environment benefits,</p> <p>To support the establishment, enhancement and restoration of wetlands, riparian areas and waipuna as a measure to avoid, remedy or mitigate any actual or potential adverse effects of land use and development activities on cultural and environmental values.</p> <p>To advocate, where appropriate, for the creation of wetland areas to assist with the management of onsite/site sourced stormwater and other wastewater, to utilise the natural capacity of these ecosystems to filter contaminants. These wetlands must be constructed wetlands;</p> <p>To recognise the protection, establishment and enhancement of riparian areas along waterways and lakes as a matter of regional importance, and a priority for Ngāi Tahu.</p>	<p>The <i>Woodend By-pass Project</i> will result in the permanent loss of wetlands – failing to meet policy expectations that wetlands and their riparian margins are protected.</p> <p>The off-setting of wetland loss with the creation of new wetlands is considered necessary and is supported.</p>

6.7.11.2 Papatūānuku – Earthworks

Table 6.7 provides an assessment against the relevant Papatūānuku provisions.

Table 6.7: Mahaanui Iwi Management Plan Objectives and Policy Assessment (Papatūānuku)

Objective/Policy	Comment
<p>Avoiding damage and destruction of sites of significance. Avoid or minimise erosion and sedimentation. P11.1</p> <p>To assess proposals for earthworks with particular regard to:</p> <p>Potential effects on wāhi tapu and wāhi taonga, known and unknown;</p> <p>Potential effects on waterways, wetlands and waipuna;</p> <p>Potential effects on indigenous biodiversity;</p>	<p>The proposed construction will result in damage and destruction within an area identified with multiple significant cultural landscapes and sites of significance. This includes archaeological sites (known and unknown), waterways and wetlands.</p> <p>In some circumstances this is expected to be a complete loss, which cannot be mitigated or avoided. Accordingly, the <i>Woodend By-pass Project</i> fails to meet policy expectation.</p> <p>All measures to avoid known archaeological sites and wetlands, if possible, are supported.</p> <p>Effects on waterways and indigenous biodiversity are expected to be managed through erosion and sediment</p>

Objective/Policy	Comment
Proposed erosion and sediment control measures;	control and requirements for restoration planting with the use of indigenous species. These mitigations would fulfil Policy P11.1.
<p>Indigenous Vegetation P11.8</p> <p>To require the planting of indigenous vegetation as an appropriate mitigation measure for adverse impacts that may be associated earthworks activity.</p>	<p>The Ecological Impact Assessment recommends that the loss of indigenous fauna habitat is mitigated through the implementation of enrichment planting for lizard habitat, compensation in the form of wetland restoration planting (to be maintained for 10 to 15 years and protected in perpetuity), and restoration of riparian habitats.</p> <p>Whitiora expects that these measures will be subject to conditions of consent and implementation through the proposed Ecological Management Plan.</p>
<p>P16.3</p> <p>To assess the potential risk of transport related proposals (at any stage) on tāngata whenua values on the basis of the following:</p> <p><i>Sites of significance</i> - proximity to sites of cultural significance, including marae, wāhi tapu, silent files and archaeological sites;</p> <p><i>Protection of waterways</i> - what measures are proposed to avoid the modification of waterways, the discharge of contaminants and sediment to water?</p> <p><i>Indigenous biodiversity</i> - what are the potential effects on existing indigenous biodiversity and what are the opportunities to enhance indigenous biodiversity values?</p>	<p>The <i>Woodend By-pass Project</i> has a significant effect on sites of significance – representing a permanent intrusion into wāhi tapu/Silent Files between the Waimakariri and Rakahuri awas (Ashley River).</p> <p>Modifications to culturally significant waterways identified as Ngā Wai are proposed. This includes realignment and the installation of culverts.</p> <p>As noted above, proposed measures for management of stormwater and discharges are supported; along with the proposed mitigation, compensation and off-setting measures for ecological effects and effects on wetlands.</p> <p>Accordingly, there is a partial fulfilment of the policy. Otherwise the <i>Woodend By-pass Project</i> impact on the cultural landscape is significant.</p>

6.7.11.3 The Rakahuri and Waimakariri Catchment

The *Woodend By-pass Project* passes through both the Rakahuri [Ashley] and Waimakariri Catchments as defined in the MIMP. These two catchments have their own Chapters with objectives and policies. Many of these duplicate the intent and outcome prescribed in the policies above, particularly in relation to the management of waterbodies and ecological restoration.

Both chapters provide further specificity with respect to the coastal lowland region from the Rakahuri to the Waimakariri which is described as “a cultural landscape of immense importance”. In policy WAI5.157 reference is made to the “significant historical, traditional, cultural and contemporary associations” of this area.

Within the Rakahuri catchment the cultural health of the Taranaki stream is identified as a matter of priority, with a vision to return the waterway to its original shape and swampy character⁵⁸. This is emphasised through specific policies (R1.6 and R1.7) which describe re-naturalisation of the stream and the actions that should be taken.

Policy R2.159 concerns water quantity in the Rakahuri catchment. It describes the need for water flows within tributaries to restore cultural health, not merely to maintain an existing condition.

Policy R3.1 highlights “the importance of wetland and swamp areas in the Rakahuri” for mahinga kai and wāhi tapu values while Policy R3.2 is concerned with the loss of existing wetlands and Policy R4.1(f) seeks to protect waipuna (springs) from inappropriate use and degradation⁶⁰.

⁵⁷ Mahaanui Iwi Management Plan, page 219

⁵⁸ Mahaanui Iwi Management Plan, Chapter 6.3 Rakahuri, Objectives 3 and 4

⁵⁹ Mahaanui Iwi Management Plan, page 205

⁶⁰ Mahaanui Iwi Management Plan, page 207

As described in policy WAI5.261 – the intent of these two chapters is to work towards restoring the cultural and physical connectivity of the coastal lowland areas of the Waimakariri and Rakahuri rivers, and therefore the cultural landscape values of this important area.

6.7.11.4 Cultural Landscapes

The MIMP contains a suite of objectives relating to the recognition and protection of cultural landscapes. Whitiara acknowledges that the Designation has already confirmed the alignment of the *Woodend By-pass Project* through these landscapes, but it is worth noting there are two policies which indicate the nature of appropriate mitigations for effects on cultural landscapes. These are described further below.

Table 6.8: Mahaanui Iwi Management Plan Objectives and Policy Assessment (Cultural Landscapes)

Objective/Policy	Comment
<p>Objective 1: Cultural landscapes are recognised and provided for as a planning tool to protect wāhi tapu and wāhi taonga, the multiple values associated with these sites and places (traditional and contemporary), and the relationship of tāngata whenua to them.</p> <p>Objective 3: Wāhi tapu and wāhi taonga are protected from inappropriate use, subdivision and development.</p>	<p>The <i>Woodend By-pass Project</i> does not fulfil these objectives and will result in the loss and/or diminishment of the values within the cultural landscapes as defined in the Partially Operative District Plan. These are permanent and unmitigated effects.</p>

Policies CL1.8 and CL1.9 in the MIMP do give some direction on appropriate mitigation to effects on cultural landscapes. These include:

- Restoration/enhancement of indigenous biodiversity;
- Enhancing views and connections to landscape features;
- Appropriate and mandated historical interpretation;
- Use of traditional materials, design elements and artwork;
- Incorporating Ngāi Tahu heritage values into landscape and urban design, through the use traditional place names, interpretation, artwork and public structures.

Whitiara acknowledges that the *Woodend By-pass Project* includes opportunity for Ngāi Tūāhuriri, through its Cultural Advisory Group, to work with NZTA on landscape treatments, interpretation and artwork as anticipated by these policies.

6.7.11.5 Archaeological Authority

The construction of the Woodend By-pass Project is anticipated to directly impact on, and cause damage or loss of archaeological sites.

Whitiara confirms it has had an active role in the preparation of the Archaeological and Cultural Site Management Plan, ensuring that it has appropriate protocols for monitoring, accidental discovery and recording of impacted sites.

Whitiara notes policy CL3.5 of the MIMP. This requires “that existing registered NZAA sites are recognised and provided for as indicator sites only, reflecting a larger network of Ngāi Tahu cultural heritage values. Any development of area adjacent to a NZAA site must be considered and monitored for potential effects on unknown additional sites”. Whitiara acknowledges the Heritage and Archaeology Assessment has provided a comprehensive description of the locality and likely potential for archaeological finds beyond known sites.

Having regard to the extent and significance of the cultural landscape between the Waimakariri and the Rakahuri Rivers, Whitiara expects that requirements for cultural monitoring of earthworks will be enabled across the whole designation.

6.7.12 Ngāi Tahu Freshwater Policy Statement

The Statement of Cultural Values, Interests and Priorities (Volume 1E) includes an assessment of the Project against the relevant objectives of the Ngāi Tahu Freshwater Policy Statement. The remainder of section

⁶¹ Mahaanui Iwi Management Plan, page 219

6.7.12 has been taken directly from this statement (changes for formatting consistency but no additions/alterations or amendment to text).

The Ngāi Tahu Freshwater Policy 1999 is a formal policy document relating to freshwater. Despite the age of the Policy document, the fundamental basis of its content, including objectives and policies remain relevant, being founded on values that have not changed with time.

The Policy document records that water is a taonga, essential to provide for and sustain life. It describes how the degraded state of many waterways has adversely impacted the health and wellbeing of those waterways, and the ability of Ngāi Tahu to access life sustaining resources. This has eroded Ngāi Tahu’s relationship with the waters of its rohe.

It is noted that the severity and rate of degradation of waterbodies within Waitaha/Canterbury have accelerated and worsened since 1999. The objectives and policies therefore remain not only relevant, but also more compelling in relation to the further loss or modification of water bodies within the Woodend Bypass Project designation.

Relevant guidance from the Freshwater Policy⁶² can be taken from the following objectives:

Table 6.9: Ngāi Tahu Freshwater Policy Statement Objectives and Policy Assessment

Objective/Policy	Comment
<p>Objective Wāhi Tapu</p> <p>To afford total protection to waters that are of particular spiritual significance to Ngāi Tahu.</p>	<p>The designation crosses several Ngā Wai – being waterbodies of particular spiritual significance. Activities to be authorised by the Fast track application will include construction and earthworks within and adjacent to these waterways, as well permanent channel realignment and culverting. The objective to protect waterbodies of high cultural significance is therefore unable to be achieved. The Substantive Application proposes mitigation and off-setting of the effects on waterways. These mitigations and off-setting are supported.</p>
<p>Objective Mauri</p> <p>Restore, maintain and protect the mauri of freshwater resources.</p> <p>Policy</p> <p>Accord priority to ensuring the availability of sufficient quantities of water of appropriate water quality to maintain and protect the mauri of a waterbody, in particular priority is to be accorded when developing water allocation regimes.</p>	<p>The construction methodology proposes to maintain flow in waterbodies throughout construction, including the return of dewatering water and the installation of culverts offline before connection. Erosion and sediment controls are also proposed.</p> <p>The Substantive Application also proposes to treat and convey stormwater and road runoff through a complex of swales, planted biofiltration and bioretention swales and basins.</p> <p>It is noted that the existing State Highway has limited treatment of road run-off.</p> <p>The proposed methodology for managing stormwater and road run-off are supported and Whitiōra expects that best practice methods will be the subject of conditions of consent and monitored throughout construction and operation.</p> <p>Additionally, Whitiōra requests that the Erosion and Sediment Control Management Plan include a protocol for Ngāi Tūāhuriri Rūnanga to raise issues relating to water quality or water quantity in impacted waterways.</p>
<p>Objective Mahinga Kai</p> <p>To maintain vital, healthy mahinga kai populations and habitats capable of sustaining harvesting activity.</p>	<p>The construction and operation of the <i>Woodend Bypass Project</i> will adversely affect waterways and their riparian margins, and as a consequence also affect mahinga kai. The conditions proposed for an</p>

⁶² Page 27, Section 5.0 Ngāi Tahu Freshwater Policy

Objective/Policy	Comment
	Ecological Management Plan and requirements for indigenous planting, pest plant and animal management, fish recovery and passage; along with particular provisions for offsetting and compensation for residual ecology effects - will positively contribute to restoration of habitats and species important for mahinga kai. These conditions are supported.

6.7.13 Part 2 of the RMA

When taking into account the provisions of Part 2 of the RMA, Schedule 5, Clause 17(2)(a) specifies that a reference to Part 2 must be read as a reference to sections 5, 6 and 7 of the RMA. As set out in the sections below, the Project is considered to be consistent with the purpose and relevant principles of the RMA.

6.7.13.1 Section 5 (purpose)

The purpose of the RMA is stated in section 5(1) as being “to promote the sustainable management of natural and physical resources”. Sustainable management is defined in section 5(2). The Project is considered consistent with the overall purpose of the RMA, for the reasons summarised below:

- The Project will strengthen local communities, particularly Woodend, Ravenswood and Pegasus, to help foster a more connected environment with improved accessibility, and will assist in unlocking further development in these communities (enabling people to provide for their social, economic and cultural wellbeing).
- In regard to the rapid population growth these communities are facing, the Project will provide an efficient and reliable alignment so that commuters can reach essential services in Christchurch City more safely and quickly (providing for health and safety).
- The Project will contribute to a nationally and regionally significant infrastructure asset (a physical resource), helping to enhance regional freight efficiency and connectivity to accommodate output growth.
- Economic well-being will be enhanced with an estimated \$320 million over a seven-year period injected into the Canterbury economy (economic wellbeing).
- Health and safety wellbeing is prioritised, whereby the Project is estimated to reduce vehicle-related deaths and serious injuries from 5.6 per year to 1.25 (providing for health and safety).
- The Project is urgently needed to relieve traffic congestion experienced along the current SH1 alignment which has led to serious safety concerns and poor connectivity (meeting the needs of future generations).
- A range of technical experts have been engaged to address any adverse effects the Project may have on air, water, soil and ecosystems; their expertise has informed a range of proposed procedures and mitigation methods, which are addressed by proposed conditions on the approvals sought (safeguarding life-supporting capacity, and avoiding, remedying, or mitigating adverse effects on the environment).

6.7.13.2 Section 6 (matters of national importance)

Matters of national importance, to be recognised and provided for, are set out in section 6 of the RMA. The following matters are of particular relevance to the Project:

- Effects on wetlands and rivers have been managed in accordance with the effects management hierarchy as set out in the NPS-FM, and measures to avoid, minimise and remediate ecological effects, and ecological offsetting (and compensation) is proposed within the EclA (Volume 3I) (s6(a)).
- There are no outstanding natural landscapes and features affected by the Project (s6(b)).
- The Project does not affect mapped significant natural areas and effects on areas of indigenous vegetation and habitats of indigenous fauna are appropriately managed (s6(c)).

- Bridges within the Project have been designed to not preclude public access along the rivers within the Project Site (s6(d)).
- The relationship of Māori and their culture and traditions has been provided for through early and regular engagement on the Project, cultural monitoring of early works, the joint development of an Archaeological and Cultural Site Management Plan and the formation of a CAG to provide advice on indigenous planting, art installation, and naming (s 6(c), (e) and (g)).
- Effects on historic heritage (except for archaeological sites) are already authorised by the existing Designation. Avoidance of all archaeological sites is not feasible due to design and designation constraints, however archaeological authorities have been sought, and effects on archaeology will be managed in accordance with the archaeological authorities (s 6(f)).
- Risks from natural hazards are managed through the design, by: incorporating hydraulic modelling into the design and sizing of culverts, bridges, stream realignments and stormwater infrastructure based on flood modelling, with allowances for climate change; design of bridge and major culverts in accordance with the Project's seismic resilience philosophy (s 6(h)).

6.7.13.3 Section 7 (other matters)

Other matters to which particular regard must be had are set out in section 7 of the RMA. The following matters are of particular relevance to the Project:

- Kaitiakitanga and the ethic of stewardship have been recognised through NZTA's engagement with Ngāi Tūāhuriri Runanga via Whitiōra as described in Part 5 above (s 7(a) & (aa)).
- The Project will improve the safety of the state highway network and contribute to more efficient use and development of the network, as a physical resource (s 7(b)).
- The Project provides for the maintenance and enhancement of amenity values through substantial landscape and ecological planting, including wetland creation and stream restoration (s 7(c)).
- The Project has considered the intrinsic value of the ecosystems within which the Project Site sits, recognising that these ecosystems have been highly modified by human activities (s 7(d)).
- The quality of the State highway network (a part of the environment) will be maintained and enhanced as a result of the Project (s 7(f)).
- Effects of climate change have been considered through the Project's design, particularly in relation to hydraulic and flood modelling to inform sizing of structures and address potential flood impacts (s 7 (i)).

6.7.14 Statutory considerations relevant to resource consents

Part 6 of the RMA relates to resource consents. Of particular relevance to the substantive application are sections 104, 104B, 104G, 105 and 107 of the RMA.

These matters under s 104(1) are addressed in the following locations of this SAR:

- Part 6, Section 6.6 - actual and potential effects on the environment.
- Part 6, Section 6.6.9.4 - measures proposed to ensure positive effects to offset or compensate for any adverse effects on the environment.
- Part 6, Section 6.7 - relevant provisions of national environmental standards, policy statements, regional policy statements, plans and proposed plans.

Section 104(2) of the RMA allows consent authorities to disregard adverse effects of an activity if a national environmental standard or plan permits an activity with those effects. NZTA is not relying on a permitted baseline to support this substantive application, but does intend to rely on permitted activity rules to authorise components of the Project as described in Section 6.2.1

The remaining sections of the RMA are addressed below.

6.7.14.1 Section 104B (determination of applications for discretionary activities)

The overall status of the resource consent applications being made is a discretionary activity. Section 104B states that when considering an application for a discretionary (or non-complying) activity, the panel may

grant or refuse the application and if it grants the application, impose conditions under s108. The resource consent conditions proposed (contained in Volume 2D) are considered appropriate to avoid, remedy or mitigate the adverse effects of the Project on the environment.

6.7.14.2 Section 104G (consideration of activities affecting drinking water supply source water)

There are six Community Drinking Water Protection Zones within the Project designation. The Hydrogeology Assessment (Volume 3K) and Ground Contamination Investigation (Volume 3F) have concluded that these bores or wells will not be affected by the Project.

6.7.14.3 Section 105 (matters relevant to discharge permits)

Section 105 requires a consent authority processing a discharge permit application to have regard to additional considerations of:

- (a) *the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and*
- (b) *the applicant's reasons for the proposed choice; and*
- (c) *any possible alternative methods of discharge, including discharge into any other receiving environment.*

Construction phase discharges

The Project involves the following types of discharges during the construction phase:

- Discharge of construction phase stormwater to land and surface water.
- Discharge of dewatering water, including water treatment chemicals, to land and surface water.
- Discharge of cement and concrete grout to land (ground improvements).
- Discharge⁶³ of soil with above background concentration of contaminants to land (re-use of site won fill).
- Discharge⁶⁴ of cleanfill to quarry lakes (to form southern remnant lake wetland).
- Discharge of dust to air.

The nature of the above discharges has been described in Part 3 of this SAR and the sensitivity of the receiving environment has been described in Part 4 of this SAR. Where practical, alternative methods of discharge have been considered, as described below.

Construction stormwater discharges are unavoidable during earthworks of this scale, while dewatering discharges will occur at a much lesser extent, limited to when groundwater is encountered and a dry working environment is necessary (largely restricted to excavation for large culverts). Stormwater and dewatering water discharges are well understood and will be managed (including treatment) in accordance with approaches to be detailed in the ESCMP and GMP. The receiving environment for these discharges is the Project Site itself (largely existing road corridor or highly modified agricultural land) and the watercourses which intercept the Project Site, to which there is no practical alternative. However, neither construction stormwater nor dewatering water will be discharged directly to a natural inland wetland.

Dust discharges will be minimised through proactive dust control measures in accordance with the CAQMP, including setbacks for dust-generating activities from sensitive receptors (where practical) and dust suppression. Any dust emissions will be limited to those that occur despite these controls, and because residual dust can only disperse into ambient air there is no practical alternative receiving environment.

Various ground improvement methods will be implemented across the Project, with the specific technique selected according to localised ground conditions and the structural requirements of the works. While some methods may involve minor cementitious or grout discharges, these techniques represent the most appropriate engineering solutions for their respective locations.

⁶³ ECan commonly treats the reuse of site-won fill with above background concentrations of contaminants as a discharge.

⁶⁴ ECan may consider the placement of cleanfill material directly to a waterbody constitutes a discharge.

Re-use of site won fill may constitute a discharge where the material contains above background levels of contaminants. Any reuse of soils will be undertaken in accordance with a Contaminated Sites Management Plan and will only occur where it meets the contaminant thresholds specified in the resource consent conditions, including specific restrictions within 20 m of a watercourse or wetland.

Similarly, the placement of cleanfill to the southern remnant lake at the quarry lakes may constitute a discharge. Various approaches to the southern remnant lake were explored but wetland creation was selected as the preferred method to limit the potential for eutrophication and additionally provide ecological offsetting. This approach requires the controlled placement ('discharge') of cleanfill into part of the lake (the receiving environment) and there are no practical alternative methods or receiving environments to create a wetland at this specific location.

Operational phase discharges

The Project involves the following types of discharges during the operations and maintenance phase:

- Discharge of operational stormwater to land and water.
- Discharge of groundwater intercepted by the inverts of stormwater infrastructure.

Operational and ongoing discharges are limited to stormwater and groundwater intercepted at the base of stormwater infrastructure. The intercepted groundwater cannot be practically separated from groundwater once present within the stormwater system. These discharges are well understood and will be managed using a combination of vegetated swales, bioinfiltration and bioretention basins, infiltration to ground, and treated discharge to watercourses. These methods provide treatment and attenuation prior to release, in accordance with relevant standards and guidelines, and there are no practical alternative receiving environments.

6.7.14.4 Section 107 (restrictions on grant of certain discharge permits)

Section 107(1) restricts the granting of discharge permits in certain circumstances, namely if, after reasonable mixing, the contaminant or water discharged (either by itself or in combination with the same, similar, or other contaminants or water), is likely to give rise to all or any of the following effects in the receiving waters:

- (c) *The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;*
- (d) *Any conspicuous change in the colour or visual clarity;*
- (e) *Any emission of objectionable odour;*
- (f) *The rendering of fresh water unsuitable for consumption by farm animals;*
- (g) *Any significant adverse effects on aquatic life.*

Unless it is satisfied (s107(2)):

- (a) *that exceptional circumstances justify the granting of the permit; or*
- (b) *that the discharge is of a temporary nature; or*
- (c) *that the discharge is associated with necessary maintenance work—*

and that it is consistent with the purpose of the RMA to do so.

No discharges will give rise to the effects set out in section 107(1)(c) and (e) to (g). Construction related discharges of stormwater, dewatering water and cleanfill material to the southern remnant lake have the potential to give rise to the effects specified in s107(1)(d), being conspicuous changes in the colour or visual clarity of receiving waters. These discharges will be managed in accordance with the resource consent conditions, including the suite of management plans, and any conspicuous changes in the colour or visual clarity of receiving waters will be temporary in nature and will not occur within a natural inland wetland (the resource consent conditions propose that construction phase stormwater and dewatering water shall not discharge directly to natural inland wetlands).

As any conspicuous change in colour or visual clarity in the receiving environment will be temporary in nature it satisfies s107(2)(b). Section 107 therefore does not preclude granting a discharge permit for these activities.

6.7.15 Statutory considerations relevant to designations

Part 8 of the RMA relates to designations and heritage orders. Of particular relevance to the substantive application are the provisions of s181 and s171(1). These matters are addressed in the following locations of this SAR:

- Part 6, Section 6.6 - the effects on the environment of allowing the alteration.
- Part 6, Section 6.7 - relevant provisions of national environmental standards, policy statements, regional policy statements, plans and proposed plans.
- Part 6, Section 6.4 - consideration of alternative sites, routes or methods for undertaking the work.
- Part 6, Section 6.3.2 - whether the work and designation are reasonably necessary for achieving the objectives of NZTA.
- Part 6, Section 2.2– Other matters that a territorial authority would consider reasonably necessary to make a recommendation on the requirement.

6.7.16 Statutory considerations relevant to reclamation

The Project includes the permanent channel realignment and/or culverting of portions of the Waihora Stream, Taranaki Stream, Taranaki Stream Tributary and McIntosh Drain. This involves reclamation of the abandoned portion of these watercourses.

Under section 105(2) of the RMA, if an application is for a resource consent for a reclamation, the consent authority must, in addition to the matters in section 104(1), consider whether an esplanade reserve or esplanade strip is appropriate and, if so, impose a condition under section 108(2)(g) on the resource consent.

Schedule 5, Clause 8(2) also requires that a consent application for a reclamation to provide information on the area to be reclaimed, including its location, new boundaries (if practicable) and any part of the reclaimed area to be set aside as an esplanade reserve or esplanade strip.

In the case of this Project, the areas to be reclaimed are small sections of streams that will be abandoned where the channels are realigned (see section 3.3.5 of this SAR) to allow construction, as shown on the General Arrangement Drawings in Volume 4A. As the reclamation is a result of realigning streams within the same land parcels and does not involve subdivision or creation of any new land parcels, the establishment of esplanade reserves or esplanade strips is not considered necessary or appropriate. The reclamation will not affect existing public access, nor will it create new opportunities for public access.

6.8 Summary

This substantive application under the FTAA seeks approval for resource consents and an alteration to an existing designation that would otherwise be applied for / lodged under the RMA. When considering applications for resource consent and notices of requirement, the FTAA directs a panel to take into account the purpose of the FTAA, relevant provisions of the RMA, and any other legislation that directs decision making under the RMA. The greatest weight must be given to the purpose of the FTAA.

The purpose of the FTAA is to *'facilitate the delivery of infrastructure and development projects with significant regional or national benefits.'* As described in Part 2, the Project is a nationally significant SH1 upgrade that will deliver enduring national and regional transport, economic, safety, community and environmental benefits, and is therefore consistent with the purposes of the FTAA.

The relevant provisions of the RMA have been addressed throughout Part 6 above. The following key matters are summarised here:

- A comprehensive suite of conditions and management plans have been proposed, informed by pre-lodgement consultation.
- An alteration to the existing designation is considered reasonably necessary for achieving NZTA's objectives.

- NZTA has undertaken a reasonable and proportionate assessment of alternative sites, routes, and methods, meeting the threshold of adequate consideration.
- The Project's actual and potential effects have been comprehensively and conservatively assessed and can be appropriately avoided, remedied, or mitigated (and where necessary for specific ecological effects, offset or compensated).
- The Project is consistent with relevant provisions of national environmental standards, policy statements, regional policy statements, plans and proposed plans.
- The Project accords with the purpose and principles of the RMA.

Having regard to the above, it is considered that granting the resource consents and confirming (with or without modifications) the alteration to the existing designation, is consistent with the purpose of the FTAA.

7. PART 7 – WILDLIFE ACT 1953

7.1 Approval sought

Detailed terrestrial ecological assessments of the Project site have been undertaken to inform this substantive application. Surveys have concluded that Canterbury grass skink (*Oligosoma aff. polychroma* Clade 4, At Risk-Declining) are present within the Project area. Based on the surveys it is unlikely other lizard species are present, but this cannot be ruled out.

NZTA seeks a wildlife approval for the Project, under section 42(4)(h) of the FTAA, to **salvage (catch alive) and relocate lizards** from habitat in the Project area and to **undertake post-release monitoring** in lizard relocation sites for a duration of 20 years, including incidental killing. The approval sought applies to the “Package 2” area of the Project, i.e. that area not already addressed by wildlife approval 119946-FAU (Package 1), as identified in the Wildlife Approval Report in Volume 3J. This report addresses the relevant matters for the Wildlife Approval and these matters are mostly not repeated here to avoid duplication.

7.2 Information requirements

The information required by Schedule 7 Clause 2 of the FTAA is addressed in detail within the report in Volume 3J of this substantive application.

7.3 Assessment

In considering NZTA’s application for a wildlife approval, the panel must take into account (giving the greatest weight to (a)⁶⁵:

- (a) *The purpose of this Act [the FTAA];*
- (b) *The purpose of the Wildlife Act 1953 and the effects of the Project on the protected wildlife [native lizards] that is to be covered by the approval; and*
- (c) *information and requirements relating to the protected wildlife [native lizards] that is to be covered by the approval (including, as the case may be, in the New Zealand Threat Classification System or any relevant international conservation agreement).*

7.3.1 Purpose of the FTAA and the Wildlife Act 1953

Granting the wildlife approval for the Project is consistent with both the purpose of the FTAA and the purpose of the Wildlife Act. The approval will allow the NZTA to undertake the necessary activities to construct and establish the Project (thereby achieving the Project’s significant regional and national benefits, as outlined in Part 2 of this report) while protecting native lizards from harm, primarily through their salvage and relocation prior to vegetation disturbance activities occurring.

The Volume 3J report sets out in detail the proposed methods by which the salvage and relocation activities will occur. By way of summary:

- A lizard salvage and relocation programme has been developed using best practice methodology and techniques, consistent with the Department of Conservation’s Inventory and Monitoring Toolbox.
- The programme will be led and implemented by a suitably qualified and experienced Project Herpetologist, with support from other ecologists with lizard salvage and relocation experience.
- The programme will adopt a two-stage approach: firstly, all lizards will be captured and relocated prior to any vegetation clearance works, and secondly, clearance works will be closely supervised by a Herpetologist to ensure any remaining lizards are salvaged and relocated.
- Two relocation sites have been identified for enhancement (including habitat creation and pest control) to support all relocated lizards: at Barkers Road and Kaiapoi Lakes.

⁶⁵ FTAA Schedule 7 Clause 5

7.3.2 Effects of the Project on native lizards

The proposed activity applicable to this application is to salvage and relocate lizards from suitable habitat identified in the Package 2 area to relocation site/s and monitoring at relocation sites.

Potential risks relating to the activity include:

- Poor capture rates.
- Accidental injury or death of lizards during salvage works and vegetation removal.
- Stress, injury or death during transportation to relocation site/s.
- Disorientation of salvaged lizards after relocation, lack of shelter, increased movement and exposure.
- Vulnerability to weather extremes, temperature fluctuations, and reproductive impacts.
- Competition for resources with resident lizards at relocation site/s.
- Predation at relocation site/s, including in live traps.
- Stress, injury or death during handling required for post-release monitoring.
- Displacement, disturbance, injury or death of lizards unable to be salvaged.

Several methods will be applied to minimise potential adverse effects on lizards during the proposed salvage and relocation programme.

Poor capture rates for lizards during salvage works will be managed by maximising lead in time for pre-clearance salvage, using a flexible range of best practice salvage methods (see Section 10.8 of Volume 3J), and works will be undertaken to minimise lizard stress by appropriately experienced herpetologists. Lizard salvage and relocation activities will occur in optimal weather conditions (section 10.2 of Volume 3J) and transportation and release of lizards will be undertaken in accordance with best-practice methods. A range of measures will be applied to enhance lizard habitat conditions at the relocation site/s to improve the overall quantity and quality of habitat, provide additional refuge and food resources for existing and released lizards (minimising competition), provide greater protection from predators and increase carrying capacity.

Post-release lizard and pest mammal monitoring will be undertaken to determine population persistence, survival of enhancement plantings and pest mammal presence at the lizard relocation site/s.

Any lizards that are unable to be salvaged from lizard habitat within the Project area may disperse into adjacent habitat outside of the Project area. For any lizards detected within the Project area that are unable to be formally salvaged or unable to disperse into adjacent habitat, incidental discovery protocols will be followed.

Harm to lizards will also be avoided and minimised through final design. The report in Volume 3J takes a conservative approach and assumes the quantum of lizard habitat to be removed at approximately 13 ha. Through the remainder of the detailed design process it can be expected the scale of habitat loss will be reduced, and therefore the quantum of lizards requiring salvage and relocation will also be reduced.

7.3.3 Information and requirements relating to the native lizards (including the New Zealand Threat Classification System or any relevant international conservation agreement).

The Volume 3J report sets out in detail the information and requirements relating to native lizards.

Canterbury grass skinks are classified as At Risk – Declining (Hitchmough et al. 2021). McCann's skink (Not Threatened), Southern grass skink and Waitaha gecko (both At Risk – Declining) have been found previously within 10 km of the Project site but are very unlikely to be impacted due to lack of suitable habitat. In the unlikely event they are found, incidental discovery protocols will be implemented.

7.4 Proposed conditions

A panel may set any conditions on a wildlife approval that the panel considers necessary to manage the effects of the activity on protected wildlife⁶⁶. In setting any condition, the panel must⁶⁷:

- (a) *consider whether the condition would avoid, minimise, or remedy any impacts on protected wildlife that is to be covered by the approval; and*
- (b) *where more than minor residual impacts on protected wildlife cannot be avoided, minimised, or remedied, ensure that they are offset or compensated for where possible and appropriate; and*
- (c) *take into account, as the case may be, the New Zealand Threat Classification System or any relevant international conservation agreement that may apply in respect of the protected wildlife that is to be covered by the approval.*

The conditions drafted by NZTA for the wildlife approval are contained in Volume 2E. These incorporate feedback from DOC received in the pre-lodgement process.

The primary mechanism by which impacts on lizards are proposed to be managed is through the development and implementation of a Lizard Management Plan (LMP). Among other things, the LMP will:

- Be prepared by a Suitably Qualified Person in accordance with best practice.
- Identify survey and monitoring requirements prior to, during, and after Construction Works.
- Identify salvage and relocation methods.
- Include protocols for incidental discovery and incidental kill and harm minimization.
- Identify measures for creation and enhancement of lizard habitat at the proposed relocation sites.
- Include protocols for post-release pest and lizard monitoring at relocation sites.

The LMP will avoid, minimise or remedy impacts on protected wildlife so that there are no more than minor residual effects (and therefore no requirement for offsetting or compensation), while taking into account the New Zealand Threat Classification System in relation to the lizards that are being protected.

The proposed conditions require that the LMP be submitted to and certified by DOC prior to any works commencing.

⁶⁶ FTAA Schedule 7 Clause 6(1)

⁶⁷ FTAA Schedule 7 Clause 6(2)

8. PART 8 – HERITAGE NEW ZEALAND POUHERE TAONGA ACT 2014

8.1 Authorities sought

The Project will be undertaken within the takiwā of Te Ngāi Tūāhuriri Rūnanga, which contains sites and areas of cultural and archaeological significance. The Project will modify or destroy 12 recorded archaeological sites within the Designation and potential unrecorded sites with Māori and European archaeological and built heritage values.

NZTA seeks five archaeological authorities, under the HNZPTA, to modify and/or destroy both current identified and unknown archaeology within the Project Site for a duration of 20 years. These authorities are in addition to those already held by the NZTA for enabling works activities (as detailed in Volume 3H Section 2.5).

The authorities have been grouped into five separate applications to acknowledge that NZTA does not own or have landowner consent for all of the affected properties at the time of making this substantive application. No consent has been sought from landowners at the time of lodgement as it is anticipated all properties will be in NZTA ownership by the time construction commences. The five groupings of properties are identified in Volume 1D Schedule 4.

NZTA also seeks approval for Dr Jeremy Habberfield-Short to undertake the activity under the Archaeological Authority, in accordance with clause 7(2)(a) of Schedule 8 FTAA (while noting that the approved archaeologist can be updated under Section 45 of the HNZPT Act at any stage).

The Archaeological and Heritage Assessment in Volume 3H addresses the relevant matters for the Archaeological Authority. These matters are mostly not repeated here to avoid duplication.

8.2 Information requirements

The information required by Schedule 8 Clause 2 of the FTAA is addressed in detail within the report in Volume 3H of this substantive application.

8.3 Assessment

In considering NZTA's application for an archaeological authority, the panel must take into account (giving the greatest weight to (a)⁶⁸:

- (a) *The purpose of this Act [the FTAA];*
- (b) *The matters set out in section 59(1)(a) of the HNZPT Act; and*
- (c) *The matters set out in section 47(1)(a)(ii) and (5) of the HNZPT Act; and*
- (d) *A relevant statement of general policy confirmed or adopted under the HNZPT Act.*

These matters are addressed in subsequent sections.

8.3.1 Purpose of the FTAA

Granting the archaeological authorities is critical to facilitating the delivery of the Project, and achieving the Project's significant regional and national benefits (as addressed in Part 2 of this SAR). It will not be possible to avoid all known and unknown archaeological sites within the Project footprint, therefore modification or destruction of those sites will be necessary to construct the Project. However, where sites are of significance, effects are capable of being mitigated to the extent they are minor, primarily through comprehensive investigations and recording.

⁶⁸ FTAA Schedule 8 Clause 4

8.3.2 Section 59(1)(a) of the HNZPT Act

Section 59(1)(a) of the HNZPTA specifies matters which the Environment Court would have regard to in the context of determining an appeal against a decision for an archaeological authority. The FTAA requires these matters to be considered in the context of assessing the application for an archaeological authority. These matters are addressed in detail throughout the report in Volume 3H and summarised in Table 8.1 below.

Table 8.1: Assessment of matters under section 59(1)(a) of the HNZPTA

Matter	Assessment
<ul style="list-style-type: none"> The historical and cultural heritage value of the archaeological site and any other factors justifying the protection of the site. 	<ul style="list-style-type: none"> Evidenced in recorded sites, the Project traverses a portion of a significant interconnected landscape of mahinga kai, ngā māra (trade), urupa, pāpakainga, nohoanga, kainga and āra (travel routes) that link with Kaiapoi Pā at its centre. In comparison, there are few recorded sites affected by the Project that focus on historic and built heritage values associated with historic domestic, pastoralism/ horticulture/ agriculture/ dairying and commerce and industry in the region. Although the archaeological sites have been damaged in the past, they still possess important archaeological and cultural values. Key beneficial effects of the Project are the opportunity to develop an archive by repository of information and provide historic heritage narratives for the Project Urban Landscape and Visual Management Plan. Opportunities may also arise during construction activities to avoid and protect unrecorded sites encountered because of the activities.
<ul style="list-style-type: none"> The purpose and principles of the HNZPTA 	<ul style="list-style-type: none"> The proposed archaeological investigations are comprehensive and will promote the identification and conservation of historical and cultural heritage. This will contribute to historical knowledge in the Project area. Where detailed design and the construction methodology identifies opportunities to preserve or protect features they will be explored and implemented in collaboration with Te Ngāi Tūāhuriri Rūnanga (via Whitiōra) where practicable.
<ul style="list-style-type: none"> The extent to which protection of the archaeological site prevents or restricts the existing or reasonable future use of the site for any lawful purpose. 	<ul style="list-style-type: none"> The Project traverses the archaeological sites so protecting the archaeological sites would mean earthworks for Project cannot be undertaken and the Project cannot be constructed.
<ul style="list-style-type: none"> The interests of any person directly affected by the decision of the panel 	<ul style="list-style-type: none"> The only interests potentially affected are those of Te Ngāi Tūāhuriri Rūnanga. As set out elsewhere in this Application, their interests have been comprehensively considered throughout the pre-lodgement consultation process. A Statement of Cultural Values, Interests and Priorities is included as Volume 1E.
<ul style="list-style-type: none"> A statutory acknowledgement that relates to the archaeological site or sites concerned. 	<ul style="list-style-type: none"> There are no statutory acknowledgements in relation to any of the archaeological sites.
<ul style="list-style-type: none"> The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tūpuna, wāhi tapu, and other taonga. 	<ul style="list-style-type: none"> This Application has actively taken into account the relationship of Māori and their culture and traditions with their ancestral lands, water, wāhi tūpuna, wāhi tapu and other taonga as described in item (iv) above. Evidenced in recorded sites, the Project traverses a portion of a significant interconnected landscape of mahinga kai, ngā māra (trade), urupa, pāpakainga, nohoanga, kainga and āra (travel routes) that link with Kaiapoi Pā at its centre.

8.3.3 Section 47(1)(a)(ii) and (5) of the HNZPT Act

The matters set out in Section 47(1)(a)(ii) and (5) of the HNZPT Act are assessed in Table 8.2 below.

Table 8.2: Assessment of matters under sections 47(1)(a)(ii) and 5 of the HNZPT Act

Matter	Assessment
<p><i>Section 47(1)(a)(ii)</i> In the case of an application for an authority made under section 44(b), whether the effects of the proposed activity are, or are likely to be, no more than minor, assessed in accordance with subsection (5).</p> <p><i>Section 47(5)</i> In the case of an application made under section 44(b), without limiting the matters that Heritage New Zealand Pouhere Taonga may have regard to for the purpose of determining whether an application meets the requirements of subsection (1)(a)(ii) of this section, it must have regard to—</p> <p>(a) the significance of a site or sites in relation to evidence of the historical and cultural heritage of New Zealand; and</p> <p>(b) the extent to which the proposed activity will modify or destroy the site or sites.</p>	<ul style="list-style-type: none"> ▪ After undertaking the detailed assessment contained in Volume 3H, the report concludes there will be less than minor effects on historical and cultural heritage values. ▪ That assessment is subject to implementation of the measures recommended in the report, which have been addressed via the proposed conditions on the authority (see Section 8.3.4 below). ▪ Evidenced in recorded sites, the Project traverses a portion of a significant interconnected landscape of mahinga kai, ngā māra (trade), urupa, pāpakainga, nohoanga, kainga and āra (travel routes) that link with Kaiapoi Pā at its centre. ▪ In comparison, there are few recorded sites affected by the Project that focus on historic and built heritage values associated with historic domestic, pastoralism/ horticulture/ agriculture/ dairying and commerce and industry in the region. ▪ Although the archaeological sites have been damaged in the past, they still possess important archaeological and cultural values. ▪ It is conservatively assumed that the archaeological sites will be destroyed, because the extent of subsurface archaeology is not fully known. ▪ For high value archaeological sites that may be encountered incidentally during the Project, it is recommended that options are explored to avoid these sites, relocate or protect them from further modification if they are encountered ▪ After mitigation measures have been undertaken, the report in Volume 3H concludes that the Project has the potential to have less than minor effects on archaeological values.

8.3.4 Relevant statement of general policy confirmed or adopted under the HNZPT Act

There are no relevant statements of general policy applicable to the Project.

8.4 Proposed conditions

A panel may set any conditions on an archaeological authority, including conditions that:⁶⁹

- (a) *the consent of the land owner and the holder of any specified registered interest must be obtained before the holder of an archaeological authority may enter the relevant site or undertake any activity under that authority; and*
- (b) *the site must be returned as nearly as possible to its former state (unless otherwise agreed between the owner of the land on which the site is located and the panel); and*
- (c) *any activity undertaken at the site under the archaeological authority must conform to accepted archaeological practice; and*
- (d) *Heritage New Zealand Pouhere Taonga, or the [approved archaeologist] must provide a report to—*
 - (i) *the holder of the authority; and*
 - (ii) *the owner of the archaeological site concerned, if different from the holder of the authority; and*

⁶⁹ FTAA Schedule 8 Clause 5

- (iii) *Heritage New Zealand Pouhere Taonga, unless Heritage New Zealand Pouhere Taonga prepared the report.*

Land owner consent will be required regardless under Schedule 8, Clause 6 of the FTAA; therefore, it is not proposed to be included in conditions. When construction commences, NZTA will own all of the land within the Designation, so the landowners' consent will most likely not be required.

It is impractical to return the site to its former state given the archaeological authorities are being granted for the purposes of building a road. The activities will conform to accepted archaeological practice as required by proposed condition AA.5(c). A report will be provided by the approved person to HNZPT as required by proposed condition AA.9 (Volume 2F).

The conditions proposed by NZTA for the archaeological authorities are similar to HNZPT's 'standard' archaeological authority conditions, but with some refinements and clarifications. The conditions, as proposed in Volume 2F of this Application, will:

- Require the preparation and implementation of a comprehensive ACSMP (consistent with the ACSMP required under the conditions of the Project designation), to be certified by HNZPT prior to works commencing.
- Ensure that any archaeological evidence encountered during the work is investigated, recorded and analysed in accordance with the management plan.
- Ensure that HZNPT is kept up to date with archaeological works and investigations (including via regular and final progress updates).

Minor clarifications were made to conditions as a result of NZHPT feedback on the pre-lodgement consultation pack.

9. PART 9 – FRESHWATER FISHERIES REGULATIONS 1983

9.1 Approval sought

The Project involves permanent stream realignments and the installation of permanent and temporary culverts, the installation of which may involve temporary damming and over pumping. Permanent stream realignments (which are potentially considered a permanent dam or diversion structure), and damming and diversions of more than 3 months, may, respectively, fall under clauses (b) and (c)(i) of the definition of a “complex freshwater fisheries activity” as defined in section 2 the FTAA:

complex freshwater fisheries activity means an activity that includes construction of any of the following:

- (a) a culvert or ford that permanently blocks fish passage:
- (b) a permanent dam or diversion structure:
- (c) works—
 - (i) that require disturbance to a water body, including diversions, in-stream operations, and removal of gravel, that persists for more than 3 months; or
 - (ii) that require disturbance of any duration during the whitebaiting season to a water body within 500 m of the coast; or
 - (iii) that require disturbance of any duration during the relevant spawning season to a water body that is known for the spawning of trout, salmon, or native fish; or
 - (iv) that require repeated disturbance to a water body and are temporary works for which there is a period of 6 months or less between each period of work

Section 42(4)(j) of the FTAA states that a substantive application may seek⁷⁰:

an approval or dispensation that would otherwise be applied for under regulation 42 or 43 of the Freshwater Fisheries Regulations 1983 in respect of a complex freshwater fisheries activity.

While the stream alignments and culverts (both temporary and permanent) potentially meets the definition of “complex freshwater fisheries activity” as noted above, it is not entirely clear how regulation 42 (culverts and fords) or 43 (dams and diversion structures) applies to the Project, given these regulations do not cover works under clause (c) of the definition of complex freshwater fisheries activity and fish passage is not proposed to be impeded. Therefore it is unclear whether clause (c) by itself applies to culverts that do not impede fish passage and dams/ diversion structures that already fall under (b). For these reasons, approval is sought on a conservative basis for these activities.

Additionally, the Project may require disturbance in a water body known to be used for native fish spawning during the spawning season, in particular Taranaki Stream (toitoi and koukoupapa) and the quarry lakes (toitoi). The Project will not involve disturbance within ūnanga spawning habitats during ūnanga spawning season.

9.2 Information requirements

The information required under the FTAA in relation to standard freshwater fisheries activities and complex freshwater fisheries is addressed in detail within the EclA in Volume 3I (specifically at sections 6.4.2.1, 6.4.2.2, 6.4.6.1, 6.4.6.2 and 6.4.7.2, including Tables 6.9 and 6.11).

⁷⁰ Amendments to Section 42(4)(j) will come into force on 31 March 2026 under the Fast-track Approvals Amendment Act 2025

9.3 Assessment

In considering NZTA's application for complex freshwater fisheries activity approval, the panel must take into account (giving the greatest weight to (a)⁷¹:

- (a) *The purpose of this Act [the FTAA];*
- (b) *The alignment of the proposed activity with best practice and the New Zealand Fish Passage Guidelines; and*
- (c) *How the proposed activity will manage risks to freshwater values or habitat, including prevention of access to or spread of invasive species; and*
- (d) *The availability and quality of the habitat upstream and downstream of the proposed activity; and*
- (e) *The presence of threatened, data-deficient, or at-risk species under the New Zealand Threat Classification System in the vicinity of the proposed activity; and*
- (f) *The advantages and disadvantages of providing fish passage upstream or downstream of the proposed activity.*

These matters are addressed in subsequent sections.

9.3.1 Purpose of the FTAA

Granting the complex freshwater fisheries approval will facilitate the delivery of the Project, achieving the Project's significant regional and national benefits (as addressed in Part 2 of this report).

9.3.2 Alignment with best practice and New Zealand Fish Passage Guidelines

The EclA (Volume 3I) outlines that the culvert designs will meet condition 2(a)⁷² of regulation 70 of the NES – F and will be informed by the New Zealand Fish Passage Guidelines (NZFPG; 2024). Where stream realignments occur, these will match the current fish passage requirements at each stream and be informed by the NZFPG.

9.3.3 Management of risks to freshwater values or habitat

Where practical within the Project, efforts have been undertaken to avoid, minimise and / or remediate the risk to freshwater values and habitat where stream realignment and / or culverts or works during spawning season are required. A summary of these measures is provided in Table 9.1.

⁷¹ FTAA Schedule 9 Clause 5

⁷² *the culvert must provide for the same passage of fish upstream and downstream as would exist without the culvert, except as required to carry out the works to place, alter, extend, or reconstruct the culvert*

Table 9.1: Measures to avoid, minimise, or remediate the risk to freshwater values and habitat

Measure	Works in freshwater spawning habitat (via the implementation of the CEMP)
Avoid	Protect waterways through avoiding any unnecessary works in waterways or their banks. Including avoiding disturbing waterways outside of the Project Site.
Minimise	Minimise disturbance via the delineation of construction areas within the Project Site Stage construction to potential minimise effects on freshwater habitats that have potential for native fish spawning
Remediate	Stabilise construction areas so that freshwater habitat can be restored
Measure	Stream realignment
Avoid	Stream realignment has been avoided to the extent practical within the designation.
Minimise	The stream realignment has been designed to allow the shortest realignment reach possible.
Remediate	High-level design principles for stream realignment designs and composition of habitat features will be applied within the Project, these include: <ul style="list-style-type: none"> ▪ Realignments will be designed to consider the existing stream geometry (plan form and section) and natural geomorphology of the stream where practicable. ▪ Scour protection, such as rock rip rap, may be considered where hydraulic conditions could result in significant, non-desirable scour that could impact the road embankment or other infrastructure. ▪ Natural bank scour will be allowed where possible. ▪ A low flow channel to maintain water depth during low flows. ▪ Creation of pool, riffle and run sequences where achievable (i.e. enough length of stream diversion lies within the designation and sufficient gradient to tie in to existing stream channel and culvert inlets/outlets). ▪ Incorporating instream woody habitat features. ▪ Utilising existing natural materials such as rocks, woody debris from the existing stream where present. ▪ Incorporating a planted flood plain terrace.
Measure	Stream culverting
Avoid	Stream culverts and crossings have been avoided to the extent practical within the designation.
Minimise	The stream culverts have been designed to allow the shortest culvert reach possible. Culverts designs will meet condition (2)(a) of Regulation 70 in the NES-F: “ <i>the culvert must provide for the same fish passage upstream and downstream as would exist without the culvert, except as required to carry out the works to place, alter, extend, or reconstruct the culvert.</i> ”
Remediate	The NZFPG will be used to inform design so that fish passage can be achieved for species within the catchment.

9.3.4 Availability and quality of the habitat upstream and downstream

The EclA (Volume 3l) describes that the Project watercourses sit within highly modified catchments, where the riparian and instream habitats have been largely degraded over time. However, water clarity was generally good, indicating low suspended sediment and turbidity. Most sites did have moderate to high deposited sediments (50 – 100% fine sediment deposition), and substrates broadly consisted of small isolated gravel and cobble beds (usually associated with swifter flow areas) and finer grained substrates (< 2mm in size). Overall, stream flow characteristics were generally run, pool, and short riffle areas. In terms of instream habitat cover, this was predominantly via macrophytes (in some instances in excess of 80 % cover within a reach), overhanging native sedges, and small undercut banks. The EclA identifies that the Taranaki Stream provides suitable spawning habitat for toitoi (common bully; *Gobiomorphus cotidianus*) and koukoupara (upland bully; *Gobiomorphus breviceps*).

The majority of the watercourses are managed (either historically or presently) to provide increased flow capacity. Overall, this has reduced the quality and availability of both instream and riparian habitat.

The macroinvertebrate community within the watercourses was dominated by taxa adapted to soft bottomed streams and tolerant of organic enrichment. This includes oligochaete worms, crustaceans, dipterans and molluscs.

9.3.5 Presence of threatened, data-deficient or at-risk species under the New Zealand Threat Classification System

The freshwater fauna community within the Project watercourses has been assessed via eDNA, trapping, electric fishing, and a review of the New Zealand Freshwater Fish Database (NZFFD). Overall, the Project watercourses have been identified as having a low to moderate fish community diversity, however; nearly all watercourses contain at least one 'At Risk' species, including tuna (longfin eel; *Anguilla dieffenbachii*), koukoupāra and māru (giant bully; *Gobiomorphus gobioides*), and the 'Threatened' īnanga (*Galaxias maculatus*) is present in several of the watercourses located within the Project (Table Appendix C.3 in the EclA, Volume 3I).

Other native fish species are present, and although these are listed in the New Zealand Threat Classification System (NZTCS) as 'Not Threatened', they do play an important role in the stream ecosystems (e.g., as key predators and prey species). An example of these species includes hao (shortfin eel; *Aquilla australis*) and toitoi.

9.3.6 Advantages and disadvantages of providing fish passage upstream and downstream

The EclA (Volume 3I) describes that many of the native freshwater fish present within the Project watercourses must migrate both via diadromy⁷³ and within the local stream catchment. Therefore, the advantages of instream structures or channel realignments providing permanent fish passage is important to the fish communities present within the Project watercourses. The design of culverts and stream realignments has targeted the swimming performance of īnanga, whether they are present in the watercourses catchment or not. Īnanga are generally regarded as the weakest swimming species within native fish communities, therefore, if īnanga can pass an instream structure or channel realignment it is likely that other native fish will successfully pass.

Advantages to providing fish passage (targeted at īnanga swimming performance) upstream and downstream include:

- Maintaining continuity of instream habitat.
- Minimising alterations to natural stream alignment and gradient.
- Maintaining diadromous and within stream catchment migration/ movement of fish species.
- Maintaining a connection to important habitats where life cycle behaviours can be completed.
- Allowing passage to all life stages and all species known to occur in the Project watercourse catchments.
- If native fish species not recorded from Project watercourses and their catchments were to migrate into and/ or inhabit these areas, it is likely their swimming performance will be greater than that of īnanga, therefore fish passage will be provided.

9.4 Proposed conditions

A panel may impose conditions on an approval that the panel considers necessary to manage the effects of the activity on freshwater fish species, taking into account:⁷⁴

- (a) *Best practice standards; and*
- (b) *The New Zealand Fish Passage Guidelines.*

The conditions proposed on the regional resource consents, as contained in Volume 2D, are considered to appropriately address the above matters (see in particular proposed condition C2.8). No specific conditions are sought by NZTA for the freshwater fisheries approvals.

⁷³ Where fish species must migrate to the sea at some point to complete their life cycle

⁷⁴ FTAA Schedule 9 Clause 6

10. Part 10 – Conclusion

NZTA is seeking all necessary approvals under the FTAA to construct, operate, and maintain the State Highway 1 North Canterbury – Woodend Bypass Project. The purpose of the Project is to provide an efficient and reliable state highway connection between Belfast and Pegasus, while delivering improved access, community safety and public health outcomes, and reduced severance through Woodend.

The Project is a listed project in Schedule 2 of the FTAA and is consistent with the purpose of the FTAA “to facilitate the delivery of infrastructure and development projects with significant regional or national benefits”. As a nationally significant road upgrade, it will deliver the following enduring national and regional benefits:

- **Efficiency and reliability benefits** will be provided for journeys from Belfast to Pegasus and the Ravenswood activity centre and beyond. At off peak times, the Project will provide reliable 3 minute travel time saving along SH1, with up to 10 minutes saving during peak commuter times.
- **Accessibility benefits** will arise through strengthening connectivity between Woodend, Ravenswood, and Pegasus. These enhancements will support the wider region, particularly in light of Waimakariri District's rapid population growth, being one of New Zealand's fastest growing districts. As residential and commercial development accelerates in these townships, the Project will enable commuters to more quickly and safely reach essential services, including healthcare, education, and major commercial and industrial hubs in Christchurch. This improved infrastructure will help future-proof the region, ensuring it remains resilient and well-connected as transport demands continue to rise.
- **Safety benefits** will be delivered through an estimated reduction in vehicle-related deaths and serious injuries along the existing alignment from 5.6 per year to 1.25 per year. The Project will also reduce crash risks at local intersections and provide safer accessibility within Woodend and between Pegasus and Ravenswood. These safety improvements will reduce the social cost of deaths and serious injuries, which have a permanent and profound devastation on loved ones, families and whānau, colleagues and workplaces, and communities.
- **Economic benefits** are anticipated to include a \$320 million injection into the Canterbury economy, and generate an estimated 624 full-time equivalent jobs during the peak construction year and 2,361 full-time equivalent jobs in total over a seven-year period. The Project is a significant investment in supporting the Canterbury Region's long-term growth and its integration into the national transport network through improving freight efficiency along SH1. The Project will enhance productivity, reduce supply chain costs and strengthen global competitiveness, delivering a three-minute travel time saving and 10 minutes at peak. Canterbury, which contributes around 57% of the South Island's GDP, plays a vital role in the national economy, underscoring the significance of this investment. In the long term, the Project will support greater productivity and agglomeration benefits, fostering collaboration, innovation, and a more vibrant, interconnected regional economy with stronger business networks and increased output.

NZTA has undertaken extensive consultation over many years, including public, stakeholder, and most recently targeted FTAA-specific consultation. Feedback has informed both the Project's design and this substantive application.

The Project's actual and potential effects have been comprehensively and conservatively assessed within the technical reports, recognising that a linear roading project will inevitably have some adverse impacts. Many activities are already authorised under the existing Project designation, and for those requiring new approvals, the effects can be appropriately avoided, remedied, or mitigated (and where necessary for specific ecological effects, offset or compensated) through a comprehensive suite of conditions and management plans informed by pre-lodgement consultation.

The Project is consistent with the policy framework of relevant planning documents, accords with the purpose and principles of the RMA, and meets the requirements of the Wildlife Act, HNZPTA and Freshwater Fisheries Regulations.

Overall, the Project's significant national and regional benefits substantially outweigh any residual adverse impacts and there are no barriers to granting the approvals sought pursuant to the FTAA.