ASSESSMENT OF EFFECTS ON THE ENVIRONMENT

NZ Transport Agency Waka Kotahi
Mill Road (Takaanini Section)

13 JUNE 2025

NZ TRANSPORT AGENCY WAKA KOTAHI

Contents

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QUALITY REVIEW AND APPROVAL RECORD

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ACRONYMS, TERMS AND ABBREVIATIONS

Acronym/Term	Description
AEE	Assessment of Effects on the Environment
AEP	Annual Exceedance Probability
ARI	Average Recurrence Interval
AT	Auckland Transport
AUP:OP	Auckland Unitary Plan: Operative in Part
CEMP	Construction Environmental Management Plan
CNVMP	Construction Noise and Vibration Management Plan
CTMP	Construction Traffic Management Plan
DBC	Detailed Business Case
EMP	Ecological Management Plan
EPA	Environmental Protection Authority
FDS	Future Development Strategy
FTAA	Fast-track Approvals Act 2024
FUZ	Future Urban Zone
GIS	Geographic Information System
GPS	Government Policy Statement on Land Transport
HHMP	Historic Heritage Management Plan
HNC	High Natural Character
HNZPT	Heritage New Zealand Pouhere Taonga
IBC	Indicative Business Case
ISTN	Indicative Strategic Transport Network
LMP	Landscape Management Plan
LTMA	Land Transport Management Act 2003
MCA	Multi-Criteria Assessment
NES	National Environmental Standard
NPS-FM	National Policy Statement for Freshwater Management
NPS-HPL	National Policy Statement for Highly Productive Land
NPS-IB	Proposed National Policy Statement for Indigenous Biodiversity
NPS-UD	National Policy Statement for Urban Development
NUMP	Network Utilities Management Plan
NZTA	NZ Transport Agency Waka Kotahi
NZUP	New Zealand Upgrade Programme
NOR	Notice of Requirement
ONC	Outstanding Natural Character
ONF	Outstanding Natural Feature
ONL	Outstanding Natural Landscape
Outline Plan	Outline Plan of Work
PPF	Protected Premises and Facilities
Project	Mill Road (Takaanini Section)
RMA	Resource Management Act 1991
RONS	Road(s) of National Significance
RPS	Regional Policy Statement
RUB	Rural-Urban Boundary
SCEMP	Stakeholder Communication and Engagement Management Plan
SEA	Significant Ecological Area
SME	Subject Matter Expert
SNA	Significant Natural Area
SH1	State Highway 1

1 INTRODUCTION

1.1 Report Purpose

NZ Transport Agency Waka Kotahi (NZTA) is giving notice to Auckland Council of its requirement (NOR) to designate land for the Mill Road (Takaanini Section) Project (the Project) under section 168(2) of the Resource Management Act 1991 (RMA). This Assessment of Effects on the Environment (AEE) report has been prepared in support of the NOR.

The NOR document has been prepared in accordance with the requirements of Form 18 of the Resource Management (Forms, Fees, and Procedure) Regulations 2003.

1.2 NZ Transport Agency Waka Kotahi

NZTA is a Crown entity with its functions, powers and responsibilities set out in the Land Transport Management Act 2003 (LTMA) and the Government Roading Powers Act 1989. The primary objective of NZTA under Section 94 of the LTMA is to contribute to an effective, efficient, and safe land transport system in the public interest.

NZTA's core functions can be summarised as:

- investing in land transport activities;
- managing the state highway network; and
- providing access to and regulation for land transport.

Section 96(1)(a) of the LTMA requires that NZTA exhibits a sense of social and environmental responsibility when undertaking its work. This statutory requirement is reflected in a raft of strategic and policy documents. One of the core position statements is that NZTA will responsibly manage the land transport system's interaction with people, places, and the environment.

NZTA is also a network utility operator approved as a requiring authority under Section 167 of the RMA.

The legal name for NZTA is the New Zealand Transport Agency. The abbreviated name NZTA is used throughout this AEE.

1.3 Project Context

1.3.1 Mill Road Corridor – wider context

The Mill Road Corridor has been identified as a Road of National Significance (RONS) in the Government Policy Statement on Land Transport 2024-34 (GPS). It will comprise a new four-lane 21.5km road corridor between Manukau and Drury, parallel to the east of State Highway 1 (SH1). The Project is to be developed in three stages (see Figure 1-1).

Auckland Transport (AT) obtained designations for Stage One in 2016, encompassing the northernmost 7.1km of the corridor between the SH1 Redoubt Road interchange and the Mill Road-Alfriston Road intersection. These designations are in the process of being transferred to NZTA as the delivery agency. Concurrently, NZTA is preparing the remaining statutory approvals on Stage One for processing via the Fast-track Approvals Act 2024 (FTAA). Stage One is a priority for delivery, with construction currently planned to commence from mid-2026.

Stages Two and Three will complete the remainder of the corridor. The Takaanini Section to which this AEE relates is for the northernmost section of the Stage Two works (the Project).

Approvals for the remainder of Stage Two and Stage Three will be sought separately at a future date.

1.3.2 Project overview

The Project extent is approximately 5km in length and runs from the end of the Stage One works at the intersection of Mill Road and Alfriston Road to a new intersection with Papakura-Clevedon

Road (see Figure 1-2). The proposed alignment deviates up to 1.6km to the east of the existing Mill Road-Cosgrave Road corridor between Takaanini and Ardmore. The proposed intersection with Papakura-Clevedon Road will provide for the future continuation of the route to the south.

Further detail on the form and function of the Project is provided in Section 2 of this AEE.

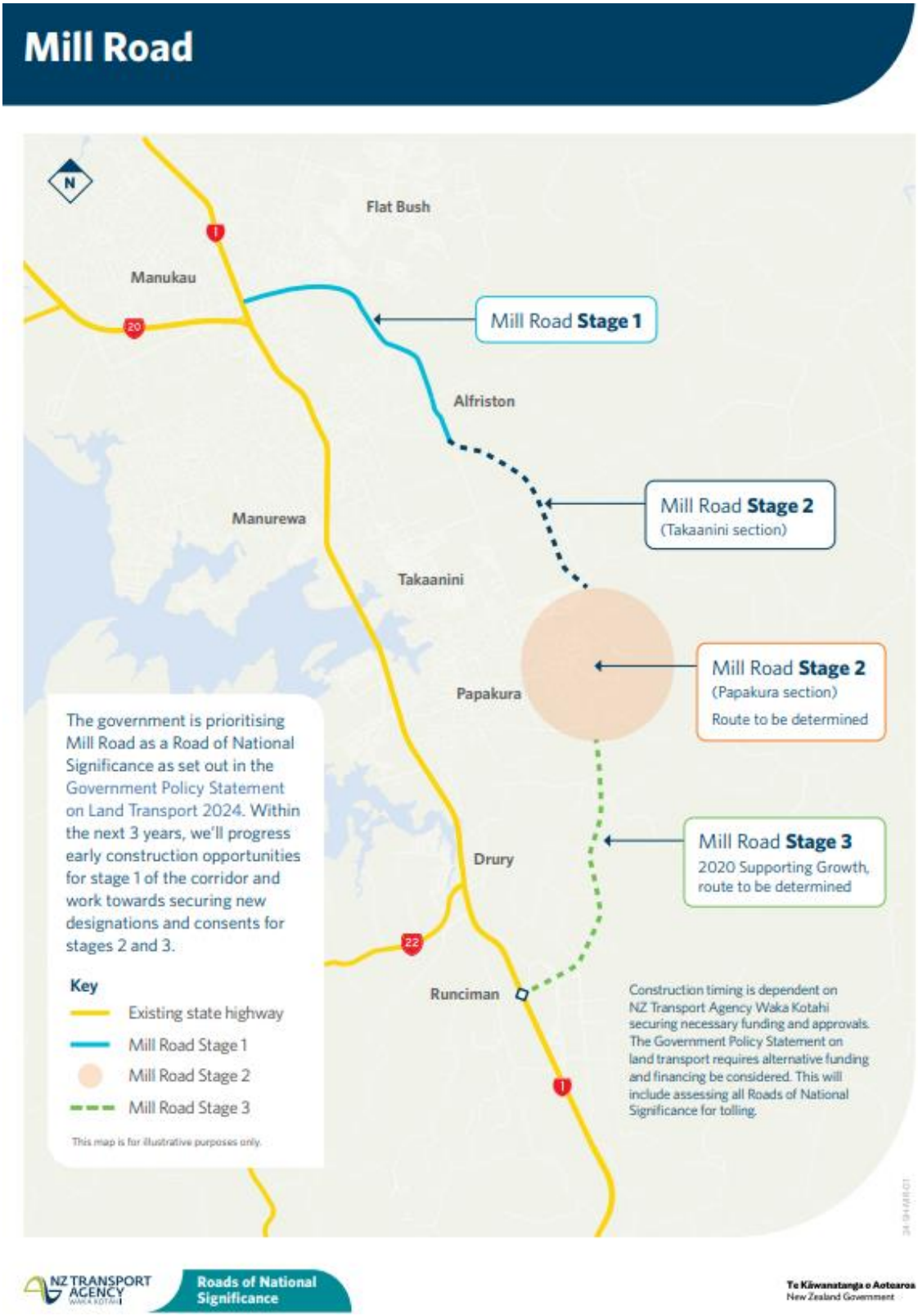

Figure 1-1 – Mill Road Corridor proposed staging. Note Stages 2 (Papakura section) and 3 are subject to further assessment. Refer to Section 4 of this AEE for details on Assessment of Alternatives for the Takaanini section.

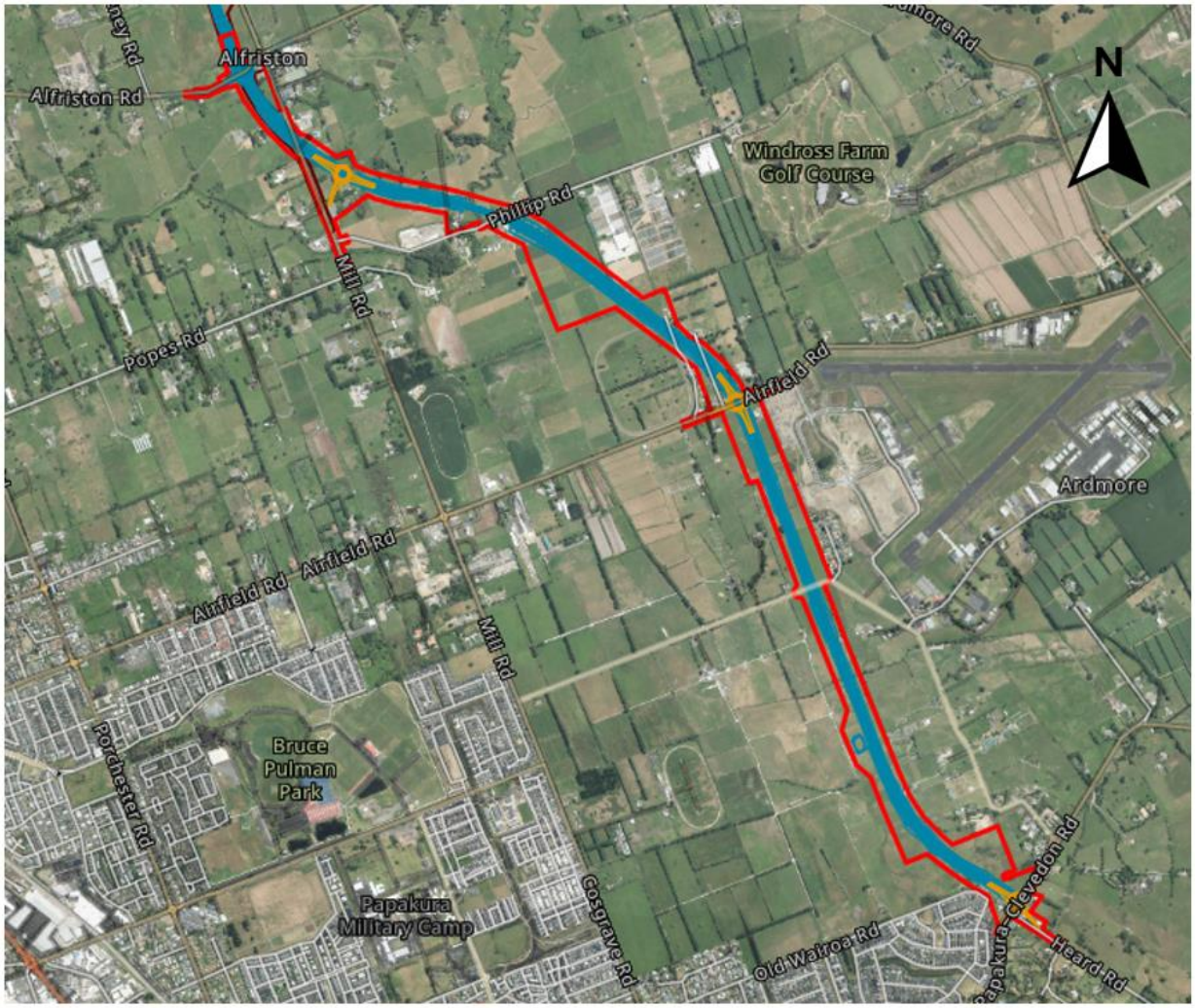

Figure 1-2 – Mill Road (Takaanini section) – extent and alignment

1.3.3 Te Tupu Ngātahi

Much of the business case development, optioneering, and consultation and engagement underpinning the Project and referred to throughout this AEE took place as part of Te Tupu Ngātahi (Supporting Growth). Te Tupu Ngātahi is a collaboration between NZTA and AT formed to investigate, plan, and undertake route protection for the strategic transport networks needed to support Auckland's growth areas over the next 30 years.

This process has been ongoing since 2016 and has included various assessments in relation to the Mill Road Corridor including the following key milestones (which are discussed in further detail at Section 4 below):

- **Transport for Future Urban Growth Programme Business Case (PBC) – 2016** – Identification of a programme for the route protection of a transport network for future urban growth areas. This phase identified the Mill Road Corridor as a priority project to be investigated further in subsequent phases;
- **Indicative Business Case (IBC) – 2018-2019** – Testing of the PBC network and identification of the Indicative Strategic Transport Network for Auckland's growth areas which included the Mill Road Corridor from Manukau to Drury as a key strategic corridor. As part of this process, engagement was undertaken with partners (Mana Whenua and Auckland Council), stakeholders, and the community to seek feedback on the network; and
- **Detailed Business Case (DBC) and the NZ Upgrade Programme (NZUP) (2019-2022)** – This phase involved a comprehensive optioneering exercise (including input from technical specialists and partners – Mana Whenua and Auckland Council) to identify the

(then) preferred option for the Mill Road Corridor between Takaanini and Drury. This phase also included rounds of public engagement to provide an update on how feedback provided during the IBC was incorporated in the option assessment process, and to seek further feedback on the options under consideration.

1.4 NOR submitted

NZTA has given a NOR to Auckland Council to designate land under Section 168 of the RMA for the Mill Road (Takaanini Section) works. The NOR applies to the land described in the Form 18 which accompanies this AEE and provides for the Project as described at Section 2 of this AEE.

Resource consents, and any other approvals that are needed, will be sought at a later stage.

1.5 Lapse period sought

Pursuant to Section 184(c) of the RMA, NZTA seeks a lapse period of **15 years** for the proposed designation. The rationale for the proposed lapse period is as follows:

- Provides NZTA with sufficient time to undertake detailed design, obtain necessary resource consents, obtain funding, undertake tendering and procurement, undertake property and access negotiations, and ultimately construct the Project;
- Allows time to complete the construction of Stage One of the Mill Road Project before starting construction of Stage Two; and
- Provides property owners, businesses, and the community with certainty as to where the Project will be located, and within what timeframe.

2 PROJECT DESCRIPTION

2.1 Location

The Project traverses a peri-urban area of largely Mixed Rural-zoned land to the east of the Rural Urban Boundary (RUB) between Takaanini and Ardmore. It is currently used for a variety of rural residential, agricultural, equine, and business activities. The Project adjoins the western edge of Ardmore Airport.

The Project is located within the Papakura Stream stormwater catchment and crosses the stream and its tributaries in the vicinity of Phillip Road. Associated with the Papakura Stream system is a large floodplain, which is partly traversed by the Project.

To date, urbanisation has been contained within the RUB in this area – specifically to the Takaanini Precincts to the west and immediate south of the alignment which were developed during the late-2010s.

The existing environment is described in further detail in Section 3.

2.2 Reasons for the Project

As noted above, the Mill Road Corridor has been identified as a RONS in the GPS; and will comprise a new four-lane 21.5km road corridor to be developed in stages between Manukau and Drury, parallel to the east of SH1. The Project in turn comprises the northernmost 5km section of Stage Two of the corridor, referred to as the Takaanini Section.

The need to provide a strategic transport corridor parallel to SH1 through an upgrade of the Mill Road corridor has been considered extensively through multiple business case processes, including as part of Te Tupu Ngātahi.

The problems identified as necessitating investment in the corridor are summarised as follows:

- **Comprised strategic transport network resilience** – Projected growth will generate demand that increases delays on SH1, undermining its reliability and resilience. As reliance on SH1 and is supporting north-south routes intensifies (e.g. Great South Road, Porchester Road), both strategic and local functions become compromised. This over-dependence on a small number of north-south routes results in congestion across the wider network, which in turn reduces the reliability and effectiveness of local network function and public transport options;
- **Inadequate capacity to accommodate additional demand** – The existing transport network does not provide suitable access to key future land uses. As development intensifies, trips between emerging areas of urbanisation will become increasingly indirect and time-consuming. This inefficiency further compounds the congestion problem, reduces accessibility, and constrains overall network performance; and
- **Poor integration of land use and transport** – Without additional upgrades, the network will struggle to support the planned employment land (e.g. Drury South). Inadequate transport connections will limit local employment opportunities and prevent the area from functioning as a thriving sub-regional economic hub.

In turn, the benefits to be derived from investing in the Mill Road Corridor are summarised as follows:

- **Improved traffic efficiency on the Mill Road Corridor** – i.e. reduced travel time, reduced congestion levels, and greater journey time reliability;
- **Enhanced transport network resilience** – i.e. availability of alternative north-south routes, improved performance of critical connections, and reductions in incident-related delays; and
- **Co-benefits** – i.e. improved safety on the Mill Road Corridor, integration of the Mill Road Corridor with the existing transport network, and supporting housing development and economic growth in proximity to the Mill Road Corridor.

Based on the above, the overarching investment objective for the Mill Road Corridor is:

"To improve traffic efficiency on the Mill Road Corridor and enhance transport network resilience."

Positive effects of the Project are addressed in further detail at Section 6.1 of the AEE.

2.3 Project Objective

Section 171(1)(c) of the RMA states that

"When considering a requirement and any submissions received, a territorial authority must, subject to Part 2, consider the effects on the environment of allowing the requirement, having particular regard to –

Whether the work and designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought."

The Project Objective for the NOR was derived from the Investment Objective outlined above. This approach reflects the parallels between the need to invest in the Project, and the reasonable necessity for the work and designation. It was also drafted to reflect NZTA's proposed staging approach for the Mill Road Corridor – i.e. that the Project extent covered by the NOR is a significant stage of the full proposed corridor, and therefore an integral part of realising the wider traffic efficiency and transport network resilience outcomes sought.

Accordingly, the Project Objective is as follows:

"To provide for a transport corridor between the southern end of Mill Road Stage One (at Alfriston Road) and Papakura-Clevedon Road to improve traffic efficiency and enhance network resilience."

Whether the work and designation are reasonably necessary to achieve the Project Objective is addressed at Section 7.3 of the AEE.

2.4 Description of the Project

The proposed works for the Project are shown in the General Arrangement drawing which is attached to this AEE. Key features are described below.

The design will be refined through subsequent phases of the Project and the details may change. This will be undertaken within the scope of the final designation and consent conditions. The detailed design of the Project will be reflected in the Outline Plan and any other documentation required to be submitted to the Council prior to construction.

2.4.1 Alignment

The Project extent is 5km in length, and runs from the end of the Stage One works at the intersection of Mill Road and Alfriston Road to a new intersection with Papakura-Clevedon Road (see Figure 1-2). The proposed alignment deviates up to 1.6km to the east of the existing Mill Road-Cosgrave Road corridor between Takaanini and Ardmore. The proposed intersection with Papakura-Clevedon Road will provide for the future continuation of the route to the south.

The alignment crosses the Papakura Stream in the vicinity of Phillip Road. In this location, a bridge structure approximately 200m in length is proposed, which will also extend over Phillip Road. The alignment also crosses the Ø1200mm Watercare Waikato No. 1 Watermain at its northern end between Alfriston Road and Phillip Road; and the Ø350mm First Gas transmission pipeline between Phillip Road and Airfield Road.

2.4.2 Form and Function

Given that the Project forms part of a RONS corridor in a peri-urban context, the following key transport form and function design parameters have been adopted (adapted from NZTA Standardised design solutions for use on State Highway Roads of National Significance, published August 2024):

- Four 3.5m traffic lanes – i.e. two lanes per direction;

- Wire rope median and roadside barriers, with 1.5m sealed central width and 1.0m shoulder width;
- 90km/h design speed (80km/h posted speed);
- Dual-lane at-grade roundabouts at three key intersections;
    - Realigned connection at Popes Road/ Phillip Road,
    - Airfield Road, and
    - The southern tie in with Papakura-Clevedon Road
- Hamlin Road will be closed on either side of the alignment;
- Left-in/left out movements may be provided for local property access where alternative access cannot be provided.

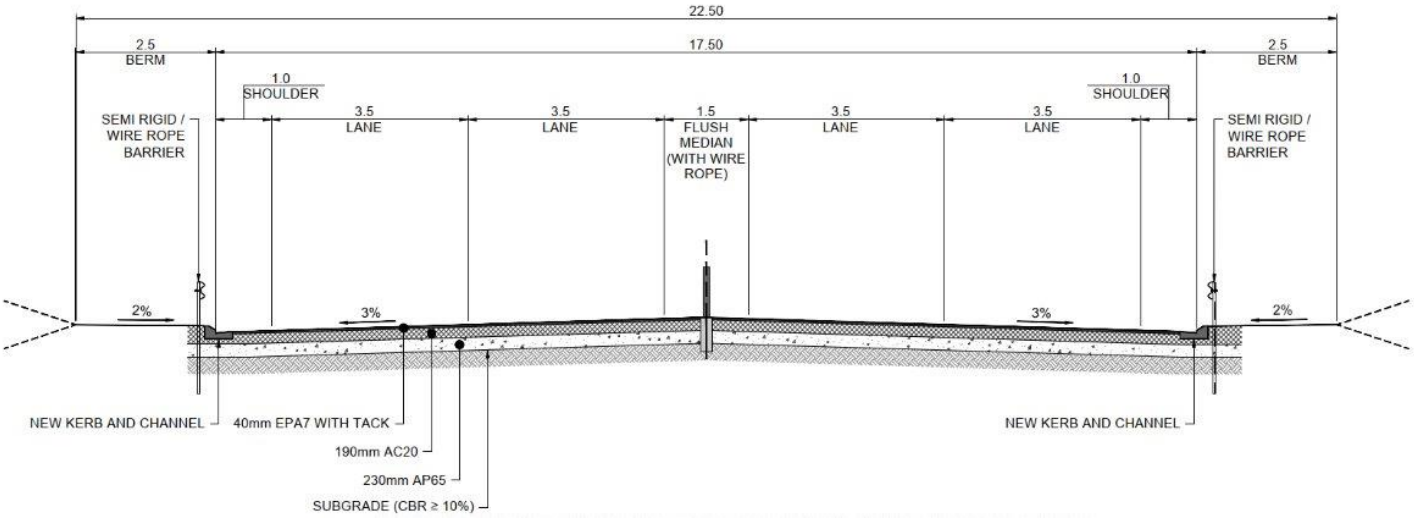

Figure 2-1 – Indicative midblock cross-section (note excludes earthworks and stormwater elements)

The sealed midblock corridor width resulting from the above parameters is approximately 17.5m (see Figure 2-1). The extent of the NOR in turn additionally provides for:

- Raising of the road levels from the existing ground level for flood resilience and provision of a flood conveyance channel (see Section 2.3.3 below);
- Allowance for 1V:3H fill embankments and 1V:5H cut batter slopes due to poor ground conditions; and
- Sufficient area to enable construction of the Project (e.g. temporary works, environmental management, site establishment, stockpiling, and construction laydown areas).

2.4.3 Stormwater Design

Key stormwater design features considered to inform the NOR extent are as follows:

- A dual open channel system on both sides of the carriageway, which consists of a conveyance/treatment/attenuation swale on the inside and a diversion drain on the outside.
    - Conveyance/treatment/attenuation swale to:
        - provide treatment, retention/detention, and attenuation of runoff from the road impervious area; and
        - be independently graded forming a “seesaw” longitudinal and terminated regular intervals to discharge into the adjacent diversion channel.
    - Diversion drain:
        - along the Project where it is necessary to preserve the existing overland flow patterns and direct flows to key cross culvert drains.
- A stormwater treatment device (at approximately between 85 and 135 Hamlin Road, 900m from the southern tie-in) to manage stormwater effects for the last 900m of the Project, as an alternative to the dual open channel system due to the steep longitudinal grade in this area.
- Setting the corridor vertical alignment above the 100-year ARI flood plain for:

    - new bridge crossings, this also means providing freeboard to bridges in accordance with the NZTA Bridge Manual requirements; and
    - new major culvert crossings, 0.5m freeboard for culverts between the headwater level and edge of the corridor/verge.
- A series of balancing cross culverts, at locations as required, to mitigate potential flood effects from displacement of flood volume due to the construction of the road embankment within the flood plain.

2.5 Indicative Construction Methodology

2.5.1 General approach

An indicative construction methodology has been developed based on the level of design undertaken to date.

The construction of the Project will be undertaken within a Management Plan framework as required by the proposed conditions. Management Plans form an integral part of the construction methodology for the Project, setting out how specific matters will be constructed. A suite of Management Plans are proposed for the Project, including the following which are pertinent to the construction methodology:

- Construction Environmental Management Plan (CEMP);
- Construction Traffic Management Plan (CTMP);
- Construction Noise and Vibration Management Plan (CNVMP);
- Stakeholder and Communication Engagement Management Plan (SCEMP); and
- Network Utility Management Plan (NUMP).

The management of any actual or potential effects arising from construction activities relating to regional consenting matters will be provided for when those consents are sought in the future.

The Management Plans required for the proposed designation will be submitted to Auckland Council prior to the commencement of construction via the Outline Plan process. Following the completion of construction, the designation boundaries will be reviewed and any land that is not required for the permanent work or for the ongoing operation, maintenance, or mitigation of the Project will be reinstated in coordination with directly affected landowners or occupiers.

The information provided in this section is indicative and is intended to provide sufficient detail to assess the potential effects of construction on the environment and to identify measures to avoid, remedy or mitigate any adverse effects, where appropriate.

The final construction methodology may be influenced by:

- Final designation and consent conditions;
- Final detailed design;
- Construction duration and target completion date;
- Type of delivery contract; and
- Technological advances and innovation in construction methods.

Once a contractor is appointed, NZTA and the contractor will confirm the final construction methodology. This will be undertaken within the scope of the final designation and consent conditions.

2.5.2 Indicative construction sequence and methodology

An indicative construction sequence and methodology is outlined below in Table 2-1. This is based on a standard road construction project and has not taken into consideration any project-specific scope of works, constraints (e.g. poor ground conditions and the resultant need for preloading), or staging requirements that may be applicable. The indicative construction programme assumes a generally staged construction sequence starting with site establishment, advance works, main works, and ending with finishing works and demobilisation.

Table 2-1 – Indicative construction sequence

Stage	Indicative works
Site establishment	• Site access construction. • Tree removal/vegetation clearance. • Removal of footpath, streetlights, grass verge berms. • Property/building modification or demolition. • Install environmental controls. • Implement traffic management to establish the construction zones. • Service protection works (Watercare Waikato No. 1 Watermain + First Gas Transmission Line). • Construct access tracks/haul roads (if required).

Advance and enabling works	• Relocation of utilities and services.
	• Major earthworks, including:
	  ○ Ground improvements, undercuts, embankment foundations;
	  ○ Cut-and-fill works along the alignment to formation level including preload if required; and
	  ○ Provision of preload and removal upon settlement completion, and subgrade preparation.

Main works	• Minor earthworks (cut and fill).
	• Remove verge and prepare subgrade formation.
	• Construct new longitudinal drainage facilities.
	• Construct new pavement.
	• Complete tie-in works, lighting, and landscaping.
	• Construct stormwater management devices.
	• Install safety barriers.
	• Bridge construction works as follows:
	  ○ Construct abutments;
	  ○ Piling, pier, and headstock construction;
	  ○ Install bridge beams and decking; and
	  ○ Install settlement slabs.
	• Retaining wall construction.
	• Accommodation works.
	• Install signage and lighting.

Finishing works and demobilisation	• Final road surfacing and road markings. • Finishing works – e.g. landscaping. • Move traffic to final road configuration. • Practical completion and dis-establishment.

2.5.3 Indicative construction staging and duration

The specific staging and duration of the work will be dependent on a range of variables, including:

- Procurement;
- Land acquisition;
- Final detailed design and construction method;
- Staging of planned adjoining works (e.g. Mill Road Stage One); and
- Availability of contractors and resources (i.e. materials and equipment).

Based on a high-level estimate of similar works, the anticipated construction duration for the Project is approximately four years.

2.5.4 Construction area requirements

Typical offsets for construction areas of various construction work have been adopted to inform the proposed designation boundaries and are summarised in Table 2-2. These offsets and typical construction areas have been informed by similar transport infrastructure projects.

Table 2-2 – Typical construction works areas

Construction Element	Typical area or offset required for construction
Earthworks – construction of batter slopes	20m from earthworks batter slopes for construction access and environmental controls.
Stormwater wetland	6m around for access and environmental controls.
Bridge construction (substructure)	20m either side of bridge, and minimum 40m behind each abutment ends for construction access (e.g. cranes, piling rigs, trucks).
Bridge construction (superstructure)	20m either side of bridge for typical crane access, truck access.
Main site compound	5,000-10,000m^2.
Additional site compounds	1,000-2,000m^2 (located near critical work areas, e.g. bridge, culverts, retaining walls etc).
Culverts and headwalls	Typically, 10m beyond extent of permanent works for culverts and larger headwall construction.
Construction laydown for large scale works	Up to 2,000m^2 for construction laydown areas for plant and material storage (located near critical work areas, e.g. bridge, culverts, retaining walls etc).
Construction laydown	500-1,000m^2 – site laydown for material storage, evenly spread along the alignment every 200-500m.

3 DESCRIPTION OF THE EXISTING ENVIRONMENT

3.1 Overview

The Project extent is 5km in length running from the end of the Stage One works at the intersection of Mill Road and Alfriston Road to a new intersection with Papakura-Clevedon Road and traverses a peri-urban area of largely Mixed Rural-zoned land to the east of the RUB between Takaanini and Ardmore. It is currently used for a variety of rural residential, agricultural, equine, and business activities. The proposed alignment adjoins the western edge of Ardmore Airport. The affected properties are listed and shown in the designation plans and affected property schedules attached to the Form 18.

The relevant provisions of the Auckland Unitary Plan: Operative in Part (AUP:OP) applying to the NOR extent are shown at Figure 3-1 and listed at Table 3-1.

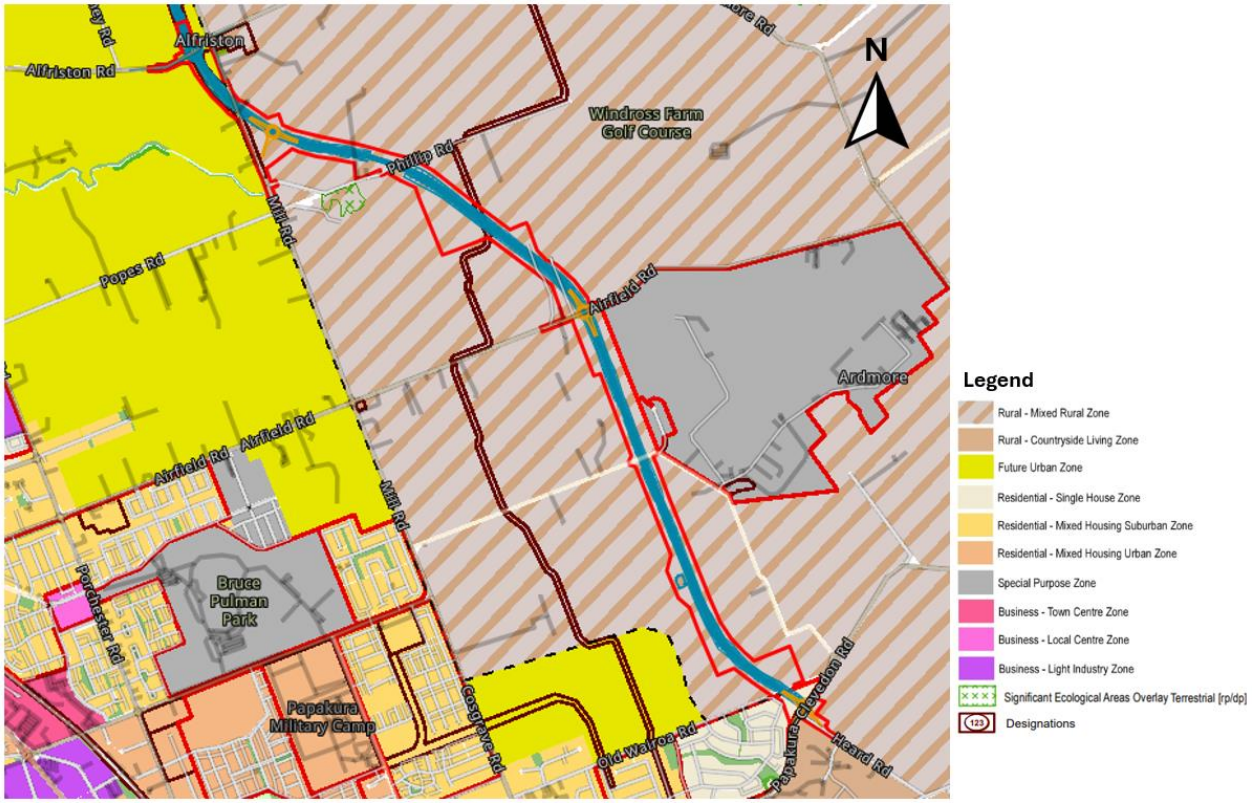

Figure 3-1 – Mill Road Takaanini section planning context. Proposed alignment shown in blue.

The Project is located within the Papakura Stream stormwater catchment and crosses the stream and its tributaries in the vicinity of Phillip Road. Associated with the Papakura Stream system is a large floodplain, which is partly traversed by the Project.

To date, urbanisation has been contained within the RUB in this area – specifically to the Takaanini Precincts to the west and immediate south of the alignment which were developed during the late-2010s (see Figure 3-1).

The Project also traverses part of the landholding for the Sunfield development, a proposed 245-hectare development largely outside the RUB which is a 'listed project' in Schedule 2 of the FTAA. The applicant, Winton Land Limited (Winton) filed a substantive application with the Environmental Protection Authority (EPA), which was determined to be complete on 29 April 2025.

Table 3-1 – Mill Road Takaanini Section planning context

Relevant AUP:OP provisions (note only provisions applying to NOR extent listed)	
Zoning	Road (i.e. unzoned) Future Urban Zone Rural – Mixed Rural Zone Residential – Single House Zone Rural – Countryside Living Zone
Precincts	Takanini sub-precinct D
Controls	Controls – Macroinvertebrate Community Index – Rural
Overlays	Natural Resources – High-Use Aquifer Management Areas Overlay – Clevedon West Waitemata Aquifer
Designations	Designations – 1836 – Mill Road-Redoubt Road Corridor (Auckland Transport) Designations – 9104 – Pukekohe to East Tamaki Gas Pipeline (First Gas Limited) Designations – 200 – Ardmore Airport Height Restrictions (Ardmore Airport Ltd) Designations – 1102 – Protection of aeronautical functions – obstacle limitation surfaces (Auckland International Airport Ltd)

3.2 Approach to the existing environment

The NOR provides for the Takaanini section of the Mill Road Corridor, part of the Stage Two works. It is anticipated that the Project will be implemented as and when necessitated by growth and enabled by funding availability. Stage Two will not commence until the completion of the Stage One works at the earliest. As noted at Section 1.3 above, NZTA is preparing the remaining statutory approvals on Stage One for processing via the FTAA. Construction is planned to commence in mid-2026 and is anticipated to take seven years to complete.

It is well established that the '*environment'* on which effects are assessed under section 171 is the existing physical environment as well as elements of the future environment such as:

a) Permitted activities under the relevant plans; and
b) Resource consents that are likely to be implemented.

In addition to the above, the future environment requires consideration of the likely environment anticipated at the time construction will begin as signalled by the operative objectives and policies of a District Plan.

Accordingly, it is considered that assessing the environment solely as it exists today (i.e. at the time of this assessment) will not provide an accurate reflection of the environment in which the effects of the construction and operation of the Project will be experienced given the construction of the Project will not occur until at least Stage One is complete.

4 ASSESSMENT OF ALTERNATIVES

Section 171(1)(b) of the RMA requires that:

> *"When considering a requirement and any submissions received, a territorial authority must, subject to Part 2, consider the effects on the environment of allowing the requirement, having particular regard to—*
>
> *…*
>
> *whether adequate consideration has been given to alternative sites, routes, or methods of undertaking the work if—*
>
> *(i) the requiring authority does not have an interest in the land sufficient for undertaking the work; or*
> *(ii) it is likely that the work will have a significant adverse effect on the environment…"*

NZTA does not have sufficient interest in the land required for the Project, and accordingly Auckland Council is required to consider whether NZTA has given adequate consideration to alternative sites, routes, and methods.

4.1 Optioneering history and extent

As noted at Section 1.3 above, part of the optioneering underpinning the Project was undertaken as part of Te Tupu Ngātahi. This took place through an iterative process of business cases in the 2018-22 period, with the level of analysis in each successive business case becoming more detailed and spatially focused than the last. These relevantly included an Indicative Business Case (IBC); and subsequently a Detailed Business Case (DBC). These are summarised at Sections 4.3 and 4.4 respectively below.

The DBC assessment considered the corridor in three sections (excluding the Stage One section which as noted above was designated in 2016) – from north-to-south the Takaanini section, the Papakura section, and the Drury section (see Section 4.4). The Takaanini section is the pertinent section for the current NOR and is therefore the focus of the summary set out below. Notwithstanding this, it is noted that optioneering for any one section has implications for the adjoining section.

Further optioneering has been undertaken in 2025 to support the current NOR using previous Te Tupu Ngātahi assessment as the starting point. This assessment focused on the Takaanini section given the proposed extent of the NOR and is summarised at Section 4.5 below.

4.2 Assessment methods

The Multi-Criteria Assessment (MCA) Framework developed for Te Tupu Ngātahi has been consistently utilised as the main assessment method throughout. The MCA Framework requires the relevant options in a given grouping to be scored by relevant subject matter experts (SMEs) using an eleven-point scale, generally in a workshop setting. In identifying a preferred option, aggregate scoring or weighting of individual MCA criteria was not undertaken. This ensured that, instead, preferred options were reached through balanced consideration of all criteria by the Project team.

The process of undertaking "gap analysis" has also been an integral part of the optioneering process. The gap analysis process allows for further consideration of contextual changes (e.g. changes in transport policy settings, proposed land use, modelling data, etc) that have occurred between different stages of optioneering. In doing so, it confirms the necessary scope of optioneering for the next stage – i.e. identifying where further assessment is necessary or validating previous optioneering conclusions. This approach recognises that significant contextual changes can and have occurred over multiple optioneering stages over several years.

4.3 Indicative Business Case (2018-19)

The South IBC was undertaken in 2018-19 and identified an Indicative Strategic Transport Network (ISTN) for the Southern growth area (comprising FUZ-zoned areas in Southern Auckland in Takaanini, Ōpāheke, Drury, Paerātā, and Pukekohe). An extensive optioneering process was undertaken, beginning with development of an unfiltered longlist of 460 potential transport interventions across the entire Southern growth area including strategic roads, modal arterial roads, mass transit corridors, highway interchanges, and active mode corridors; as well as interventions to reduce travel demand through land use-transport integration.

This was then reduced to a longlist of 151 options following a process of filtering which excluded:

- Options beyond the scope of the IBC (i.e. outside the Project area);
- Land use options (i.e. interventions to influence travel demand being discussed separately with Auckland Council);
- Options already part of an existing project;
- Options considered business-as-usual so would otherwise be implemented (e.g. use of staging);
- Options considered unfeasible due to significant physical constraints; and
- Duplicates of another option (some duplicates were merged to identify a final option for assessment).

The resulting longlist of 151 options was sorted into nine option groupings addressing different types of projects and different areas within the Southern growth area and assessed via MCA. The preferred options from this MCA comprised the ISTN, which in turn formed the conceptual network basis for further project-specific optioneering through DBCs.

Options for a Mill Road Corridor were identified and assessed as part of a grouping referred to as Strategic Road Connections, which comprised options designed to provide additional north-south throughput capacity and network resilience. These included:

- Eastern options – options for a north-south corridor parallel to the east of SH1, including options for a Mill Road Corridor;
- Western options – options for a north-south corridor parallel to the west of SH1, via a new crossing of the Manukau Harbour between Weymouth and Karaka; and
- Central options – additional capacity on SH1.

The assessment of these options identified the Mill Road Corridor between Manukau and Drury as an integral part of the preferred network and was incorporated into the ISTN released in 2019 (see Figure 4-1). Accordingly, it was taken forward for further investigation through a DBC with a view towards route protection.

SOUTH INDICATIVE STRATEGIC TRANSPORT NETWORK

JULY 2019

Projects described in these maps have been identified by indicative business cases and will require further technical investigation, engagement with communities and landowners and statutory approvals before their final detail, location or land requirement is confirmed. They are also yet to be prioritised for funding for delivery over the next 10-30 years.

RAIL CORRIDOR UPGRADE

1. Rail upgrade from Papakura to Pukekohe
2. Closure of Manuroa Road and Spartan Road rail crossings to vehicles
3. New grade separated rail crossings at Taka Street and Walters Road
4. New train station – Drury Central
5. New train station – Drury West
6. New train station – Paerata

NEW OR IMPROVED PUBLIC TRANSPORT CORRIDOR

7. Frequent Transit Networks (FTNs) routes using SH1 and arterial roads to connect to town centres, and the major centres of Papakura, Drury and Manukau

NEW WALKING AND CYCLING CORRIDOR

8. Strategic walking and cycling corridor to connect to SH1 Strategic Cycleway

NEW OR IMPROVED TRANSPORT CORRIDOR

9. Mill Road Corridor including northern connections
10. Additional long term upgrades to SH1 between Manukau and Takaanini
11. Upgrade Mahia Road and Popes Road (including a new grade separated rail and SH1 crossing)
12. Upgrade Opāheke Road and Ponga Road
13. New arterial between Papakura industrial area, to Waihoehoe Road
14. Upgrade Jesmond Road, Bremner Road and Waihoehoe Road
15. Upgrade Drury West section of SH22
16. Connections from SH22 to the Pukekohe Expressway
17. New Pukekohe Expressway connecting Pukekohe to SH1
18. Pukekohe Ring Road
19. Upgrade Mill Road between Harrisville Road intersection and the Bombay interchange

SAFETY IMPROVEMENTS

20. Safety improvements to Alfriston Road, Brookby Road, Papakura-Clevedon Road, Hingaia Road, Hunua Road, Linwood Road, Walters Road, Blackbridge Road, Glenbrook Road, Kingseat Road, McKenzie Road, Ostrich/Woodhouse Road, Pukekohe East Road, Logan Road, Waiuku Road and Buckland Road.

OTHER PRIORITY PROJECTS

21. Rail electrification from Papakura to Pukekohe
22. SH1 Papakura to Bombay Project
23. Safe Networks Programme: SH22 Safety Improvements

LEGEND

- New growth area (Future Urban Zone)
- Drury – Opāheke structure plan area
- Pukekohe – Paerata structure plan area
- Existing urban area
- State Highway (SH)
- Auckland – Waikato Boundary
- New or upgraded interchange
- Existing rail corridor
- Existing train station
- Improved rail corridor
- Closure of rail level crossing
- Grade separation of rail level crossing
- New train station
- New public transport corridor
- Improved public transport corridor
- New walking and cycling corridor
- New transport corridor
- Improved transport corridor
- Safety improvements
- Other priority projects

NZ TRANSPORT AGENCY WAKA KOTAHI

New Zealand Government

Figure 4-1 South Indicative Transport Network (2019) - see annotation 9 for Mill Road Corridor

4.4 Detailed Business Case (2019-22)

4.4.1 Optioneering extents

As noted above, the Mill Road Corridor was divided into interdependent sections for the purposes of alternatives assessment (excluding the Stage One section which was designated in 2018):

- The Takaanini section, between Alfriston Road and Old Wairoa Road;
- The Papakura section, between Old Wairoa Road and Hunua Road; and
- The Drury section, between Hunua Road and the proposed SH1 Drury South Interchange.

These sections are shown in Figure 4-2. The current Project extent directly corresponds with the Takaanini section.

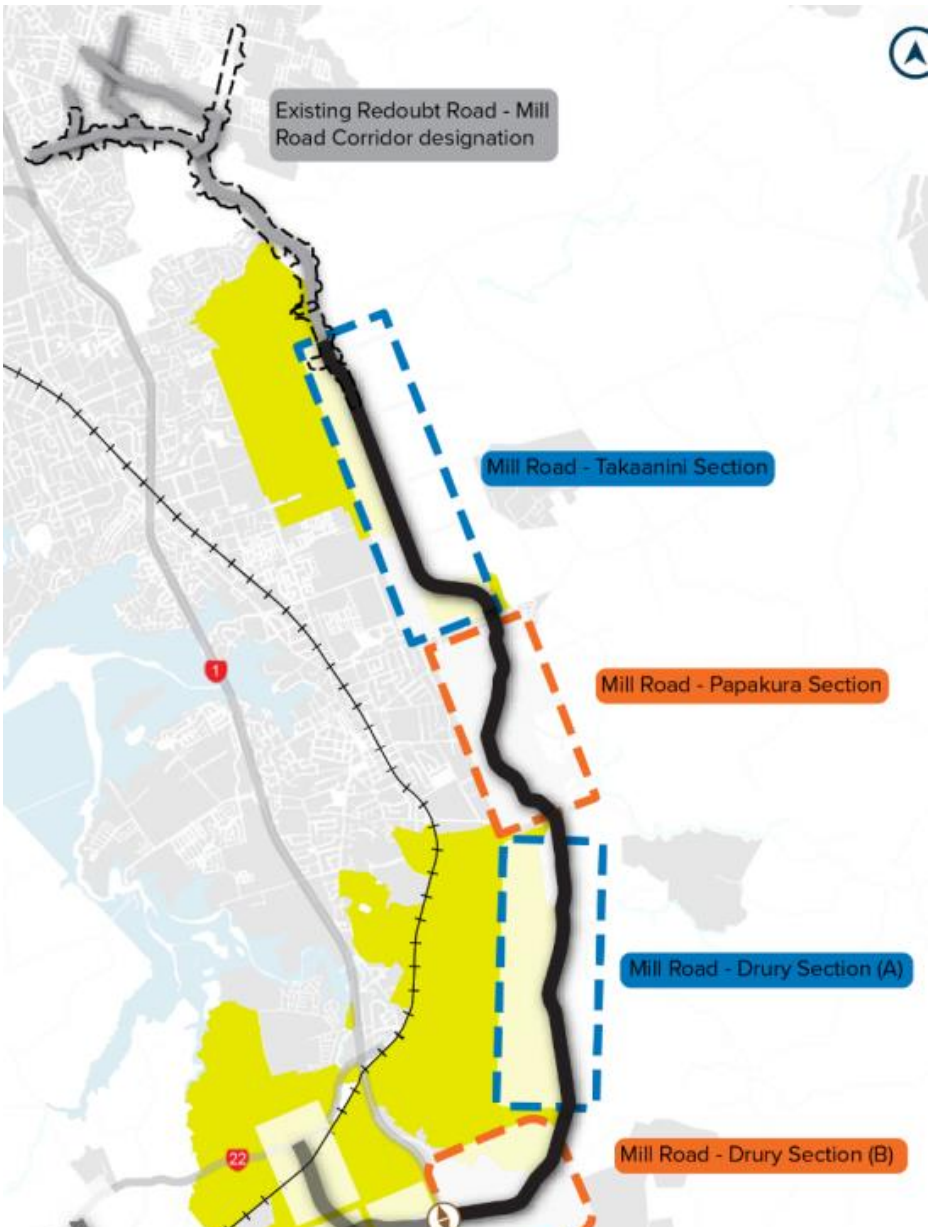

Figure 4-2 – Mill Road Corridor sections (note IBC/ IST alignment is shown which has been subject to further assessment and refinement as documented below).

4.4.2 Takaanini section

Three options were assessed for the northern part of the Takaanini section, all utilising the southern end of the existing designation for Stage One as the starting point. The three options assessed were as follows (see Figure 4-3):

- Option A – Generally along the existing Mill Road;
- Option B – East of the existing Mill Road, generally in line with the eastern boundary of the first property fronting Mill Road; and
- Option C – Further east of Option B.

Figure 4-3 – Takaanini section DBC options

The three options were assessed through an MCA process. The scoring from this assessment is summarised below.

Table 4-1 – Takaanini section – MCA scoring

MCA Criteria	A	B	C
Investment Objective 1			
Investment Objective 2			
Investment Objective 3			
Investment Objective 4			
1a. Heritage			
2a. Land use futures			
2b. Urban design			
2c. Land requirement			
2d. Social cohesion			
2e. Human health and wellbeing			
3a. Landscape / visual			
3b. Stormwater			
3c. Ecology			
3d. Natural hazards			
4a. Transport system integration			
4b. User safety			
5a. Construction impacts on utilities / infrastructure			
5b. Construction disruption			
6a. Construction costs / risk / value capture			

The Project Team noted that matters relating to social cohesion, land use futures, stormwater, ecology, and natural hazards were the key differentiators between options.

Option A was identified as the preferred option for the following reasons:

- Responded well to planned land use, being an urban-rural edge separating the Future Urban Zone (FUZ) to the west from the rural zone land to the east;
- Efficient use of existing infrastructure as it utilises an existing road;
- Existing intersections are spaced approximately 1km apart, which is commensurate with the intended strategic function of the Mill Road Corridor;
- Avoids impacts on the high value stream confluence area over the Papakura Stream and is likely to avoid the Kahikatea forest habitat within SEA_T_534 which could provide habitat for native species; and
- Avoids constructability issues relating to peat/organic soils.

Conversely, Options B and C were not preferred for the following reasons:

- Resulted in residual rural land between the new alignment and the existing Mill Road which may encourage development beyond the FUZ;
- Complex stream crossings over two areas where the Papakura Stream and tributaries converge, including potential impacts on high value stream confluence area and possible impacts on edge of Kahikatea forest habitat within SEA_T_534;
- Long sections through flood-prone areas; and

- Impacts on existing rural businesses, and severance effects on an existing rural community.

The southern end of the Takaanini section was subject to a separate MCA to identify a preferred tie-in to the Papakura section. Four options were developed for assessment as follows (see Figure 4-4):

- **Option A** – Online alignment utilising existing Mill/Cosgrave and Clevedon Roads;
- **Option B** – New S-curve alignment through rural and FUZ area, tying into intersection of Old Wairoa Road / Okawa Avenue;
- **Option C** – New straight eastern alignment through rural and FUZ area, tying into intersection of Old Wairoa Road / Okawa Avenue; and
- **Option D** – Partially online alignment utilising existing Mill/Cosgrave Road, transitioning to a new corridor diagonally traversing the FUZ to connect to the intersection of Old Wairoa Road / Okawa Avenue.

Figure 4-4 – Takaanini section southern tie-in options

The four options were assessed through an MCA process. The scoring from this assessment is summarised below.

Table 4-2 – Takaanini southern section – MCA scoring

MCA Criteria	A	B	C	D
Investment Objective 1				
Investment Objective 2				
Investment Objective 3				
Investment Objective 4				
1a. Heritage				
2a. Land use futures				
2b. Urban design				
2c. Land requirement				
2d. Social cohesion				
2e. Human health and wellbeing				
3a. Landscape/ Visual				
3b. Stormwater				
3c. Ecology				
3d. Natural hazards				
4a. Transport system integration				
4b. User safety				
5a. Construction impacts on utilities / infrastructure				
5b. Construction disruption				
6a. Construction costs / risk / value capture				

The Project Team noted that matters relating to social cohesion, human health and wellbeing, user safety, and construction were the key differentiators between options. A hybrid of options B (S-curve) and D (diagonal) incorporating geometric elements of both was identified as the preferred option for the following reasons:

- No evident differentiators between options B and D;
- Both options avoided going through an established an urban environment; and
- Options more likely to achieve the intended strategic function of the corridor as they avoid the access issues associated with existing urbanisation/driveways of Option A.

Conversely, options A and C were not preferred for the following reasons:

- Option A would impact on an urbanised environment with impacts on residential development and community facilities;
- Option A has both a high concentration of driveways on existing roads (which also pose modal conflict risk), and a dogleg intersection which would compromise the intended strategic function of the corridor; and
- Option C was identified as leaving a residual strip of rural land which was considered to potentially encourage development beyond the FUZ, and impact on rural businesses. Option C was also not considered to be compatible with the online option preferred to the north.

4.4.3 Implications for adjoining sections

While sections adjoining the Takaanini section are beyond the scope of this NOR, it is noted that decisions for any one section have implications for the adjoining section. Implications for adjoining sections were therefore considered carefully during the DBC.

In the case of the Takaanini section, the northern end was effectively a fixed point informed by the southern end of the already-designated Stage One at the intersection of Mill Road and Alfriston Road.

Conversely, the southern end of the preferred option for Takaanini (i.e. the intersection of Old Wairoa Road and Okawa Avenue, see Figure 4-4) informed options for the northern end of the Papakura section to the south.

Options for the Papakura section will need to be reassessed as part of a future NOR process and will need to consider the implications of the updated assessment for the Takaanini section described below at Section 4.5.

4.5 Updated 2025 assessment

The preferred option identified for the Takaanini section through the DBC was reassessed in 2025 to inform this NOR in light of contextual changes as follows.

4.5.1 Gap Analysis

A gap analysis was undertaken in early 2025 to capture changes in the strategic context that have occurred since the completion of the DBC assessment in 2021. This process recognises that contextual changes in the last four years merit retesting of earlier recommendations summarised above. The key conclusions of this gap analysis are summarised in Table 4-3 below.

Table 4-3 – Key contextual changes since the DBC

Change	Explanation / relevance
Transport policy changes	
New GPS 2024-34 and reintroduction of the RONS	The new GPS introduced revised strategic priorities for transport investment – economic growth and productivity, increased maintenance and resilience, safety, and value for money. As a subset of the economic growth and productivity strategic priority, the RONS programme was reintroduced. The Mill Road Corridor was identified as a RONS under the GPS. The priorities in this are a significant change from the earlier GPSs under which previous business cases and optioneering for Mill Road were developed – these placed greater emphasis on multi-modal accessibility and climate change/transport emissions reduction.
New Investment Objective	As noted at Section 2.2 above, a new Investment Objective was drafted reflecting the new GPS and inclusion as a RONS – to *"improve traffic efficiency on the Mill Road Corridor and enhance transport network resilience."* This new investment objective replaced earlier objectives developed for Mill Road during the IBC and DBC which while not entirely inconsistent placed a greater emphasis on accessibility, supporting land use, and multi-modal benefits enabled for parallel routes. Generally, the new objective places greater emphasis on the need to achieve a more strategic form and function for the corridor as required by the RONS standards (see below).
RONS standards	New standardised designs for use on RONS were published by NZTA in August 2024 and contained a range of standard cross-

	sections and parameters applicable to RONS projects. Achieving the RONS standards is integral to meeting the investment/project objective, and accordingly has been adopted as a core form and functional assumption for options.
Land use changes	
Future Development Strategy	Auckland Council adopted a Future Development Strategy (FDS) in 2023. The FDS superseded the Future Urban Land Supply Strategy (FULSS) which informed the land use assumptions for earlier Mill Road options assessment. The FDS signals the removal of some of the Takaanini and Ōpāheke FUZ from future urbanisation due to flood risk but otherwise continues to indicate significant growth along the length of Mill Road (particularly at growth nodes Manukau and Drury at either end of the corridor) over the next 30 years. Some large-scale developers (see below) are proposing significantly expedited development timeframes relative to the FDS.
Sunfield Development	Winton has proposed the Sunfield Development on a 245ha landholding between Takaanini and Ardmore. The development is a listed project under the FTAA. If approved and completed, the development will add further travel demand to the Mill Road Corridor.
Alfriston Village Development	Windermere Holdings Limited (WHL) and Kāinga Ora have proposed the Alfriston Village development on an 80ha landholding traversed by the Stage One designation. If approved and completed, the development will add further travel demand to the Mill Road Corridor. A Plan Change had not been formally lodged at the time of writing this AEE.
Ardmore Airport Precinct development	Development underway within the Ardmore Airport Precinct to enable further commercial and light industrial development. Upon completion, the development will add further travel demand to the Mill Road Corridor.
RMA policy changes	
New RMA National Policy Statements	National Policy Statements on Urban Development (NPS-UD) and Freshwater Management (NPS-FM) were made operative during previous optioneering for Mill Road. Since 2021, new National Policy Statements on Highly Productive Soils (NPS-HPL), Indigenous Biodiversity (NPS-IB). These may present future consenting risks and accordingly are now relevant optioneering considerations.
Other	
Route protection of the remainder of the Indicative Strategic Transport Network (ISTN) for Southern Auckland	With the exception of the Mill Road Corridor, route protection for the remainder of the ISTN identified in 2019 has now been completed. 28 NORs have been lodged across the Southern growth area, of which a significant portion are operative in the AUP:OP with the remainder in the appeals phase. Each of these NORs constitutes part of a proposed network which assumes the Mill Road Corridor. In some cases, the NORs directly provide for integration with a future Mill Road Corridor – most notably the Drury Arterials and Pukekohe Arterials networks.
Flood modelling and assessment	Auckland Council Healthy Waters have provided updated flood modelling data and flood assessment requirements which will need to be considered in the further development and retesting of options.

	These require consideration of higher rainfall as a result of climate change and higher maximum probable development.

4.5.2 Optioneering extent and parameters

Based on the above gap analysis, the Project Team identified a need to retest options for the Project to meet the requirements of s171(1)(b) for this NOR. The following key parameters were identified for this assessment:

- The updated investment objective noted above in Section 2.2 was adopted for the purposes of the investment objective criterion in the MCA Framework (noting that there was some alignment with one of the previous four investment objectives);
- Design parameters consistent with the RONS criteria, notably the assumption of an 80km/h posted speed for the corridor, were adopted; and
- Options were to connect Alfriston Road in the north (i.e. the end of Stage One) to Papakura-Clevedon Road in the south.

The alternatives were developed and assessed in line with these parameters. The extent of the assessment was limited to the Takaanini section only. Notwithstanding this, it is noted again that decisions for any one section have implications for the adjoining section.

4.5.3 Options assessed

Based on the findings of the gap analysis and following the parameters outlined above, four alignment options were developed for assessment as follows (see Figure 4-5). As noted above, each alignment was assessed as an 80km/h RONS corridor from a form and function perspective:

- **Option 1** – The preferred option from the DBC work for Te Tupu Ngātahi (see Section 4.3 above);
- **Option 2** – Online Takaanini option following existing roads (Mill Road, Cosgrave Road, and Clevedon Road;
- **Option 3** – Offline option running to the east of Option 1 and west of Ardmore Airport; and
- **Option 4** – Offline option running east of Ardmore Airport.

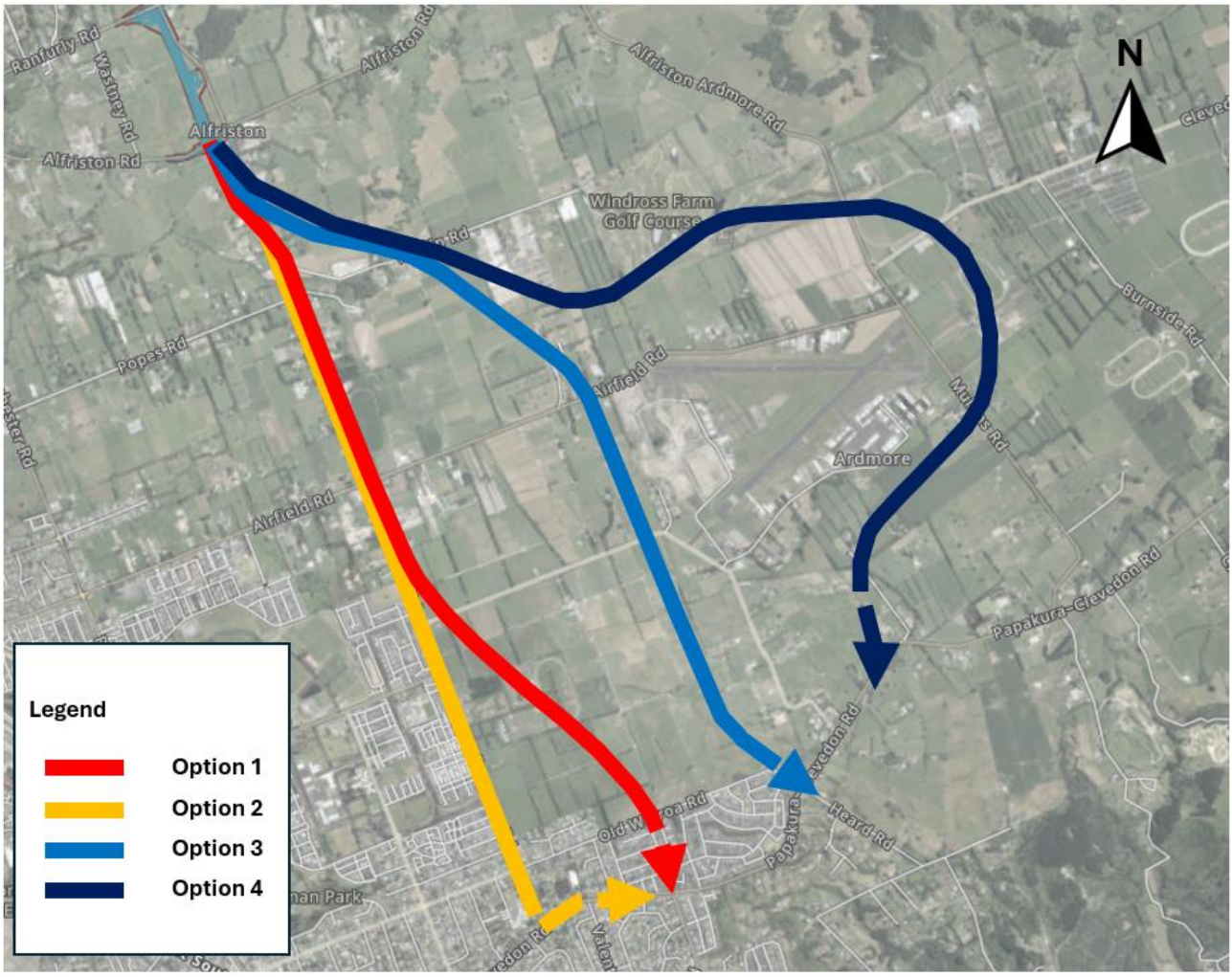

Figure 4-5 – Shortlisted options for 2025 assessment.

4.5.4 Assessment outcomes

The MCA scoring for the shortlisted options is summarised at Table 4-4Table 4-4 below. The key findings and differentiators of the assessment are summarised as follows:

- Options 3 and 4 were assessed as being better aligned with the investment objectives and transport criteria. These options were assessed as more successfully delivering on the strategic form and function sought from a RONS corridor (i.e. a strategic four-lane, 80km/h limited access road) by largely avoiding urbanised areas and increasing the capacity provided. Of these, Option 3 was preferred based on these criteria as it is more direct compared with Option 4.
- Conversely, Options 1 and 2 were assessed as presenting land use integration challenges in achieving the outcomes sought for a RONS corridor given that they run alongside or through areas of existing urbanisation and planned urbanisation (as signalled by the FUZ, and by FTAA applications). Consequently, the options were assessed as achieving a lesser capacity improvement relative to Options 3 and 4. This is reflected in the scoring for land use futures, urban design, social effects, and human health and wellbeing. It should be noted that all options achieve a level of land use benefit as part of a planned transport network that broadly supports growth at a sub-regional level.
- Options 3 and 4 were preferred from a stormwater perspective on the basis that they are located further upstream (i.e. eastwards) within the Papakura Stream catchment, consequently traversing a lesser extent of floodplain and fewer stream tributaries as

Options 1 and 2. Conversely, Options 1 and 2 were assessed as crossing a wider extent of floodplain, and as likely needing to deal with more significant stormwater runoff potential upstream urbanisation. All options were assessed as requiring raising of road levels for flood resilience, noting that Options 1 and 2 cross wider floodplain extents.

- Options 1 and 2 were assessed as being more disruptive during construction and as having a greater effect on existing utilities/infrastructure being located in an urbanised area. This is reflected in scoring for construction disruption and construction impacts on utilities;
- Options 1 and 2 were preferred under the landscape and visual and ecology criteria given their impacts are largely contained to urban/future urban areas and avoid impacts on stream headwaters and hilly terrain to the east; and
- Construction costs were not assessed as being a significant differentiator given that all options would have significant costs. While Options 3 and 4 were considered likely to cost more, these differences were not considered significant enough in context to differentiate MCA scoring. Similarly, land requirement was not assessed as being a significant differentiator – Options 1 and 2 were assessed as requiring less land overall but more urbanised and urbanising properties; and vice versa for Options 3 and 4. All options were between 4-5.5km in length for the Takaanini section.

On this basis, **Option 3** was identified as the preferred option for the Project.

Table 4-4 - MCA scoring for shortlisted 2025 options

Criteria	Option 1	Option 2	Option 3	Option 4
Investment Objective – improve traffic efficiency				
Investment Objective – enhance network resilience				
Historic heritage				
Land use futures				
Urban design				
Land requirement				
Social effects				
Human health & wellbeing				
Landscape & Visual				
Stormwater				
Ecology				
Transport system integration				
User safety				
Construction impacts on utilities/infrastructure				
Construction Disruption				
Construction costs/risk				

In addition to the above, noted differentiators from the MCA, Option 3 was also considered to provide the advantage of greater flexibility for the adjoining Papakura section to the south (which will be confirmed through a future NOR process). Option 3 has been confirmed as being compatible with a range of possible alignments in the Papakura section, including options running either through or around the Papakura urban area. Conversely, Options 1 and 2 were noted as being more likely to confine the Papakura sections to an urban alignment (which would be less conducive to achieving a RONS-standard corridor); while Option 4 was considered more likely to lock in a rural alignment.

5 CONSULTATION

5.1 Overview

This section provides an overview of the partner, stakeholder, and public engagement for the Project. It summarises engagement during each phase of the Project and sets out the common feedback themes raised through each phase.

The Project has been through various phases of engagement. These phases are summarised in the table below:

Table 5-1 – Summary of engagement undertaken to date

Project stage	Extent	Timing	Engagement purpose
Te Tupu Ngātahi – IBC	Manukau – Drury	2018-2019	The purpose of this engagement was to seek feedback on the indicative strategic transport network for the southern growth areas. Amongst other projects, this included the full extent of the Mill Road Corridor (Manukau to Drury). This engagement involved the following methods: • Hui with Mana Whenua • Workshops with stakeholders • Project flyers • Public information days
Te Tupu Ngātahi – DBC	Manukau – Drury	2019-2021	The purpose of this engagement was to provide an update on how feedback from the previous round of engagement was incorporated in the option assessment process as well as seek feedback on the indicative preferred route. The same engagement methods were used during these phases of engagement as during the IBC.
New Zealand Upgrade Programme	Manukau – Drury	2021- 2022	
Notice of Requirement	Takaanini only	2025	Engagement during this stage focused on partners (Mana Whenua and AT) and key stakeholders (Auckland Council) regarding the scope and optioneering of the NOR for the Takaanini section of the Mill Road Corridor. Engagement with partners comprised a series of workshops convened to reach consensus on the preferred option and discuss the underpinning assessments. Additionally, regular Mana Whenua Hui were maintained during this period. Affected property owners and network utility providers have been notified by NZTA prior to the lodgement of the NOR. The relevant property interests are listed in the Property Schedule appended to the Form 18.

During the phases undertaken by Te Tupu Ngātahi, engagement was undertaken with the following partners, stakeholder, and community:

- Mana Whenua;
- Auckland Transport;
- Relevant local boards;
- Government agencies;
- Advocacy groups;
- Network utility providers;
- Local community/residents; and
- General public.

Various methods of engagement were carried out during the previous business case engagement period. This is, summarised below:

- Regular hui were held with Mana Whenua through the Te Tupu Ngātahi Southern Mana Whenua Table at key points in the development of the business case/notice of requirement process including optioneering;
- Te Tupu Ngātahi project teams met with the relevant representatives of Auckland Council and Auckland Transport on a regular basis to provide project updates, align programmes, and coordinate engagement activities. This included sessions for staff to introduce the programme and projects within Te Tupu Ngātahi;
- Presentations, small group meetings, and one-on-one meetings were held with key stakeholders. This engagement sought feedback during the development of the business case and included workshops on the long list and short list option development and assessment;
- Mail drops and flyers were sent to communities, potentially affected property owners/occupiers, and businesses within the Project area involved. These provided information on the Project and set out opportunities for the community to be involved. This was followed by community open days, emails, phone calls, and one-on-one meetings as required; and
- Media releases and regular information on websites and social media was provided for the general public.

A portion of the engagement undertaken through Te Tupu Ngātahi on the Mill Road Corridor coincided with the COVID-19 pandemic as such the feedback period on the optioneering was extended and additional methods of engagement were incorporated such as the use of virtual town halls, online community conversations and feedback via the Social Pinpoint platform.

Key feedback points received were summarised into the following themes:

- **General support for the project** – Support for a route in addition to SH1 and existing Mill Road which can be used as an alternative travel option for residents of the area;
- **Use of existing Mill Road** – Existing Mill Road gets used daily as a key link between Botany and Papakura, therefore there was support for a new corridor;
- **Land use transport integration** – Strong need for the project – Takaanini area having grown substantially in the last ten years with further development imminent in the future urban areas;
- **Safety** – Safety for children considering the proximity of the corridor to Alfriston School;
- **Network utilities** – Consideration of significant network utilities in the area and the proximity to these;
- **East-West connections** – Importance of east-west connections to the Mill Road Corridor – in particular at Popes Road, Airfield Road, and Walters Road;
- **Integration with Auckland Council's stormwater channel** – Potential impacts on the Awakeri Wetland, a stormwater management channel designed to drain and treat development to the west of the Mill Road options in the Takaanini area;
- **Popes Road intersection** – Safety concerns at Popes Road intersection – used by buses and trucks, some members of the community did not consider this to be fit for purpose considering the current and future growth of the area; and

- **Urban development** – Concerns with options that have the potential to bring urban development closer to Ardmore Airport as there are likely to be reverse sensitivity effects if this were to eventuate.

5.2 Partnership with Mana Whenua

5.2.1 Te Tupu Ngātahi

Mana Whenua have been involved in all previous phases of the Project. Engagement with Mana Whenua first commenced in 2018 as part of the Te Tupu Ngātahi Indicative Business Case phase. This involved monthly hui and project workshops to seek feedback from Mana Whenua on key project decisions through a Mana Whenua Forum. The focus of this forum was to provide oversight across Te Tupu Ngātahi projects.

Upon the commencement of the DBC phase, Mana Whenua selected a smaller group of iwi for each of the Te Tupu Ngātahi growth areas. For the Southern growth area, a Southern Mana Whenua Table was established with regular attendance from:

- Ngāi Tai ki Tamaki;
- Ngaati Te Ata Waiohua;
- Ngaati Whanaunga;
- Ngāti Tamaoho;
- Ngāti Paoa Iwi Trust;
- Te Ākitai Waiohua;
- Te Ahiwaru;
- Ngāti Tamaterā; and
- Ngāti Maru

The Project Team's engagement with Mana Whenua was primarily enacted through the Southern Te Tupu Ngātahi monthly hui and Project specific hui which was attended by representatives of the iwi identified above. These hui provided opportunities for kōrero and knowledge sharing between Mana Whenua and the Project Team.

Mana Whenua were also involved as partners in the decision making through all phases of Te Tupu Ngātahi (Indicative Business Case, Detailed Business Case/Notice of Requirement) including the option development and assessment of alternatives process. While this processed commenced through Te Tupu Ngātahi, this engagement as well as the knowledge shared through Te Tupu Ngātahi (such as sites, features, and values of cultural significance) continued to inform the lodgement of this NOR.

5.2.2 Project engagement in 2025

As noted in Table 5-1, continued engagement with Mana Whenua took place over the course of the preparation of this NOR. This included the participation of Mana Whenua representatives as partners alongside AT and NZTA representatives in the series of workshops regarding the preferred option and discuss the underpinning assessments. Additionally, regular Mana Whenua hui were maintained during this period.

6 ASSESSMENT OF EFFECTS ON THE ENVIRONMENT

This section sets out the assessment of effects on the environment for the Project. The positive effects of the Project are set out at Section 6.1. The adverse construction and operational effects of the Project are then summarised as relevant for each discipline at Sections 6.2-6.9.

6.1 Positive Effects

6.1.1 Transport

The positive transport effects of the Project have been considered by a suitably qualified and experienced person who has provided the following summation.

The Project directly addresses worsening congestion and capacity constraints across the Mill Road corridor and surrounding network.

Existing intersections such as Airfield Road and Alfriston Road already operate at or below acceptable levels of service, and future housing growth will significantly increase traffic demand. The Project responds to this challenge by delivering four new lanes via an offline alignment, representing a material increase in corridor capacity beyond what is possible through online upgrades.

As a net addition to the strategic road network, the Project enhances system capacity, relieves existing bottlenecks, and enables the safe and efficient movement of both people and freight. This option avoids the limitations of retrofitting constrained corridors and provides a long-term solution that is scalable and robust.

A major strategic objective of the Mill Road Corridor is to provide a resilient alternative to SH1 in the event of unplanned disruptions. Currently, there are no high-quality detour routes for freight or general traffic when closures occur on SH1, with diversions forced onto local roads such as Porchester Road and Great South Road. These routes are not suited to high volumes or HPMV traffic.

The Project introduces a new offline corridor that runs in parallel to SH1, thereby increasing the overall resilience of the transport network. The route offers a reliable alternative for both strategic and local trips, particularly in the context of increasing disruption due to weather events and network pressures.

In contrast to options that rely on upgrading existing corridors, the offline alignment is isolated from urban pressures and congestion, ensuring that it remains a dependable route even under stress. This aligns strongly with GPS priorities relating to resilience and security, by reducing both the occurrence and consequences of network failure.

The Project offers a step change in user experience and travel time reliability. Its offline alignment enables a high-speed, uninterrupted travel corridor, with delays from frequent intersections, driveways, and urban access points minimised. This provides measurable benefits for commuters, freight operators, and general traffic, particularly during peak periods.

Journey times are expected to be significantly shorter and more predictable. The Mill Road Corridor will alleviate pressure on existing arterial roads such as Great South Road and the wider local road network, allowing them to perform their intended roles more effectively and contributing to a more efficient and hierarchical transport network.

Safety is a key driver for the Mill Road Corridor investment. The Project provides a new transport corridor built to contemporary RONS safety standards, including median separation, side barriers, and limited access points, all of which significantly reduce the likelihood of high-severity crashes.

By removing access conflicts and ensuring safe passage for all users, the Project contributes to a reduction in deaths and serious injuries, supporting national road safety targets and the Safe System approach. In addition, the diversion of traffic from parallel corridors improves safety

outcomes on those roads as well, especially in areas with high pedestrian activity or school zones.

The Mill Road Corridor is a critical enabler of urban growth in Southern Auckland, and the Project supports this by providing a well-planned, high-capacity transport spine that both serves and can be integrated into future development. Unlike online upgrade options, which are limited by existing land use and accesses, the offline alignment enables structured land use integration and long-term access planning.

While the Project does not include public transport as a primary function, it indirectly supports mode shift by removing traffic from routes such as Great South Road and Porchester Road, where high-frequency bus services are planned. This improves travel time reliability and service levels for public transport users.

The Project is highly consistent with the priorities set out in the GPS, particularly those relating to economic productivity, safety, and resilience. It delivers a high-quality, fit-for-purpose strategic corridor that enables faster and more reliable freight and commuter movements, reduces crash risk, and creates redundancy in the network.

The Project supports the intended Mill Road investment outcomes by providing infrastructure that is not just a response to current problems, but a foundation for long-term network performance. It avoids the risks of incremental investment in constrained corridors and instead delivers a durable solution that maximises benefit realisation. The offline design also reduces exposure to staging conflicts, and complex property acquisition, making it a more deliverable and resilient investment choice over time.

6.1.2 Other positive effects

In addition to positive transport effects, other technical specialists have identified further positive effects of the Project. These are summarised at Table 6-1.

Table 6-1 – Summary of non-transport positive effects

Discipline	Positive Effects
Noise and Vibration (operational)	• The Project is located up to 1.6km to the east of the existing and more densely populated Mill Road to an area where fewer houses are affected. Accordingly, a significant proportion of existing dwellings would receive a noticeable noise level reduction, creating an overall positive outcome for the wider area.
Flooding	• The Project will incorporate raised road levels to ensure it will be above predicted future floodplains, improving the management of flood hazards, and improving the resilience of the transport network to flood events. • The Project will be designed to convey flows without worsening flood impacts upstream or downstream of the works. • The NOR incorporates sufficient space to add water quality treatment and attenuation of the total transport corridor. This will reduce potential flood effects for road users and improve stormwater quality.
Archaeology and Heritage	• Disturbance of any archaeological or historic heritage sites as part of the Project works may lead to enhanced knowledge of those sites and the broader archaeological and historical context.
Landscape and Visual	• Land within the designation can be planted to provide visual amenity, as well as provide an ecological function. • Potential for new stormwater management pond to become an attractive focal point through considered planting and

Discipline	Positive Effects
	wetland construction which could increase landscape amenity and value. • Potential for transport corridors to provide views towards the rural landscape and vegetated areas to the east. • Local place identity can be enhanced through integration of Mana Whenua cultural values.
Ecology	• Improved blue-green infrastructure (i.e. stormwater management devices). • Opportunities for revegetation of batters and embankments. • Proposed landscape planting to tie into stream and riparian corridors.
Arboricultural	• Opportunities for revegetation of batters and embankments.

6.2 Transport

The transport effects of the Project have been considered by a suitably qualified and experienced person who has provided the following summation.

6.2.1 Adverse construction effects

The Project follows a largely 'offline' alignment (i.e. a new road corridor rather than working within existing roads). Works will only be required within existing road corridors where the Project interacts with existing roads, which is limited to the proposed intersections with the existing Mill Road, Airfield Road, and Papakura-Clevedon Road; and where the new alignment traverses the existing Phillip and Hamilin Roads. While specifics are not yet known, traffic management is likely to be required for some specific activities in these locations such as road surfacing, traffic switches, bridge construction, utilities relocations, drainage, and survey and investigation work. These temporary construction effects will be managed via the New Zealand Guide to Temporary Traffic Management. These effects can all be appropriately managed using traffic management measures that are standard for roading projects.

The construction of the Project will require earthworks. Final cut and fill volumes will be confirmed following detailed design prior to construction and will also be subject to regional consents. The construction traffic movements to accommodate these earthworks will likely result in traffic volume increases on construction routes used during the construction period. Traffic routes for construction vehicles are uncertain at this time, as the timing, staging, location of quarries/disposal sites, access points, and site compound/laydown areas for the Project are yet to be confirmed. Notwithstanding this, construction traffic will be able to be readily accommodated with the available connectivity to the strategic transport network – the existing Mill Road, as well as Alfriston Road and Clevedon Road are over dimension and overweight routes providing connectivity to the Project area which can be used by construction vehicles for site access (see Figure 6-1).

The construction of the Project will affect access to properties in some cases. Existing driveways that remain during construction will be required to have temporary access provision. It is anticipated that the future contractor should undertake a property-specific assessment of affected driveways and provide temporary access arrangements if required, ensuring the ability for residents to safely access and exit their properties. These effects are routinely managed in roading construction projects.

The Construction Traffic Management Plan (CTMP) prepared for the Project will confirm the most appropriate management measures for these construction traffic effects closer to the time of construction.

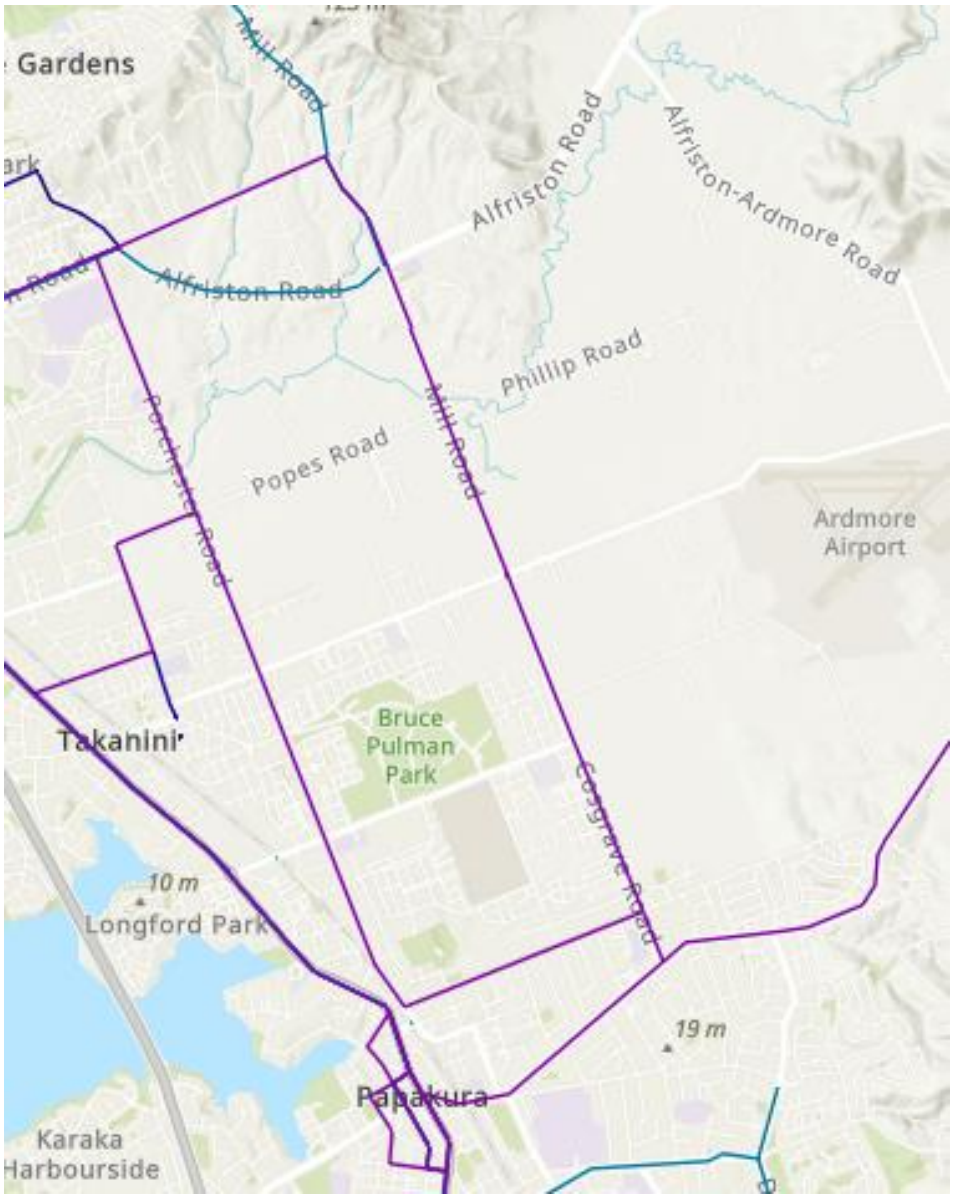

Figure 6-1 – Overweight and overdimension routes providing connectivity to the Project area

6.2.2 Adverse operational effects

The Project is proposed as a limited access corridor to meet the strategic form and function requirements for a RONS. In this regard, vehicular access is generally not provided for; and it is anticipated that future vehicular access where urbanisation is proposed will be facilitated primarily via collector road networks.

Where existing property access is impacted by the Project (e.g. by necessitating a change in the configuration, point of access, or movements enabled for a driveway), alternative access will be provided either by utilising a frontage to an existing road; or by providing a left-in-left-out access from the new corridor. In these cases, there is potential for added length to journeys to and from properties affected by new left-in/left-out controls.

Where access cannot be maintained, properties are included within the designation footprint.

The remainder of operational effects are anticipated to be positive (see Section 6.1 above).

6.2.3 Recommended measures to avoid, remedy, or mitigate adverse effects

It is considered that potential construction traffic effects can be accommodated and managed appropriately via CTMP(s). To this end, the proposed designation conditions require the preparation of a CTMP as part of the Outline Plan process.

6.3 Noise and Vibration

The noise and vibration effects of the Project have been considered by a suitably qualified and experienced person who has provided the following summation.

6.3.1 Adverse construction effects

Construction noise will be assessed in accordance with the provisions of NZS 6803:1999 Acoustics – Construction Noise. This standard is also referenced in the Auckland Unitary Plan. It sets construction noise criteria of 70 dB L_{Aeq} and 85 dB L_{AFmax} daytime and 45 dB L_{Aeq} and 70 dB L_{AFmax} night-time, with special provisions for morning and evening shoulder periods.

Construction vibration will be assessed based on criteria derived from two standards: in order to protect buildings from any, including cosmetic, damage German Standard DIN4150-3:2016 Vibrations in buildings, Effects on structures, and in order to manage amenity of people in the vicinity of the works British Standard BS5228-2:2009 Code of practice for noise and vibration control on construction and open site, Part 2: Vibration. The vibration criteria are applied progressively, with Category A criteria generally designed to manage amenity effects and acting as a trigger for notification and management, and Category B criteria generally designed to protect buildings from damage.

The proposed road alignment diverges from the existing Mill Road alignment, traversing rural land with intermittent dwellings and other buildings. This means that construction noise and vibration effects are largely removed from more densely populated areas adjacent to the existing road. It is assumed that no night-time works will be required as the alignment is largely offline and not affecting existing major roads in urbanised areas. Therefore, night-time works have not been addressed any further.

The alignment will generally be on an embankment for flood protection, which means that the main construction noise sources will likely be associated with the extensive earthworks required. Closest buildings are generally more than 50 metres from the potential alignment, with most dwellings even further removed. This means that daytime noise limits will generally be able to be complied with using common construction noise management and mitigation. It is predicted that noise levels will range from 60 to 70 dB L_{Aeq} for most works, with few, if any, infringements up to 75 dB L_{Aeq} where works are closer than 50 metres from dwellings. If that is the case, mitigation in the form of temporary barriers, choice of equipment or timing of works can be employed to reduce effects.

Three roundabouts are proposed, at the existing Mill Road, Airfield Road, and Papakura-Clevedon Road. The construction of these roundabouts will be contained to the area of the works and take longer to complete than the remainder of the road where works will move along the alignment.

Vibration levels would mostly be generated where piling is required (e.g. for bridges) and for the compaction of the road prior to surfacing. However, at the distances of works (50 or more meters from buildings) it is predicted that the Project will readily comply with both the amenity and building protection criteria with a margin of safety.

There appear to be no historic buildings or otherwise sensitive buildings in the vicinity of the works that warrant lower vibration criteria. This will be confirmed during the preparation of the CNVMP.

6.3.2 Adverse operational effects

Traffic noise will be assessed in accordance with NZS 6806:2010 Acoustics – Road-traffic noise – New and altered roads. This standard is also referenced as the relevant document to assess road traffic noise in the AUP:OP.

NZS 6806 sets performance standards based on the type of road: 'altered roads' where an existing road is altered or where a project is in close proximity to and existing major road, and 'new roads' where a new road is established away from existing roads. The performance standards are grouped into noise criteria categories A, B and C, where Category A is the preferred category with the lowest external noise levels, and Category B is a secondary external category where it is not practicable to achieve noise levels within Category A. Category C requires compliance, as far as practicable, with internal noise levels once external noise levels have been reduced as far as practicable. This category is least preferred as it only protects the inside of habitable rooms, while Categories A and B provide protection for the wider area.

The new road criteria are lower, taking account of the lower ambient noise levels where a project is remote from major roads, with Category A up to 57 dB $L_{Aeq(24h)}$, Category B from 58 to 64 dB $L_{Aeq(24h)}$ and Category C for noise levels above 64 dB $L_{Aeq(24h)}$. For altered roads, the criteria take account of already elevated noise levels from existing roads, with Category A up to 64 dB $L_{Aeq(24h)}$, Category B from 65 to 67 dB $L_{Aeq(24h)}$ and Category C for noise levels above 67 dB $L_{Aeq(24h)}$.

The Project consists of a new road that connects at either end to major existing roads, in the north to Alfriston Road and the existing Mill Road, and in the south to the Papakura-Clevedon Road. The Project also passes Ardmore Airport, which affects the ambient noise levels. A significant part of the Project passes through the Ardmore Airport noise overlays (some 750m inside the 60 to 65 dBA L_{dn} contours). However, aircraft noise is more intermittent than traffic noise, and therefore allowances have not been made for the impact of Ardmore Airport when determining if the New or Altered road criteria should apply.

The Project will be assessed as a new road except for approximately 500m from Alfriston Road (where the Project would cross over the existing Mill Road) and 200m from Papakura-Clevedon Road, where the Project will be assessed as an altered road.

Traffic noise levels and effects are assessed at Protected Premises and Facilities (PPFs). These include noise sensitive uses such as dwellings and educational facilities, but not commercial buildings or businesses as these are normally noise generators in their own right. PPFs within 200m of the Project (as required by NZS 6806) are generally dwellings, with the exception of Alfriston School at the northern end of the Project.

Based on the alignment, with the use of a high-quality low noise road surface (LN5, EPA7 50mm), it is anticipated that all PPFs assessed against the new road criteria and 50 or more meters from the closest carriageway lane are likely to receive noise levels within Category A. Where PPFs are closer, some may require the use of an additional roadside barrier. PPFs that are assessed against the altered road criteria are likely to receive noise levels within Category A or B, given that LN5 road surface cannot be applied to intersections or roundabouts. There, dense asphalt such as Stone Mastic Asphalt (SMA) is likely the most appropriate road surface.

Ambient noise levels in the mid-section of the Project (outside the aircraft noise overlay) are likely to be low, while noise levels at either end close to existing major roads and within the aircraft noise overlay are elevated. This means that the Project will have varying effects on the noise environment. Noise level changes will likely range from no change (at either end of the Project) to a noticeable noise level increase where currently there are no significant other noise sources. However, the Project design will result in traffic noise levels that are appropriate for residential use.

6.3.3 Recommended measures to avoid, remedy, or mitigate adverse effects

Construction noise and vibration will need to be managed throughout the works. This will be done through the commonly employed mechanism of a Construction Noise and Vibration Management Plan (CNVMP) for the overarching works, and Schedules to the CNVMP for any works that have the potential to infringe the noise and/or vibration criteria. This methodology is well known and has been applied successfully across many major infrastructure projects. Schedules enable a proactive approach to construction noise and vibration management that also incorporates feedback from affected parties during the preparation of the Schedules which will inform the most appropriate mitigation and management measures.

In terms of operational/traffic noise effects, the use of a high-quality low noise road surface (LN5, EPA7 50mm) is recommended. Where PPFs are closer than 50m to the alignment, an additional roadside noise barrier may be required. PPFs that are assessed against the Altered road criteria are likely to receive noise levels within Category A or B, given that LN5 road surface cannot be applied to intersections or roundabouts. There, dense asphalt such as Stone Mastic Asphalt (SMA) is likely the most appropriate road surface.

Overall, it is considered that the Project can be constructed to generally comply with recommended noise and vibration levels and that the effects will be reasonable.

6.4 Flooding

The flooding effects of the Project have been considered by a suitably qualified and experienced person who has provided the following summation.

6.4.1 Context

Flooding is a natural hazard and has therefore been considered as part of the NOR. It is also acknowledged that there will be a subsequent process for seeking regional resource consents which will address a wider range of potential stormwater quantity and quality effects. In the context of this assessment, flooding relates to effects outside the NOR boundary and may include changes to:

- The flood freeboard to existing habitable buildings;
- The conveyance of flood flows across the corridor / changes to overland flow paths;
- The ability to access property by residents and emergency vehicles; and
- The level of flooding to roads, cycleways, and footpaths.

While stormwater effects apart from flooding are not assessed (as these are part of future consenting processes), provision is made for the future mitigation of potential stormwater effects (stormwater quality and retention/detention) by identifying the space required for stormwater management devices (for example drainage channels and ponds) and incorporating sufficient land for that purpose into the proposed designation boundaries.

Key stormwater design features considered to inform the NOR design are as follows:

- A dual open channel system on both sides of the carriageway, which consists of a conveyance/treatment/attenuation swale on the inside and a diversion drain on the outside.
    - Conveyance/treatment/attenuation swale:
        - designed to provide treatment, retention/detention, and attenuation of runoff from the road impervious area; and
        - independently graded forming a “seesaw” longitudinally and terminated at regular intervals to discharge into watercourses crossing the road or the adjacent diversion channel.
    - Diversion drain:
        - along the Project where it is necessary to preserve the existing overland flow patterns and direct flows to cross drainage culverts.
- A stormwater treatment device (at approximately between 85 and 135 Hamlin Road, 900m from the southern tie-in) to manage stormwater effects for the last 900m of the Project, as an alternative to the dual open channel system due to the steep longitudinal grade in this area.
- Setting the corridor vertical alignment above the 100-year ARI flood plain for:
    - the new bridge crossing, this also means providing freeboard in accordance with the NZTA Bridge Manual requirements; and
    - new culvert crossings, 0.5m freeboard for culverts between the headwater level and edge of the corridor/ road shoulder.
- A series of balancing cross culverts, at locations as required, are also proposed to mitigate potential flood effects where the existing flood plain crosses the road alignment.

The location of the Project in its hydrological context is shown at Figure 6-2.

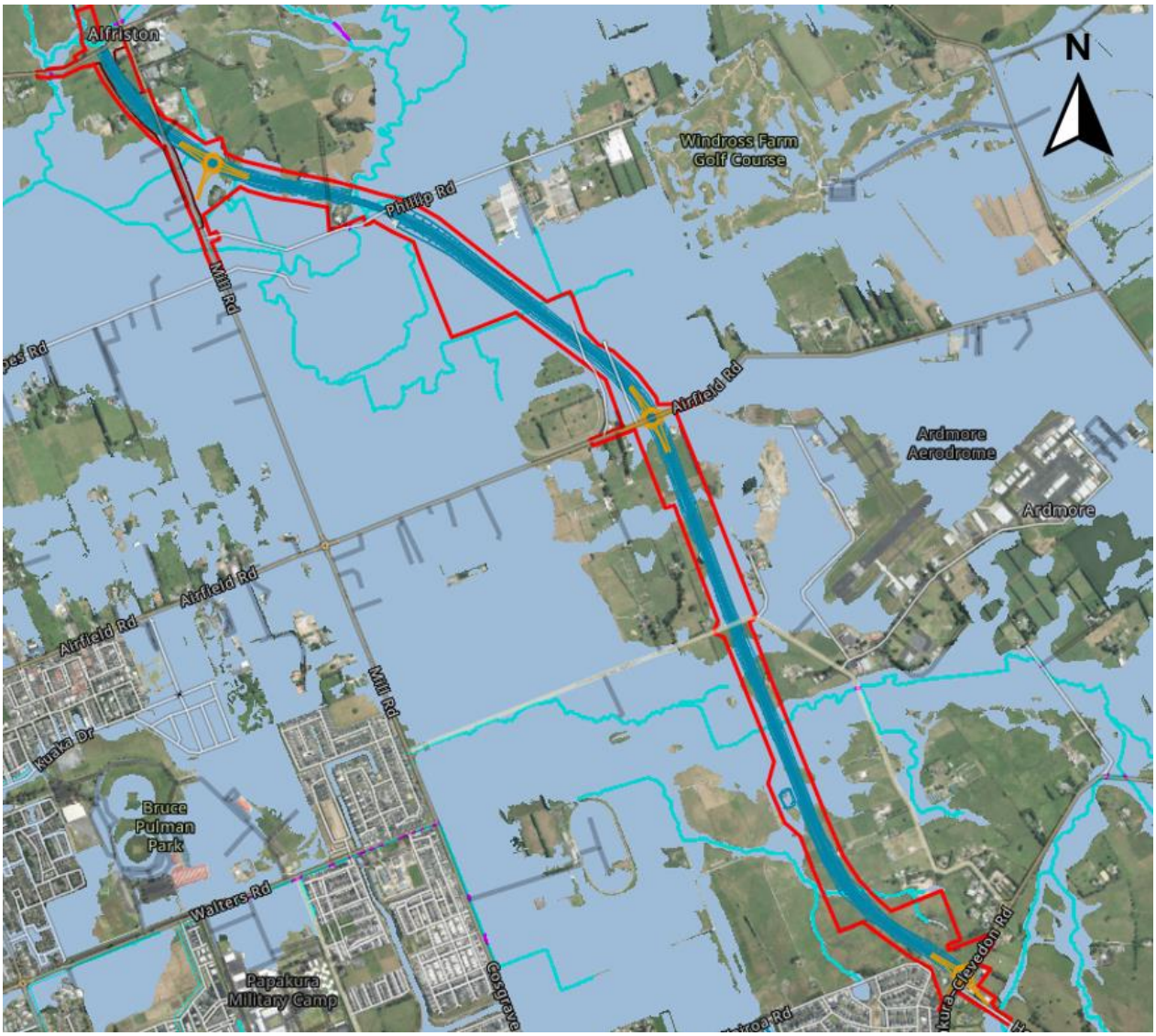

Figure 6-2 – Hydrological context for the Project showing streams and floodplains

6.4.2 Adverse construction effects

Based on the location of works in terms of overland flows or known flood extents in the vicinity, the proposed construction works which have the potential to result in flooding effects include:

- Construction of new culvert crossings or upgrading of existing culvert or bridge crossings;
- Realignment of existing overland flow paths;
- Earthworks, such as regrading and raising levels, within existing floodplains; and
- Storage of materials and use of lay down areas within floodplains.

6.4.3 Adverse operational effects

The assessment of operational effects for the Project is based on the 1% AEP flood mapping available on Auckland Council's GeoMaps the pre-development (existing) terrain and considers the flooding extents at existing culvert crossings and along existing roads. The following matters have been considered as part of this assessment:

- Existing flooding levels at key points identified from Auckland Council's GeoMaps (Regionwide Rapid Flood Model, 2023, 1% AEP rainfall event with 3.8 degrees of climate change) to set the vertical alignment of the road with appropriate freeboard;

- The potential of flooding on existing adjacent properties due to the new Project corridor geometry;
- Incremental changes to the corridor impervious area causing increased runoff volumes; and
- Mitigation measures, set out below, so that flood effects are adequately addressed during the future design stages of the Project and that adverse flood effects are avoided, remedied, or mitigated.

6.4.4 Recommended measures to avoid, remedy, or mitigate adverse effects

A Construction Environmental Management Plan (CEMP) should be prepared to address the flood hazard effects for the construction phase in existing high hazard areas. To this end, the proposed designation conditions require the preparation of a CEMP as part of the Outline Plan process.

In preparing the CEMP, key matters to include are (but not limited to):

- Siting construction yards, laydown areas and stockpiles outside the predicted flood plains;
- Maintaining overland flow paths around / through areas of work;
- Minimising the physical obstruction to flood flows at the road sag points;
- Staging and programming to provide new drainage prior to raising road design levels and carry out work when there is less risk of extreme flood events;
- Actions to take in response to heavy rain warnings which may include reducing the conveyance of materials and plant that are considered necessary to be stored or sited within the predicted flood plain or significant overland flow path;
- Carrying out earthworks during the summer / dry months to reduce the risk of flooding; and
- Managing the overland flow paths to generally mimic existing flow patterns.

There may be some temporary flooding risk associated with the works required for the construction of new and existing bridges, culverts, and stormwater devices. However, the details of the construction methodology will be confirmed in the future during detailed design. The works are in line with other major road construction projects and ae able to be carried out in a manner that appropriately manages these risks, including through the flood risk mitigation measures in the CEMP.

It is recommended that during future stages of design, flood modelling is carried out and mitigation measures are implemented (as required) to achieve the outcomes set out in the proposed flood hazard condition. Mitigation measures to manage flooding may include:

- Setting bridge spans and culvert sizes to manage changes to flood levels;
- Providing a sufficient number of cross corridor flow balancing culverts to maintain the conveyance of flood flows and manage changes to flood levels;
- Creating new overland flow paths to direct water on the upstream side of the corridor to nearby overland flow paths or streams (to reduce the risk of flood prone areas being created);
- Using storage within the dual open channel system, other linear devices, raingardens, wetlands, or separate attenuation devices to reduce the peak flow increase due to changes in impervious area within the corridor;
- Providing compensatory storage to compensate for the volume occupied by the road embankment; and
- Works outside the corridor with the agreement of the adjacent landowner.

The proposed flood hazard conditions require the following flood hazard outcomes to be achieved and demonstrated in the Outline Plan:

- No increase in flood levels in a 1% AEP event for existing authorised habitable floors that are already subject to flooding or have a freeboard of <500mm;
- No increase in flood levels in a 1% AEP event for existing authorised community, commercial, industrial, and network utility building floors existing at the time the Outline Plan is submitted that are already subject to flooding or have a freeboard of <300mm;

- A maximum of 50mm increase in water level in a 1% AEP event outside and adjacent to the designation boundaries between the Pre-Project Development and Post-Project Development scenarios; and
- No increase of flood hazard in an 1% AEP event for the main access to authorised habitable dwellings existing at the time the Outline Plan is submitted.

Where the above outcomes can be achieved through alternative measures outside of the designation or varied with agreement of the relevant landowner(s), the Outline Plan should include confirmation that any necessary landowner and statutory approvals have been obtained for that work or alternative outcome.

6.5 Archaeology and Heritage

The archaeology and heritage effects of the Project have been considered by a suitably qualified and experienced person who has provided the following summation.

6.5.1 Context

The desktop assessment has utilised the following resources:

- New Zealand Archaeological Association Site Recording Scheme – all recorded sites within 200m of the proposed alignment were identified;
- Heritage New Zealand Pouhere Taonga (HNZPT) List / Rārangi Kōrero was searched for any listed items within the scope of works;
- Local soil information was searched on the S-Map Online database maintained by Landcare Research;
- Potential vegetation based on soil information was obtained from the Land Resource Information Systems database;
- Overland flow path dataset was obtained from the Auckland Council Open Data Portal; and
- The Auckland Council GeoMaps GIS viewer and Auckland Unitary Plan viewer were searched for any areas of Historic Heritage significance.

Based on the above, most of the proposed corridor was noted to be dominated by poorly draining peat, loam, and clay, and would not have been suitable for pre-European Māori horticulture, with the only exceptions being at the northern and southern ends of the alignment. The likely landscape prior to deforestation and land clearance would have been wetland species such as kahikatea, pukatea, tawa, and harakeke.

There are seven recorded historic heritage items within 200m of the proposed alignment, all associated with 19th and 20th century European settlement at Alfriston. Two of these items will already be affected by the Stage One works, so will not be addressed further as part of the Takaanini section assessment. The remaining five items are all outside the proposed extent of works for the Takaanini section and will not be affected.

Māori would have been utilising the landscape through this area for the floral and faunal resources associated with wetlands, but this type of landscape use would not likely leave much of a tangible footprint. The two portions at either end of the proposed alignment where the soil drainage is better are more likely to have supported more permanent or at least temporary settlement without flooding issues.

Table 6-2 – Recorded historic heritage items within 200m of proposed alignment

Name	NZAA	CHI	AUP schedule	Category	Potential	Reason	Response
Alfriston Presbyterian Church	R11/2063	13558			Nil	Outside scope of works	No further response
Smollett Reid Homestead	R11/2064	13559			Nil	Outside scope of works	No further response
Alfriston Hall	R11/2065	13560	705	B	Nil	Outside scope of works	No further response
Alfriston School	R11/2066				Nil	Outside scope of works	No further response
John de Carteret Homestead and Alfriston Post Office/Store	R11/2069	13564			Nil	Is covered by Stage 1	No further response
The Meeting House - Alfriston Meeting Hall	R11/2074	13569			Nil	Is covered by Stage 1	No further response
Alfriston WWI Memorial		17003	705	B	Nil	Outside scope of works	No further response

6.5.2 Adverse construction and operational effects

Based a desktop assessment of the proposed alignment, there are seven recorded heritage items at the northern end of the alignment, all associated with the Alfriston Settlement. This is also one of the only areas in the vicinity that has draining soils, which is likely what attracted the European settlement to that location. It is also a location (along with the southern termination) that may have previously unrecorded archaeological sites, especially associated with pre-European Māori land use.

There are no known constraints from a heritage perspective for this proposed route, but it is possible that previously unrecorded archaeological sites may exist at either end of the alignment. It is likely that field survey and archaeological monitoring associated with the Stage One around Alfriston will provide further detail in this area.

No potential operational effects are anticipated.

Recommended measures to avoid, remedy, or mitigate adverse effects

While there are no known heritage constraints for the Project based on assessment to date, there is potential for unrecorded archaeological and heritage sites to be encountered during construction. Accordingly:

- A Historic Heritage Management Plan (HHMP) is recommended as a condition on the NOR to be prepared during the Outline Plan stage of the Project in consultation with Mana Whenua, Auckland Council, and HNZPT to identify any effects on historic heritage sites, and agree measures to appropriately avoid, remedy, or mitigate such effects. The HHMP should also consider the findings of field survey and archaeological monitoring associated with the Stage One works;
- An authority to destroy, damage, or modify recorded and previously unrecorded archaeological sites that may be encountered will likely be sought from HNZPT under Section 45 of the HNZPT Act (noting that this is a legal requirement before destroying or modifying any archaeological sites). As part of the authority preparation, consultation with Mana Whenua should be undertaken; and
- Archaeological survey cannot always detect sites of traditional significance to Māori, or wāhi tapu. Accordingly, Mana Whenua should continue to be consulted regarding the possible existence of such sites. This is provided for in the HHMP condition, and through the Cultural Advisory Report and Cultural Monitoring Plan conditions.

6.6 Landscape and Visual

The landscape and visual effects of the Project have been considered by a suitably qualified and experienced person who has provided the following summation.

Adverse construction effects

The following potential landscape and visual effects associated with the construction of the Project have been identified:

- While bulk earthworks and works within waterbodies will be the subject of a future regional consenting process, it is acknowledged that there is overlap in the consideration of landscape and visual effects of these activities between the district and regional plan provisions of the AUP:OP. Earthworks associated with the Project will result in both permanent and temporary landform modification, noting that the alignment will sit on a large fill embankment of over 1.5m in height in an otherwise flat landscape for flood resilience;
- Exposed earthworks can result in visual landscape effects during construction;
- Vegetation clearance will result in changes to the landscape character;
- Presence of construction machinery will be visible, and construction access tracks, site compounds, and laydown areas may result in temporary landform modification and compaction of soil;
- Optioneering processes and concept designs have sought to avoid and minimise effects on waterbodies as much as practicable, and future detailed design and regional consenting processes will address these matters in further detail to further mitigate effects. Works near waterways could result in effects on natural character – e.g. removal of riparian vegetation, construction of bridge piers etc;
- Noise, dust, lighting, and visual effects could be experienced as a result of construction activities; and
- There are no Outstanding Natural Landscapes (ONL), Outstanding Natural Features (ONF), areas of Outstanding Natural Character (ONC) or High Natural Character (HNC) affected by the proposed alignment.

Adverse operational effects

The following potential landscape and visual effects associated with the operation of the Project have been identified:

- The Project is located in a peri-urban area that is currently Mixed Rural Zoned, with areas of existing and planned urbanisation to the west and south. In this context, the Mill Road Corridor will represent a change in landscape character, landform, and rural character;
- As noted above, the Project will result in permanent landform modification, noting in particular that it will sit on a large fill embankment of over 1.5m in height in an otherwise flat landscape for flood resilience. Additionally, it is noted from the noise and vibration assessment that acoustic barriers may be required in localised areas;
- The Project includes a bridge of approximately 200m in length over the Papakura Stream near Phillip Road;
- The Project will result in some vegetation removal, which will affect the rural and natural character of the area; and
- There are no Outstanding Natural Landscapes (ONL), Outstanding Natural Features (ONF), areas of Outstanding Natural Character (ONC) or High Natural Character (HNC) affected by the proposed alignment.

Recommended measures to avoid, remedy, or mitigate adverse effects

Landscape and visual mitigation measures for construction activities and built elements should be incorporated into a Landscape Management Plan (LMP) and CEMP, both of which are included in the proposed designation conditions as a requirement of the Outline Plan process. Operational landscape and visual effects similarly be incorporated into the LMP.

6.7 Ecology

The ecological effects of the Project have been considered by a suitably qualified and experienced person who has provided the following summation.

6.7.1 Context

The ecological effects relevant to the assessment for an NOR are limited to those subject to District Plan controls, and as such this section focuses primarily on terrestrial ecology. Ecological effects that relate to regional plan or National Environmental Standards are to be assessed as part of a future consenting process. However, relevant regional matters have been considered to inform the designation boundaries, primarily through efforts to avoid areas of identified ecological value through the alternatives assessment process (for example through avoidance of Significant Ecological Areas or areas delineated as natural inland wetlands through ecological survey).

6.7.2 Adverse construction and operational effects

Construction activities associated with the Project have the potential to cause adverse effects on ecological features within or adjacent to it without mitigation. Potential adverse effects that relate to construction activities include:

- Habitat removal that is subject to District Plan controls, including habitat for native fauna (bats, birds, lizards), and effects (mortality, injury, roost/nest loss and disturbance);
- Disturbance and displacement to roots/nests, and bats, birds, and lizards (and their movement) due to construction activities (noise, light, dust etc). It is assumed this effect would occur after vegetation clearance has been implemented; and
- Wildlife permits under the Wildlife Act 1953 will be sought where necessary for these activities.

Operational activities associated with the Project have the potential to cause adverse effects on ecological features within or adjacent to it without mitigation. Potential effects that relate to operational activities are:

- Loss in connectivity for indigenous fauna (e.g. bats, birds, lizards) due to light, noise, and vibration effects from the operation of the corridor, leading to fragmented habitat; and
- Disturbance and displacement of indigenous fauna and their nests/roots (e.g. bats, birds, lizards) due to light, noise, and vibration effects from the operation of the corridor.

The Project does not affect any Significant Ecological Areas (SEAs) or known Significant Natural Areas (SNAs). The Project includes a new crossing of the Papakura Stream near Phillip Road and will therefore result in a new bridge over riparian habitat. While authorisations for streamworks are outside of the scope of NORs, the concept design has sought to avoid direct physical effects where possible, and provides for flexibility in future design responses including localised avoidance, offset, or compensation, and provides for habitat connectivity.

6.7.3 Recommended measures to avoid, remedy, or mitigate adverse effects

The proposed designation conditions set in place the following framework for the management of ecological effects:

- A pre-construction ecological survey is to be undertaken at the start of detailed design for the Project by a suitably qualified person. This survey will inform the ecological management approach; and
- Should the survey confirm the presence of ecological species of value and that effects are likely (that are moderate or greater), then the requirement for an Ecological Management Plan (EMP) is triggered to address those effects. The objective of the EMP is to minimise effects of the Project on ecological features of value as far as practicable. The EMP is required to set out methods of minimising the effects on the identified ecology, including measures to avoid reasonable adverse effects where reasonably practicable to do so, remediation and mitigation measures, biodiversity offset modelling and associated mitigation (if required), and monitoring.

6.8 Arboricultural

The arboricultural effects of the Project have been considered by a suitably qualified and experienced person who has provided the following summation.

6.8.1 Adverse construction and operational effects

Trees affected by the Project that are subject to District Plan protection under the AUP:OP are limited to:

- Trees in roads that are >4m in height or >400mm in girth under E26.4.3.1(A92) of the AUP:OP); and
- Notable trees.

Based on desktop assessment, tree removals required for the Project that are subject to the above protections (with removal to therefore be authorised by the NOR) are limited to trees within the existing Alfriston Road and Mill Road at the northern end of the alignment, Phillip Road, Airfield Road, Hamlin Road, and Papakura-Clevedon Road. The proposed alignment does not affect any notable trees.

Other trees along the proposed alignment are protected by regional plan provisions – i.e. localised areas of riparian vegetation in the vicinity of the Papakura Stream, and large trees within Mixed Rural Zoned areas (exceeding 6m in height/600mm in girth). Trees meeting this description along the alignment may include mature exotic shelter belt planting.

Removal of the above noted trees constitute an adverse construction effect. No adverse operational effects are anticipated.

6.8.2 Recommended measures to avoid, remedy, or mitigate adverse effects

Details of new planting as part of the Project to mitigate the removal of existing trees will be set out as part of the LMP which is included in the proposed designation conditions as a requirement of the Outline Plan process.

6.9 Utilities

The effects of the Project on existing network utilities has been considered by a suitably qualified and experienced person who has provided the following summation.

6.9.1 Adverse construction and operational effects

The Project crosses two significant underground network utilities:

- The Ø1200mm Watercare Waikato No. 1 Watermain at its northern end near Alfriston Road and Phillip Road; and
- The Ø350mm First Gas transmission pipeline between Phillip Road and Airfield Road.

Significant service disruption could occur if either of these assets were damaged during construction, and safety implications of working over a live gas main would also need to be considered in the development of the construction methodology. In general, constraints in the construction methodology would need to be assumed to reduce the risk of damage to the assets. Consultation with Watercare and First Gas will be needed to finalise the construction methodology (as provided for by the proposed conditions as outlined below).

No operational effects are anticipated.

6.9.2 Recommended measures to avoid, remedy, or mitigate adverse effects

A Network Utility Management Plan (NUMP) will be prepared to set a framework for protecting and working in proximity to these network utilities. To this end, the proposed designation conditions require the preparation of a NUMP as part of the Outline Plan process. The NUMP includes a requirement to consult affected Network Utility Operators, which in this case would include Watercare and First Gas.

7 STATUTORY ASSESSMENT

7.1 Statutory Considerations

Section 171 of the RMA sets out the criteria that Auckland Council must consider when making its recommendation on the NOR. Each criteria is assessed below with the exception of the effects on the environment and adequate consideration of alternatives, both of which have been assessed above.

Section 171 states:

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

The following subsections provide an assessment of the NOR under section 171(1)(a), (c), and (d); and Part 2 of the RMA. The requirements of section 171(1)(b) are addressed at Section 4 of this AEE.

7.2 Section 171(1)(a) – Relevant statutory provisions

The assessment of relevant statutory provisions is provided thematically in Table 7-1.

Table 7-1 – Assessment of NOR against relevant objectives and policies

Document	Key objectives and policies	Summary and assessment
Theme 1 – Enabling transport infrastructure while managing its adverse effects		
AUP:OP RPS	B3.2.1(1)-(5), (8); B3.2.2(1)-(3), (6), (8). B3.3.1(1), B3.2.2(1)-(4), (7).	**Summary** • This NOR is seeking to provide transport infrastructure to enable urban growth that has already been identified by Auckland Council as necessary and appropriate for Auckland over the next 30 years. There is a clear direction within these objectives and policies that transport infrastructure shall be enabled and prioritised, and its benefits realised. • In particular, the RPS recognises the importance infrastructure plays in realising Auckland's full economic potential. This includes integrating the provision of infrastructure with urban growth, avoiding incompatible land uses, and increasing resilience. The policies of the RPS seek to enable the development and operation of infrastructure, even in sensitive areas that are scheduled in the AUP:OP in relation to natural heritage, the coastal environment and historic heritage, provided adverse effects are avoided where practicable. There are also specific provisions within the RPS for transport infrastructure that recognise the importance of the transport network in the movement of people, goods and services, urban form, enabling growth, and providing choices. • The regional and district plan objectives and policies within the AUP:OP identify that infrastructure is critical to the social, economic, and cultural well-being of people and communities and the quality of the environment. The development, operation, use, repair, maintenance, upgrading and removal of infrastructure is anticipated, and the benefits infrastructure can have, as well as a range of adverse effects, are acknowledged within the objectives and policies. • While the objectives and policies of the AUP:OP generally seek to recognise the benefits, functional and operational needs, and value of investment in infrastructure and enable the safe, efficient and secure provision of infrastructure where appropriate, the objectives and policies also anticipate that there may be some adverse effects as a result of the provision of such infrastructure. However, the objectives and policies recognise that in some instances such adverse effects may be appropriate given the necessity of, and essential services provided by, infrastructure. **Assessment**
AUP:OP District Plan	E26.2.1(1)-(5), (9); E26.2.2(1), (4)-(7), (14), (15). E25.2(1), (4); E25.3(2), (11). E12.2(1), E12.3.(1), (3), (5), (6).	

Document	Key objectives and policies	Summary and assessment
		• The Project achieves these objectives and policies by designating a key section of a strategically important transport connection which is integral to achieving a more efficient and resilient transport network, and to support urban growth. The objectives for the Project and its benefits are summarised at Section 2 of this AEE, and at Section 6.1 (Positive Effects). • As documented in Sections 3 and 6 of this AEE, the Project has been subject to rigorous assessment of alternatives which has resulted in an alignment which does not impact on any features protected by overlays in the AUP:OP. • While the objectives and policies identify that some adverse effects may be appropriate, NZTA has sought to avoid, remedy, and mitigate effects as relevant as set out in Section 6 of this AEE; and has proposed conditions on the NOR to this end.
Theme 2 – Urban Growth and Urban Form		
NPS-UD	Objectives 1-4, 6, 8 Policies 1, 2, 5-6, 10	**Summary** • The NPS-UD and RPS seek to create well-functioning urban environments and enable all people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety. Within the NPS-UD, Auckland is recognised as a Tier 1 urban environment and is therefore subject to a greater policy direction in terms of intensification and density of urban form. The NPS-UD directs that urban development is integrated with infrastructure planning and funding decisions and is strategic over the medium to long term. • Objectives and policies in chapters E26 and E27 further seek to ensure a well-functioning transport system, and that land use and all modes of transport are integrated in a manner that realises the benefits of an integrated network and manages the adverse effects of traffic generation. • Provisions in chapters B2 and E26 both direct that infrastructure should avoid, remedy, and mitigate its adverse effects on the amenity values of properties adjoining the infrastructure. Notwithstanding this, other provisions in the same chapters anticipate that there will be some adverse effects associated with the construction of new infrastructure, and direct that these effects are assessed in the context of the wider need for and benefits of the proposed infrastructure. • Moreover, it is noted that the NPS-UD policy framework explicitly states that urban environments including their amenity values develop and change over time; and that the planned urban form may involve significant physical changes to an area. The planned
AUP:OP RPS	B2.2.1(1)-(5); B2.2.2(1)-7)	
AUP:OP District Plan	E26.2.1(3), (9), E26.2.2(5)-(6), (15). E27.2(1), (2), (5)	

Document	Key objectives and policies	Summary and assessment
		urban form in turn has an interdependent relationship with the infrastructure required to support it. **Assessment** • The Project is consistent with the RPS and NPS-UD objectives and policies as it provides for necessary transport infrastructure to support development capacity and a well-functioning urban environment in Southern Auckland. • The Project will assist in contributing to a well-functioning urban environment by increasing accessibility between housing, jobs, community services, natural spaces, and open spaces, facilitating public transport and incorporating new active transport facilities. It will also deliver benefits to the urban environment by shifting traffic away from parallel multi-modal arterials (e.g. Great South Road and Porchester Road). This shift will improve the efficiency of public transport services and safety for active mode users. • The Project will constitute a change to the physical environment, and will result in localised adverse visual effects, and the loss of vegetation that contribute to amenity value. The provisions of chapters B2 and E26 of the AUP:OP anticipate the adverse effects of infrastructure, and direct that these effects are assessed in the context of the wider need for and benefits of the proposed infrastructure. Moreover, the NPS:UD policy framework provides that urban environments including their amenity values develop and change over time; and that the planned urban form may involve significant physical changes to an area. • While the objectives and policies identify that some adverse effects may be appropriate, NZTA has sought to avoid, remedy, and mitigate effects as relevant as set out in Section 6 of this AEE; and has proposed conditions on the NOR to this end.
Theme 3 – Mana Whenua		
AUP:OP RPS	B3.2.1(3)(a) B4.2.1(2) B6.2.1(1)-(2), B6.3.1(1)-(3) B6.5.1(1)-(5), B6.5.2(1), (4), (5), (6), (9).	**Summary** • The objectives and policies in chapter B6 of the AUP:OP seek recognition and provision for the principles of the Te Tiriti o Waitangi, and identify that this should occur through the active participation of Mana Whenua in resource management planning processes as kaitiaki. The provisions further seek to ensure that Mana Whenua cultural values are assessed and provided for through planning processes, and consequently that environmental health/mauri of natural and physical resources is ultimately enhanced. • The provisions also seek to protect the relationship of Mana Whenua with environmental features scheduled in the plan, including sites and places of significance to Mana

Document	Key objectives and policies	Summary and assessment
		Whenua, as well as natural heritage and natural resource features. This includes features already identified in the plan, and features that are newly identified. • The objectives and policies seek to ensure that mātauranga Māori and tikanga Māori protocols are followed when Mana Whenua cultural heritage features are discovered during the subdivision, use, and development of land. • Finally, the provisions seek that Mana Whenua cultural heritage information disclosed through resource management planning processes are treated with appropriate sensitivity. **Assessment** • The RPS requires recognition of and provision for the principles of Te Tiriti o Waitangi, in particular through Mana Whenua participation in resource management processes. NZTA is committed to ongoing engagement with Mana Whenua. Mana Whenua were involved in the options assessment process and attended workshops. • The Project does not affect any known sites and places of significance to Mana Whenua as scheduled in the AUP:OP. The Project also does not affect any wāhi tapu sites, Māori land, Treaty Settlement land, or Statutory Acknowledgment areas. • NZTA has also recognised Mana Whenua cultural values, particularly with regards to the mauri of, and the relationships of Mana Whenua with natural and physical resources including freshwater, land, air, and coastal resources. Significant adverse effects on these values are required to be avoided, with lesser adverse effects avoided, remedied, or mitigated as appropriate. • Any accidental discoveries during construction will follow the accidental discovery protocols set out in chapter E11 of the AUP:OP. The proposed designation conditions also require the preparation of a Cultural Monitoring Plan to assist with the management of any cultural effects during construction.
Theme 4 – Ecology		
NPS-FM	Objective 1 Policies 5, 6, 7	**Summary** • The NPS-FM provides a framework for the management of freshwater. In particular, Policy 5 seeks to ensure that freshwater is managed to ensure that the health and well-being of degraded water bodies and freshwater ecosystems is improved, and the health and well-being of all other water bodies and freshwater ecosystems is maintained and
NPS-IB	Objective 1 Policies 7, 8	

Document	Key objectives and policies	Summary and assessment
AUP:OP RPS	B7.2.1(1)-(2), B7.2.2(5) B7.3.1(1)-(3), B7.3.2(1), (4)-(6).	improved. Policy 6 provides that there is no further loss of the extent of natural inland wetlands and Policy 7 sets out that the loss of river extent and values is avoided to the extent practicable. The provisions of chapter B7 of the AUP:OP further seek that degraded freshwater systems are enhanced, the loss of freshwater systems is minimised, that adverse effects of land use changes on freshwater are avoided, remedied, and mitigated; and that freshwater quality is progressively improved in degraded areas. • The objectives and policies of the NPS-IB seek to ensure that indigenous biodiversity is maintained with no overall loss of indigenous biodiversity after the commencement date, and enables the use of Significant Natural Areas (SNA) as a mechanism to protect significant indigenous vegetation and habitats of indigenous fauna. Policies 7 and 8 respectively seek protection of identified SNAs and indigenous biodiversity outside of SNAs. The objectives and policies of chapters B7 and E15 of the AUP:OP similarly seek to protect, maintain, and enhance areas of significant indigenous biodiversity from the effects of subdivision, use, and development. These features are most clearly identified in the plan through Significant Ecological Areas (SEA). The policies of chapter E15 further recognise that it is not always practicable to locate or design infrastructure to avoid areas with indigenous biodiversity values where a functional or operational need for the infrastructure has been established. • The RPS and AUP:OP objectives and policies seek to protect and enhance ecological values across both terrestrial, freshwater, and coastal environments. This is achieved across the AUP:OP by specific provisions which seek to protect identified significant ecological areas or freshwater management areas. The AUP:OP also sets out broader directives for working with natural environments or undertaking activities that will have cumulative and/or indirect impacts on ecosystems. • Clause 3.22 of the NPS-FM exempts the construction of specified infrastructure from the need to avoid natural inland wetlands provided there is a functional need, and effects are managed via the effects management hierarchy. A similar exemption is provided in clause 3.11 of the NPS-IB. **Assessment** • The Project has minimised the number of stream crossings within the Papakura Stream catchment and effects on known natural inland wetlands. Authorisations for any streamworks or works within wetlands are outside the scope of the NORs and are therefore to be addressed as applicable in future regional and NES consenting processes. In any case, the Project meets the definition of specified infrastructure set out
AUP:OP District Plan	E15.2(2), E15.3(7) E17.2(3), E17.3(1)	

Document	Key objectives and policies	Summary and assessment
		in the NPS; and a functional need for the Project to be located where proposed has been established given it seeks to connect two existing parts of the roading network between which there are waterbodies which cannot be avoided and where bridging/culverting will be required. The Project will also provide significant national and regional benefits as set out in section 6.1, and the effects of the activity will be managed through applying the effects management hierarchy as set out in section 6.7. • NZTA has sought to avoid areas with biodiversity and ecological values. The Project has avoided any effects on SEAs. • The Project has taken into consideration the stormwater treatment requirements and provided sufficient space within the corridor for treatment.
Theme 5 – Natural Hazards / Flooding		
NPS-UD	Objective 8, Policy 1	**Summary** • The RPS objectives and policies enable and recognise the importance of infrastructure to support urban growth which includes integrating the provision of resilient transport networks and infrastructure in these areas and avoiding effects in areas subject to natural hazards and risk and adapting to the effects of climate change. • New infrastructure that provides a lifeline (such as some strategic transport networks) is provided for in the growth areas and the particular policies that seeks to assess minimise and manage the effects of development from natural disaster. The Project's route selection process was consistent with this direction. • The objectives and policies of the AUP:OP recognise that risk to people, property, infrastructure, and the natural environment should not be increased through subdivision and development. Additionally, this set of objectives and policies seek to manage the effects of development and land disturbance from urbanisation on natural systems such as overland flow paths and floodplains and the management of water quality and water systems. • Specific AUP:OP objectives and policies reinforce the unique requirements of infrastructure and that it can have an operational or functional need to locate within a natural hazard area. Where infrastructure is required to locate within a hazard area significant adverse effects on people and property are sought to be first avoided, and otherwise mitigated to the extent practicable. • The NPS:UD policy framework requires that well-functioning urban environments are resilient to the effects of climate change.
AUP:OP RPS	B3.2.1(1)(f) B3.2.1(3), B3.2.2(9) B10.2.1(1)-(4), B10.2.2(2)-7), (12)	
AUP:OP District Plan	E26.2.1(5), E26.2.2(15) E36.2(1)-(2), (4)-(5), E36.3(3), (13)-(15), (21), (23), (29)-(30).	

Document	Key objectives and policies	Summary and assessment
		Assessment • As noted above, a functional and operational need for the Project location has been established through optioneering and design. The primary natural hazard risk identified in the context of the resultant Project area is flooding. The stormwater assessment has identified that design and assessment parameters for the Project have appropriately accounted for the natural hazards objectives and policies. It is further noted that a key benefit of the recommended route is that it is the least susceptible to flooding of the alternatives assessed. • The Project seeks to address the objectives and policies though appropriate and sensitive design methods. Specifically, the design has sought to ensure the new infrastructure can achieve flood neutrality for surrounding areas, provides for new culverts where there are risks of minor flood displacement, and that the freeboard of new bridge structures considers climate change-adjusted rainfall scenarios. Accordingly, the Project is consistent with relevant objectives and policies of the NPS:UD, and chapters B3, B10, E26, and E36 of the AUP:OP. The proposed flood hazard condition sets out the outcomes that must be achieved by the Project in respect of flood effects. The outcomes set out in the condition are broadly consistent with the outcomes sought by the relevant objectives and policies and are achieved by the concept design.
Theme 6 – Highly Productive Land		
NPS-HPL	Objective 1; Policy 8	**Summary** • The NPS-HPL provides direction on the management of highly productive land. It requires mapping of Land Use Capability Class 1, 2 or 3 land that is in a general rural zone or rural production zone, and forms a large and geographically cohesive area. The objective of the NPS is to protect highly productive land for use in land-based primary production; while Policy 8 provides for protection of highly productive land from inappropriate use and development. • Clause 3.9(2)(j) of the NPS-HPL provides for exemption from restrictions on the use and development of highly productive land for activities by requiring authorities in relation to a designation or a notice of requirement. • Clause 3.9(2)(j) of the NPS-HPL provides for exemption from restrictions on the use and development of highly productive land where there is a functional need for specified infrastructure to locate there.

Document	Key objectives and policies	Summary and assessment
		Assessment • Part of the Project is located on Land Use Capability Class 1 land that is in the Mixed Rural Zone. The Mixed Rural Zone (along with the Rural Production and Rural Coastal Zones) have been adopted by Auckland Council as part of its transitional definition of highly productive land for the purposes of the NPS-HPL. Accordingly, the Project does traverse highly productive land as currently defined. • The Project is both an activity by a requiring authority in relation to a designation or notice of requirement, and, as noted above the Project is specified infrastructure with a functional need to locate where proposed. Accordingly, it is consistent with the NPS-HPL.

7.3 Section 171(1)(c) – Reasonable Necessity

The reason for the Project and the Project Objective is set out in section 2.3 of this AEE, and its benefits are set out in section 6.1. The designation will authorise the construction of a transport corridor between the end of Mill Road Stage One and Papakura-Clevedon Road as well as its ongoing operation and maintenance, which will allow the Project to improve traffic efficiency and enhance network resilience, thus enabling the project objective to be met.

Therefore, the work proposed is reasonably necessary to achieve the project objective.

All of the designation extent is necessary to allow NZTA to construct, operate and maintain the Project. Space is allowed in the designation for activities that are needed as part of the construction, operation, and maintenance, including stormwater treatment, construction space and laydown areas, and access to the road by users and maintenance staff.

The proposed designation is reasonably necessary as a planning tool, as it identifies and protects land required for the Project and will enable NZTA to carry out the proposed work. The principal reasons for requiring a designation to facilitate the work to which this requirement relates are:

- It will allow the land required to be identified in the AUP:OP, giving a clear indication of the intended use of the land;
- It will provide certainty for landowners of the intended use of the land and the work to be undertaken at some time in the future; and
- It will protect the land from future development which may otherwise preclude construction of the Project.

7.4 Section 171(1)(d) – Other Matters

The following other matters are noted as being potentially relevant to making a recommendation on the requirement:

- The Project is part of a RONS identified in the most recent GPS. As noted at Section 2.2 of the AEE, the Project Objectives directly correspond with the policy priorities of the GPS. As noted at Section 3.5, the most recent optioneering considered specifically the implications of the GPS direction on the form and function of the corridor.
- Stage One of the Mill Road Corridor is designated, with construction scheduled to commence from mid-2026. As noted at Section 4.2 of the AEE this means that Stage One of the corridor (immediately adjoining the Project to the north) is considered as part of the existing environment.

7.5 Part 2 RMA Assessment

In assessing the Project against the RMA's purpose of promoting the sustainable management of natural and physical resources, sections 6 to 8 are assessed below which each analysis contributing to the final evaluation of section 5.

7.5.1 Section 6

Section 6 of the RMA sets out the matters of national importance that are to be recognised and provided for in achieving the purpose of the RMA. An assessment of the section 6 matters relevant to the Project is provided below in Table 7-2.

Table 7-2 – Matters of national importance

Matter of national importance	Assessment
The preservation of the natural character of the coastal environment (including the coastal marine area),	The Project is not located in the Coastal Marine Area. However, it does traverse the Papakura Stream and its tributaries. Optioneering and design has sought to

Matter of national importance	Assessment
wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development	preserve the natural character of these areas in the first instance by avoidance, and any adverse effects will be remedied and mitigated through future regional and NES consenting processes. Given the extensive site selection process and regional and national significance of the Project, the use that may affect the natural character of streams is appropriate.
The protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development	The Project does not impact any outstanding natural features or landscapes.
The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna	The Project does not impact on any areas of significant indigenous vegetation or significant habitats of indigenous fauna.
The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers	The Project does not impact public access to and along the coastal marine area, lakes, and rivers.
The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga	Mana Whenua have been involved as partners throughout the Project, including recent workshops to finalise the route. The Project is not known to contain Māori land or Statutory Acknowledgement Land. Ongoing engagement with Mana Whenua as provided for by the conditions will ensure continued involvement as kaitiaki and partners through detailed design and implementation.
The protection of historic heritage from inappropriate subdivision, use, and development	As noted at Section 6.5 above, there are seven recorded historic heritage items within 200m of the proposed alignment; all of which are outside the proposed extent of works for the Takaanini section. Accidental discoveries will be managed via as a regional consenting issue under the relevant provisions of the AUP:OP.
The protection of protected customary rights	The Project does not impact on any known protected customary rights.
The management of significant risks from natural hazards	Risks from natural hazards such as flooding will be managed to an appropriate level through design. The conditions set out the relevant flood hazard outcomes which the Project will need to achieve.

7.5.2 Section 7

Section 7 of the RMA sets out other matters that all persons shall have particular regard to in achieving the purpose of the RMA. An assessment of the section 7 matters relevant to the Project is provided below in Table 7-3.

Table 7-3 – Other Matters

Matter of national importance	Assessment
Kaitiakitanga	Mana Whenua have been involved as partners throughout the Project, including recent workshops to finalise the route. The Project is not known to contain Māori land or Statutory Acknowledgement Land.

Matter of national importance	Assessment
	Ongoing engagement with Mana Whenua as provided for by the conditions will ensure continued involvement as kaitiaki and partners through detailed design and implementation.
The ethic of stewardship	This has been recognised through engagement with Mana Whenua, who exercise stewardship over particular resources as well as key stakeholders, business associations, community groups and the wider community.
The efficient use and development of natural and physical resources	State Highways are a physical resource which enable people to provide for their social and economic wellbeing. The Project will contribute to the efficient use and development of the State Highway network as a physical resource. Through the alternatives assessment process, the Project was determined to be the most efficient use of natural and physical resources to achieve the Project Objective.
The efficiency of the end use of energy	Not relevant to the Project.
The maintenance and enhancement of amenity values	The Project has sought to maintain and enhance amenity values. Conditions requiring management plans as relevant at Outline Plan stage will demonstrate how this will be achieved in further detail.
Intrinsic values of ecosystems	The Project has sought to avoid adverse effects on ecosystems as far as practicable. Conditions requiring management plans as relevant at Outline Plan stage will demonstrate how this will be achieved in further detail.
Maintenance and enhancement of the quality of the environment	The Project has sought to maintain and enhance the quality of the environment. Conditions requiring management plans as relevant at Outline Plan stage will demonstrate how this will be achieved in further detail.
Any finite characteristics of natural and physical resources	Not relevant to the Project.
The protection of the habitat of trout and salmon	Not relevant to the Project.
The effects of climate change	The Project will increase the resilience and capacity of the state highway network with an additional north-south route which is resilient to climate change-induced flooding. Moreover, the Project will enable greater mode shift to be achieved on parallel multi-modal arterial corridors, e.g. Great South Road and Porchester Road.
The benefits to be derived from the use and development of renewable energy	Not relevant to the Project.

7.5.3 Section 8

Section 8 of the RMA sets out that:

> *In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).*

Mana Whenua have been involved as a partner throughout the development of the Project to date. Mana Whenua will be involved as partners in future phases of the Project, and this has been provided for through the conditions on the proposed designation. Accordingly, the Project is considered to have taken into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).

7.5.4 Section 5

Section 5 of the RMA sets out the purpose of the RMA, which is to promote the sustainable management of natural and physical resources.

The Project will enable people to provide for their well-being and health and safety, through its benefits of increasing the resilience and safety of the corridor, reducing travel time, and supporting housing development in Southern Auckland. While the Project will result in some adverse effects as summarised in Section 6 of this AEE, these effects can be avoided, remedied, and mitigated either as demonstrated in the design to date or through the proposed conditions of the designation.

Accordingly, the Project will achieve the purpose and principles of the RMA.