



MILL ROAD STAGE 1 – FAST TRACK APPROVALS ACT (FTAA) APPLICATION

PART C – RESOURCE MANAGEMENT ACT APPROVALS

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1. INTRODUCTION

This substantive application seeks approvals under the FTAA that would otherwise be applied for under the RMA, comprising an alteration to Designation 6786 usually administered by Council under section 181 and resource consents under sections 9(1), 9(2), 9(3), 13, 14 and 15. NZTA also seeks a waiver of the outline plan requirements in accordance with Section 29(a) of Clause 5 of the FTAA.

This Part of the SAR describes the RMA approvals sought and addresses specific matters required under the FTAA, including the consideration of alternatives and assessment of reasonable necessity relating to the designation alterations and an assessment of the environmental effects of the Project.

An assessment of the Project against the relevant statutory framework is included in Part D and the proposed conditions for all approvals are included in Part G. This Part should be read alongside the technical assessments and supporting information contained in the appendices to this SAR, which provide detailed information underpinning the approvals sought for the Project.

2. ALTERATIONS TO EXISTING DESIGNATIONS

The alterations to Designation 6786 comprise the following:

- Alterations to the internal boundaries between the three designations (Designations 1, 2, 3) that comprise Designation 6786;
- Alterations to the external designation boundaries;
- An alteration to the designation purpose; and
- Alterations to the designation conditions.

2.1 Alterations to the internal boundaries between designations

Changes are proposed to the internal boundaries between the three designations that comprise Designation 6786 to reflect the anticipated construction sequencing of the Project. **Figure 2-1** below shows the existing designations on the left and how they are proposed to be amended on the right.



Figure 2-1: Changes in the boundaries between of Designations 1, 2, and 3 that comprise Designation 6786.

In summary:

- Designation 1** will encompass the Project between the SH1 Redoubt Road Interchange and the existing Mill Road, including Murphys Road south of Thomas Road (referred to as **Designation 1A**); and the Project between Ranfurly Road and Phillip Road (referred to as **Designation 1B**);
- Designation 2** will be reduced to apply only to the 1.8km section of Murphys Road between Thomas Road and Flat Bush School Road; and

c) **Designation 3** will be reduced to the area between Redoubt Road and Ranfurly Road.

Murphys Road is not as advanced so Designation 2 will remain physically unaltered beyond the changes discussed above.

2.2 Alterations to the designation boundaries

The 2014 design originally underpinning Designation 6786 has been updated, resulting in the proposed Project design in **Appendix H1** (see Part B for context regarding the design changes). Alterations to designation boundaries are proposed to provide for the implementation of this updated design.

The alterations can be grouped into four categories:

- a) **Category A** – alterations to accommodate changes in design, functional requirements, or additional measures to mitigate, offset, or compensate for adverse effects;
- b) **Category B** – alterations to manage access to properties, largely through driveway regrading works not provided for in the existing designation;
- c) **Category C** – alterations to provide for sufficient construction working space; and
- d) **Category D** – alterations to reflect where the full acquisition of cross-lease properties, or full acquisition of property incapable of reasonable use is required.

Figure 2-2 shows the approximate location of the proposed alterations. **Table 2-1** groups the alterations based on the categories, section of the Project and corresponding designation. The alteration to designation plans and property schedule are provided in **Appendix C1**.

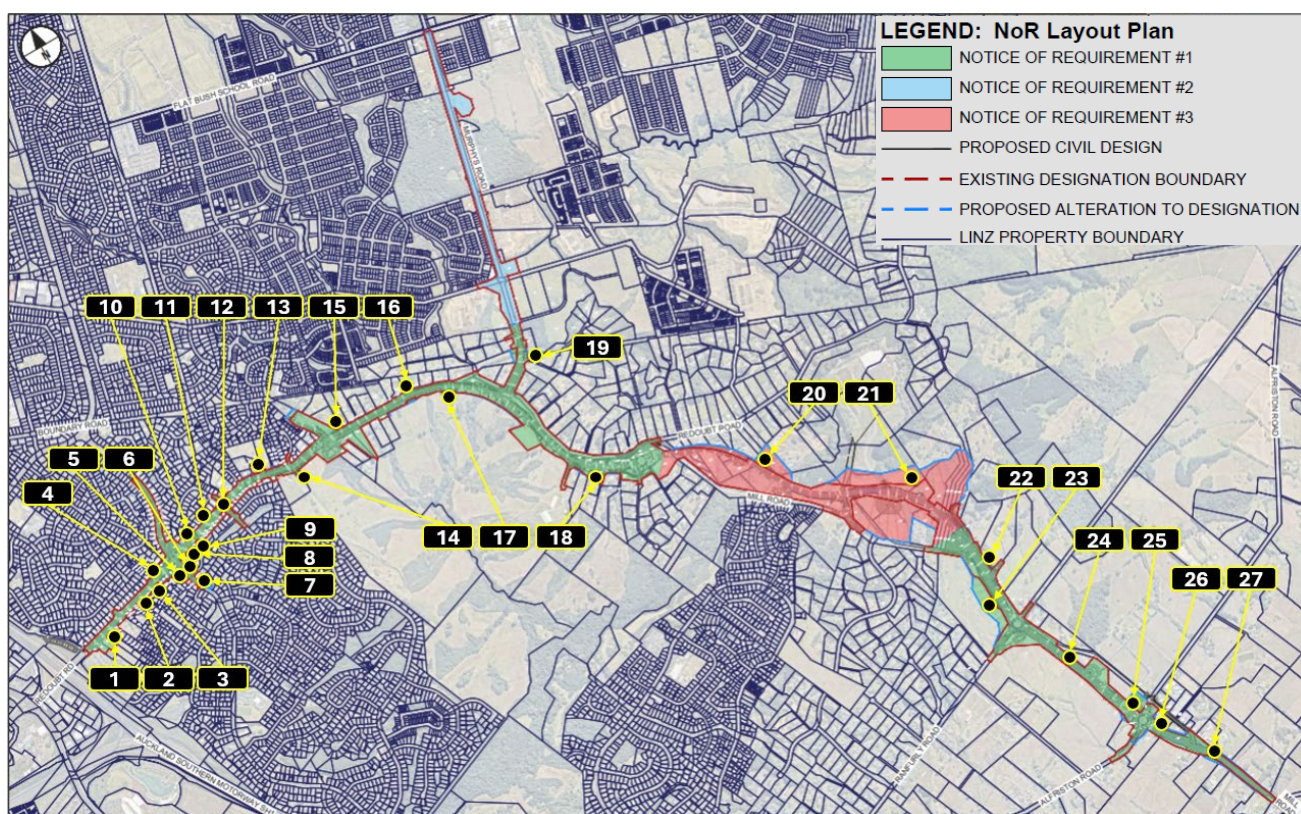


Figure 2-2: Approximate locations of proposed designation boundary alterations (N.B. Numbers correspond to references in Table 2-1)

Table 2-1: Proposed alterations to the designation boundaries

Section	Designation No.	Change No.	Affected Properties	Affected Property Interests	Category
Urban Section 1	1A	1	4 Wilisa Rise, 31V Redoubt Road (+ properties accessed from shared driveway)	11	B
		2	2/49, 49V Redoubt Road, Birchlea Rise (+ properties accessed from shared driveway)	23	B, D
		3	57A, 57B, 61, 63V Redoubt Road (+ properties accessed from shared driveway)	7	B
		4	46A Redoubt Road	1	B
		5	7A Everglade Drive	1	B
Urban Section 2		6	2, 4, 6 Everglade Drive	3	D
		7	1A Flamingo Court; 10, 12R Everglade Drive	3	A, C
		8	14 Flamingo Court	1	D
		9	18 Flamingo Court; 93V, 99 Redoubt Road (+ properties accessed from shared driveway)	9	A, B, C, D
		10	62V, 78 Redoubt Road (+ properties accessed from shared driveway)	8	B, C
		11	8A, 8B Rosewood Place	2	B, C
		12	1 Santa Monica Place, 2 Rosewood Place; 1, 3, 4, 5 Goodwood Drive	6	B, C
		13	116, 120, 122, 124, 124A, 126, 128, 132, 132A, 132B, 134, 134A, 134B, 134V, 135 Redoubt Road (+ properties accessed from shared driveway)	13	B, C
		14	149, 159 Redoubt Road	2	B, C
Peri-Urban Section		15	160 Redoubt Road	1	B
		16	190, 200, 206 Redoubt Road	3	B, C
		17	133R Totara Park / 251 Redoubt Road	3	A, B, C
		18	309, 313R, 315, 323, 327 Redoubt Road	5	A, B, C
		19	39, 49A, 51, 51A, 51V Murphys Road (+ properties accessed from shared driveway)	11	B, C
Rural Section	3	20	361, 367, 371, 375, 395A Redoubt Road	5	A, C
		21	38, 134, 146, 158, 160, 162, 164, 166 Mill Road	11	A, C
	1B	22	174, 182 Mill Road	2	B
		23	116 Ranfurly Road	1	A
		24	2 Wastney Road	2	A, C
		25	2 Wastney Road, 1348-1350 Alfriston Road		A
		26	1345 Alfriston Road, 295 Mill Road	2	A, C
		27	323, 327, 333, 334, 356 Mill Road	5	B, C

2.3 Alteration to the designation purpose

The purpose of the existing Redoubt Road – Mill Road corridor designations as identified in the AUP is: “... to enable the Requiring Authority to widen and upgrade the Redoubt Road-Mill Road Corridor. The public works are required in order to provide future corridor capacity to support growth identified within the Takanini and wider southern area and provide an alternate north/south corridor to State Highway 1.”

The stated AUP purpose differs from the purposes stated in the 2014 NoR (Form 18) and the Assessment of Environmental Effects¹ (**AEE**) which was:

- a) NoR 1: “for the purpose of construction, operation, maintenance and improvements to Redoubt Road including associated connecting roads”.
- b) NoR 2: “for the purpose of construction, operation, maintenance and improvements to Redoubt Road and Murphys Road”.
- c) NoR 3: “for the purpose of construction, operation, maintenance and improvements to Redoubt Road and Mill Road including associated road connections”.

We understand this to be an administrative error made by Auckland Council in transferring the designation purpose from the NoR across to the AUP. As a consequence, the existing purpose is not considered fit for purpose, nor does it recognise that NZTA is now the relevant Requiring Authority.

NZTA proposes to alter the purpose of Designations 1 and 3 as follows:

- a) **Designation 1:** To construct, operate, maintain and improve a state highway, cycleway and shared path and associated infrastructure, works and activities.
- b) **Designation 3:** To construct, operate, maintain and improve a state highway, cycleway and shared path and associated infrastructure, works and activities.

2.4 Alterations to the designation conditions

Alterations are proposed to the designations to either delete, amend or replace the existing conditions. The updated set of designation conditions proposed for Designations 1 and 3 are included in Part G of this SAR. For Designation 2, minor administrative amendments to the conditions are proposed to update various references within those conditions (for example replacing “Auckland Transport” with “the Requiring Authority”). The updated set of designation conditions proposed for Designation 2 is set out in Part G of this SAR.

The drafting approach for the existing designation conditions (as confirmed and incorporated into the AUP in 2016) was informed by the following context:

- a) The Project was intended to be delivered by AT as the Requiring Authority;
- b) The Project was unfunded and intended to be implemented over a 10–15-year period. The designation extent, and the effects assessment, were based on a conceptual level of design. The development of detailed measures to manage the effects of the Project were deferred to management plans to be submitted through a future outline plan process;
- c) Regional resource consents had not been sought and would need to be applied for at a later date;
- d) The level of stakeholder consultation and engagement was commensurate with NoRs intended to be implemented in the medium-to-long term; and
- e) Property negotiation and acquisition under the PWA was yet to commence.

Changes to the strategic context of the Project since the confirmation of the designations (as discussed in Part B) have meant that a revised approach to conditions is necessary to reflect the following:

- a) Responsibility for the delivery of the Project was passed to NZTA in 2020, and the designations were transferred to NZTA in November 2025. As result, several of the existing designation conditions are no longer suitable with NZTA as Requiring Authority having differing responsibilities and objectives to AT;
- b) The Project is identified in the GPS as a strategic priority under the RoNS programme and the design process has advanced significantly further than would ordinarily be the case for NZTA projects at the consenting stage;

¹ Redoubt Road – Mill Road Notice of Requirement, Volume 2: Assessment of Environment Effects, October 2014.

- c) Management plans and other documentation (e.g. design drawings) which fulfil the effects management requirements set out in the existing conditions have been completed and are provided in the relevant appendices to this SAR;
- d) NZTA is seeking a waiver of the outline plan requirement under Schedule 5, Clause 29(a) of the FTAA. Section 6 below confirms that all information necessary to satisfy the requirements under section 176A(2) of the RMA is included within this SAR;
- e) The designation conditions relating to vegetation removal can be deleted as vegetation removal is now a regional matter and is fully addressed in the regional resource consent applications being sought (and the management plans submitted with the application); and
- f) Significant progress has been made since the confirmation of the designation on further stakeholder consultation and engagement, and property negotiation and acquisitions for the Project under the PWA.

The proposed changes to the existing designation conditions are set out in **Table 2-2** below and have been grouped according to the following categories:

- a) **Category A:** Condition requirements have already been given effect to through the completion of a management plan or other information provided as part of this SAR;
- b) **Category B:** Updated design or technical specialist assessment provided as part of this SAR negates need for condition;
- c) **Category C:** Effect proposed to be managed by existing designation conditions is now proposed to be managed through the regional consent conditions;
- d) **Category D:** Removal or streamlining of onerous or duplicative requirements pursuant to sections 10 and 83 of the FTAA; and
- e) **Category E:** Progress on consultation and engagement negates the need for condition.

Table 2-2 Summary of proposed changes to the existing designation conditions

No.	Condition	Category	Outcome
1	General Accordance	A, B	Amend
2	Lapse Dates	N/A	N/A
3	Designation Review	D	Delete
3A	Kauri Dieback Hygiene Controls	C	Delete
4	Network Utility Operators	D, E	Delete
5	Network Utility Operator Liaison	D, E	Delete
6	Mana Whenua Consultation	E	Replace
7	Management Plan and Outline Plan Requirements	A, D	Delete
8	Availability of Plans	A	Delete
9	Monitoring of Construction	D	Delete
10	Preparation, compliance, and monitoring	A, D	Replace
11	Submission of Social Impact Management Plan	A, B, E	Delete
12	Property Management	B, E	Delete
13	Social Impact and Business Disruption Delivery Work Plan (DWP)	A, B, E	Delete
14	Contact Person	A, B	Delete
15	Stakeholder Engagement Plan	A, B	Delete
16	Concerns and Complaints Management	A, B	Delete
17	One Network Consultation	E	Delete
18	Construction Environmental Management Plan (CEMP) Requirements	A	Delete
19	CEMP Construction Works Requirements	A	Delete
20	Network Utilities	A	Delete
21	General Transport, Access, and Parking	A	Delete
22	Monitoring of Transport Network Congestion	A	Delete
23	Road Design / Layout	A	Delete
24	Project Standards – Construction Noise	A	Delete
25	Project Standards – Construction Vibration	A	Delete
26	Project Standards – Construction Vibration (Amenity)	A	Delete
27	Construction Noise and Vibration DWP	A	Delete
28	Historic Heritage	A	Delete
29	Historic Heritage – The Meeting House	A	Delete
30	Process for Building Condition Surveys	A, B	Delete

No.	Condition	Category	Outcome
31	Urban Design and Landscape Principles	A	Delete
32	Open Space Restoration Plans	A	Delete
33	Landscape Mitigation Planting Plan	A	Delete
34	Ecological and Restoration DWP	C	Delete
34A	Ecological and Restoration DWP (site specific)	C	Delete
35	Vegetation	C	Delete
36	Lizard Management Plan	C	Delete
37	Bat Management Plan	C	Delete
38	Contamination DWP	C	Delete
39	Air Quality DWP	A	Delete
40	Specific Design Requirements	B	Delete
41	Operational Traffic Noise	B	Replace
42		B	Replace
43	Operational Traffic Noise – Detailed Mitigation Options	B	Replace
44		B	
45		B	
46	Operational Noise Mitigation – Building Modification Mitigation	B	Replace
47		B	
48		B	
49		B	
50		B	
51		B	
52	Operational Traffic Noise – Maintenance	B	Replace
53	Operational Traffic Noise – Monitoring	D	Delete
54	Operational Traffic Noise (116 Ranfurly Road)	B, E	Delete

2.5 Reasonable necessity for the altered designations

The FTAA requires an assessment of whether the work and designation sought are reasonably necessary for achieving the objectives of the Requiring Authority. NZTA's Project objective is:

“To provide for a transport corridor between the SH1 Redoubt Road Interchange and the intersection of Mill Road and Phillip Road to improve traffic efficiency and enhance network resilience.”

The alteration to the existing designations is reasonably necessary and appropriate as a planning tool to achieve NZTA's objectives for the Project because:

- The design that informed the original designations confirmed in 2016 has evolved through subsequent design development. The proposed alterations to the designation boundaries cover additional land required for the construction, operation and maintenance of the Project, including additional stormwater management infrastructure, construction areas, access arrangements and bridge and corridor alignment changes. These alterations enable the current Project design to be accommodated and provide for the transport corridor required to achieve the NZTA objective above.
- The proposed alterations to the designation conditions establish a planning framework that is reflective of an implementation-ready Project. Many of the existing conditions are no longer relevant, have been superseded through the design details now provided within this application, and/or are addressed through the management plans that are also lodged with this application. Updating the conditions avoids unnecessary duplication, provides greater certainty for Project delivery, and facilitates the efficient construction, operation and maintenance of the Project, thereby supporting achievement of the Project objective.

2.6 Consideration of alternatives

The FTAA requires the consideration of alternative sites, routes, or methods for undertaking the Project in the context of alterations to designations.

The adequacy of the alternatives assessment underpinning the Project has been tested on multiple occasions across various phases of the Project, including through the 2014 NoRs, Council Hearing and subsequent Environment Court appeal proceedings. At each point, the assessments sought to test and refine the preferred option for the Project to manage effects and the extent of land required. Alternatives assessments have also been undertaken in relation to the recent changes to the Project design as outlined below.

A summary of the assessment of alternatives for key features of the Project is provided in the sections that follow. Section 2.6.3 summarises the assessment of alternative statutory methods considered to accommodate the proposed changes to the Project. Together, these sections demonstrate that NZTA has given adequate consideration to alternative sites, routes and methods in a manner that is appropriately transparent and robust.

2.6.1 Puhinui Gully bridge

The Puhinui Gully bridge traverses SEA_T_4570 in the AUP. The alignment of the Project through this area was extensively tested as part of the 2014 NoR process. At that time, the Hearing Commissioners concluded that the alternatives assessment was comprehensive and recommended confirmation of the designations.

During the current phase of the Project, the Project Team re-tested a number of aspects of the 2014 design. Additional options were developed and assessed via a Multi-Criteria Assessment (**MCA**) process with the aim of avoiding and/or minimising the impacts on Significant Trees and higher quality areas within the SEA.

Previous alternatives considered – 2014 NoR phase

The alternatives assessment process included testing a long list of options and then a short list through a MCA process. As part of this process, the options considered included alignments which avoided impacts on the Puhinui Gully SEA including:

- a) Alignments which followed the existing Redoubt Road – Mill Road alignment. These options did not progress due to poor ground conditions and the geometry of the existing road which was not suitable for the transport form and function required for the Project; and
- b) Alignments to the west of the existing Redoubt Road – Mill Road alignment. These options did not progress as they would have resulted in significant property impacts, safety impacts associated with direct access from properties onto the corridor and impacts to another SEA and stream to the west of the alignment (located on the edge of Tōtara Park).

The options that were progressed to the short list assessment were located to the east of the existing Redoubt Road – Mill Road alignment, all of which traversed the Puhinui Gully SEA. Once the preferred option was identified, further design refinement was undertaken through the Council Hearing process to avoid a stand of mature forest. This work resulted in a lateral shift of the alignment by 13m and formed the basis of the 2016 designations.

The Hearing Commissioners concluded that the alternatives assessment was comprehensive and recommended confirmation of the designation.

Alternatives considered in the current phase

Consideration of alternatives for the Puhinui Gully bridge initially sought to test the 2014 design in terms of cost and complexity (geotechnical constraints), whilst further reducing effects on the Puhinui Gully SEA. Three options were developed within the existing designation boundary as summarised in **Table 2-3** below and were the subject of a MCA process.

Table 2-3 Initial Puhinui Gully bridge options considered²

Option	Key features	Diagram
1 (2014 design updated to meet current design standards)	6 x 28m spans, 168m long super-T bridge. - Complex bridge with reverse curves (horizontal alignment) and a sag curve (vertical alignment). - Crosses the gully parallel to the eastern designation boundary. - Retaining walls ranging from 7.2 m – 18.5 m in height. - Impact on SEA of 2,626 m².	
2	7 x 30m spans, 210m long super-T bridge. - Straight horizontal alignment with a constant vertical gradient (-1%). - Northern abutment located further northwest than the other options, crossing the gully diagonally relative to the eastern designation boundary. - Retaining walls ranging from 7.1 – 12.2m in height. - Impact on SEA of 4,473m². - Potential cost savings of \$12-\$15M compared with Option 1.	
3	7 x 28m spans, 196m-long super-T bridge. - Complex bridge with horizontal and vertical curves. - Crosses the gully parallel to the eastern designation boundary. - Retaining walls ranging from 7.1 m – 10.4 m in height. - Impact on SEA of 2,441 m². - Minor cost savings relative to Option 1.	

Option 3 was identified by the Project Team as the initial preferred option on the basis that it achieves:

- A small reduction in impacts on the SEA relative to Option 1, and significantly less impacts on the SEA relative to Option 2; and
- A reduction in retaining wall heights relative to Option 1 (and associated cost savings).

Conversely:

- Option 1 was not preferred because it was the highest cost option and involved the most complex horizontal and vertical geometry; and
- Option 2 was not preferred because the cost savings associated with the option were not sufficient to justify the significantly increased effects on the extent of the SEA.

Following the completion of detailed field surveys undertaken by the Project's Ecology Team and Arborist and the mapping of Significant Trees within the SEA, it was identified that all three options would require the removal of several Significant Trees. In light of this information, together with feedback from Mana Whenua regarding the cultural significance of these trees, further option refinement was undertaken to avoid, as far as practicable, the Significant Trees (kahikatea, miro, rimu, tōtara) within the SEA extent.

Option 3 was identified as requiring the removal of approximately nine Significant Trees directly impacted by the alignment and affecting a further four Significant Trees within the construction extent.

² The maps in this table are schematic. Areas identified in purple represent the extent of the SEA.

Table 2-4 Revised Puhinui Gully bridge options considered³

The above options were assessed through a MCA process with a focus on arboriculture, ecology, cultural effects and constructability as the key differentiating assessment criteria. A MCA workshop was held to discuss the options and review the initial MCA results. This workshop was attended by the relevant technical specialists and Mana Whenua technical advisors.

The outcomes of the MCA are summarised in **Table 2-5** below.

NZ Transport Agency Waka Kotahi
Mill Road Stage 1 – FTAA - Part C – RMA Approvals

Table 2-5 Summary of Puhinui Gully bridge MCA

Criteria	Option A	Option B	Option C
Arboriculture			
Ecology			
Property			
Constructability			
Cost			
Scoring Key:			

Mana Whenua⁴ provided feedback⁵ on the three options considered. Mana Whenua noted the significance of indigenous trees and the strong cultural and customary value they hold, which traces back to ancestral associations with Taanemahuta (the Māori god of the forest and forest animals), sustaining the mauri of Papatuaanuku (earth mother) as well as ‘te reo me oona tikanga’ (Māori language and custom) and customary practices. Mana Whenua also noted that Cheesman’s Bush and Puhinui Gully feature some of the last remaining examples of ancestral raakau within their rohe.

While Mana Whenua reiterated previous views that any removal of ancestral raakau/trees is not supported, they expressed a preference for alternative options to Option A (namely, Options B or C) which avoid most of the ancestral raakau.

Considering this feedback, **Option B** was identified by the Project Team as the preferred option on the basis that it:

- a) Avoids the need to remove all but two of the Significant Trees within the SEA; and
- b) Balances the relative ecological and cultural benefits associated with minimising the effects on Significant Trees against the additional costs associated with more complex construction and greater land requirements.

Conversely:

- a) Option A was not preferred due to its impacts on Significant Trees; and
- b) Option C was not preferred on the basis that full avoidance of the Significant Trees was not considered to be proportionate to the additional costs, complexity and land requirements associated with the option.

Following further engagement with Mana Whenua regarding Option B, a minor eastward adjustment was made to further reduce effects and minimise the pruning of the old growth-classified tōtara (shown in the image below as Tree #422). This alignment, referred to as Option B1 (refer to **Figure 2-3**), was identified as the preferred option and forms the basis of this application. To enable this option to be constructed, an alteration to the existing designation is required. The extent of this alteration is shown in **Appendix C1** and the effects associated with the alteration are discussed in Section 5.

⁴ All Mana Whenua identified in Part B. Te Ahiwaru participated in engagement discussions but did not formally endorse this feedback.

⁵ See Appendix B3.

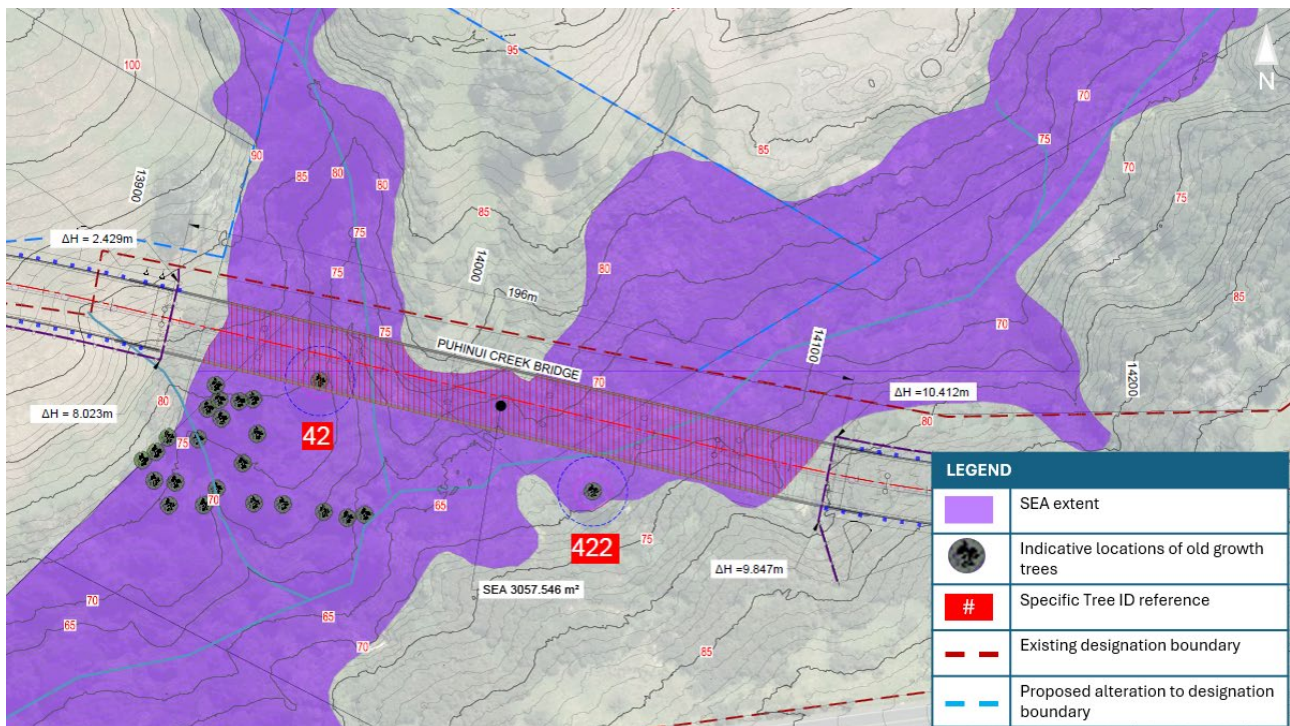


Figure 2-3 Puhinui Gully bridge Option B1 - Preferred option

2.6.2 Cheesman's Bush Bridge

Similar to the Puhinui Gully bridge, the effects of the Project on the Cheesman's Bush SEA were extensively considered through the Council Hearing and subsequent appeals. This involved retesting alignments that sought to avoid Cheesman's Bush in its entirety. This process concluded that:

- Options that completely avoid Cheesman's Bush would require considerable earthworks, result in additional impacts on private property and relocation of significant network utilities (both existing and planned). These options also presented geometric and constructability constraints associated with known areas of ground instability and were therefore not progressed; and
- Additional options (e.g. lateral and vertical changes to the alignment) tested through the Council hearing would have limited benefit in terms of avoiding effects and could potentially result in greater ecology edge effects.

The Hearing Commissioners concluded that the assessment of alternatives in relation to the route location at 146 Mill Road was more than adequate⁶ and recommended confirmation of the designations.⁷ AT's decision on the designation was subsequently appealed to the Environment Court, including in relation to concerns relating to the effects of the Project on Cheesman's Bush. Further changes were made to the design in this area to address those concerns and consent orders were issued by the Court.

Alternatives considered in the current phase

Further assessment of the Cheesman's Bush bridge has been undertaken following detailed ecological surveys, mapping of Significant Trees and engagement with Mana Whenua. This assessment identified that a number of Significant Trees would be affected by the 2016 design. Five alternative bridge alignments were tested including an option previously discounted as part of the 2014 NoR process that would fully avoid Cheesman's Bush. These options are summarised in **Table 2-6** below.

⁶ Recommendation to Auckland Transport following the hearing of notices of requirement under the Resource Management Act 1991, dated 17 February 2016, at [187].

⁷ Recommendation to Auckland Transport following the hearing of notices of requirement under the Resource Management Act 1991, dated 17 February 2016, at [105].

Table 2-6 Cheesman's Bush bridge options considered⁸

Option	Key features	Diagram
A (existing preferred option)	- An increase in the bridge span from 40 m to a maximum of 50 m to reduce the extent of earthwork embankments and abutment wall heights. - Removal of active mode facilities from the bridge, resulting in the narrowing of the bridge cross-section. - Impacts 1,496 m² of SEA extent. - Requires the removal of a number of Significant Trees including Tree #259 which is an old growth puriri tree.	
B	- Alignment slightly west of Option A. - Impacts 1,082 m² of SEA extent. - Requires the removal of a number of Significant Trees. Partially avoids impacts on Tree #259.	
C	- Alignment further west of Option B. - Impacts 1,117 m² of SEA extent. - Avoids Tree #259 and a number of the other Significant Trees.	
D	- Alignment east of Option A. - Impacts 2,933 m² of SEA extent. - Partially avoids Tree #259 and avoids impacts on the remaining Significant Trees.	
E	- Alignment further to the east of Option D, resulting in full avoidance of Cheesman's Bush. - Previously considered and discarded during the 2014 NoR phase due to significantly greater earthworks, ground improvements, land take, and stream impacts compared with the preferred option at that time.	

⁸ The maps in this table are schematic. Areas identified in purple represent the extent of the SEA. The black circles represent the location of Significant Trees.

The above options were assessed through a MCA and subsequent workshop, with a focus on arboriculture, ecology, cultural effects and constructability as the key differentiating assessment criteria. The outcomes of the MCA are summarised in **Table 2-7** below.

Table 2-7 Summary of Cheesman's Bush bridge MCA

Criteria	Option A	Option B	Option C	Option D	Option E
Arboriculture					
Ecology					
Property					
Constructability					
Cost					
Scoring key:					

Mana Whenua provided feedback on the five options and reiterated their opposition to the removal of ancestral raakau in this location. Mana Whenua recognised that, while Option E (previously discarded through the 2014 NoR process) avoids Cheesman's Bush, this option results in other environmental effects including considerable impacts on the stream running through Cheesman's Bush and additional property impacts. Mana Whenua also noted that (aside from Option E) Option A appears to avoid the greatest impacts on ancestral raakau.

The Project Team concluded that none of the new options (Options B, C, and D) or the option discarded during the 2014 NoR process (Option E) had sufficient benefits to justify a change from Option A. Specifically:

- Options B, C, and D were assessed as having an equivalent level of effects, both from an ecological perspective and in relation to individual trees compared to Option A. While Option D avoids Significant Trees identified to date, it traverses a significantly larger extent of high-quality SEA;
- Option E was assessed as the most favourable outcome from an ecological and impacts on individual trees perspective. However, it was also identified as raising geometric and land stability issues, requiring significantly more land than Options A-D and as being the highest cost option (due to considerable utilities relocation and additional property acquisition costs); and
- Options B, C, and D were assessed as being costlier and more complex to construct (due to the steep gully that would need to be accessed for bridge construction), and having greater ecological effects, compared with Option A.

Accordingly, Option A remains the preferred option. However, as described in Parts B and D of this SAR, the Project has incorporated significant additional measures to minimise, offset and compensate for the significant, ecological and cultural effects associated with the bridge at this location. These measures are addressed in **Appendix C4** of this SAR, and in the Policy Theme 4 discussion in Part D.

An alteration to the designation boundary in the Cheesman's Bush area is required to implement the Project's terrestrial ecology mitigation package (as outlined in Section 5.3 and **Appendix C4** of the SAR). The extent of the alteration is shown in **Figure 2-4** below. The additional area included in the designation provides for:

- Enhancement planting pest plant and animal control within the existing SEA and the area of old forest at 134 Mill Road;
- New areas of restoration planting around the existing SEA; and
- New areas of lizard habitat and riparian mix planting.

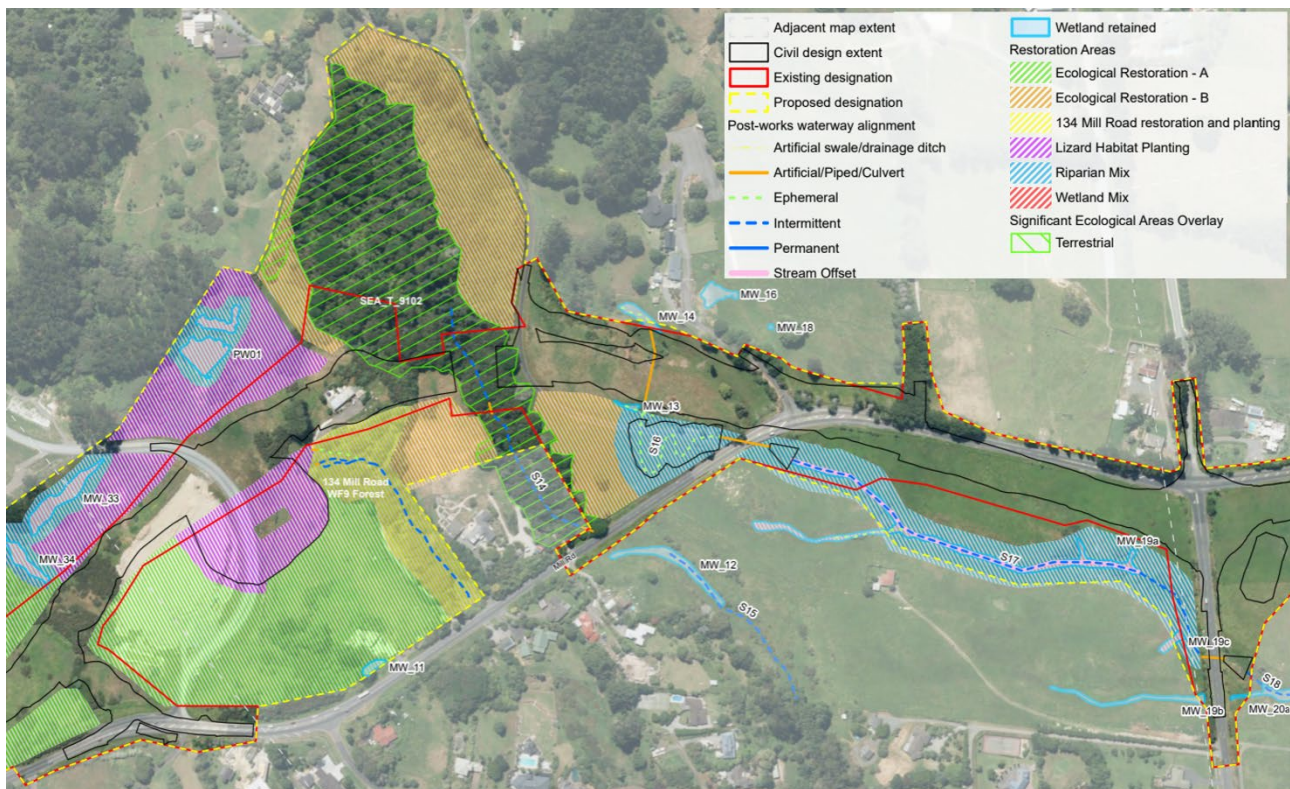


Figure 2-4 Map showing ecological restoration extents (proposed alteration to designation at 146 Mill Road shown in yellow dashed line)

The inclusion of this area will provide for additional planting around the SEA and increase its connectivity with nearby SEAs (including the Puhinui Gully SEA). The area proposed to be altered to include the additional vegetation area contains equivalent WF9 vegetation which is not present in other alternative sites within or near to the Project extent. As such, it is considered that there are no alternative sites within the Project area with comparable ecological value suitable for this purpose.

2.6.3 Consideration of alternative methods

An alteration to the existing designation is the preferred statutory method to accommodate updates to the 2014 design, as it:

- Enables the existing designations to be used where appropriate and relevant, and limits new assessment to only that required to address design changes and new information;
- Prevents development that could hinder the proposed works for the revised extent of the designation, and has interim effect from lodgement;
- Negates the need for land use consents to be individually sought to authorise the design changes under section 9(3) of the RMA;
- Provides certainty and transparency to landowners and the wider public regarding the revised Project extent;
- Identifies the extent of land for PWA purposes; and
- Presents the only practicable way forward to give effect to the existing designation in a manner consistent with the Project objectives.

Alternative methods to protect the additional land and authorise the activities needed to give effect to the revised design have been considered and are not practicable because:

- An entirely new designation would achieve the same outcome as the proposed alteration but would necessitate new assessments rather than allowing reliance on and supplementation of earlier

assessments as enabled by the proposed alteration. It would also result in overlapping designations until the existing designations are withdrawn; and

- b) Standalone resource consents rather than alterations to the designation would also result in an impractical scenario whereby the same land use activities would be authorised through the designation for the original extent, and through a series of disaggregated resource consents for the additional extent.

3. RESOURCE CONSENTS

NZTA seeks all resource consents required under the RMA to authorise the Project in its entirety, including any additional consent requirements identified by the Panel during the processing of the application that are not identified in the following tables. To the extent that any such additional consent requirements are identified, it is considered that the environmental effects associated with those activities have been assessed and addressed within the project-wide assessments and technical reports accompanying this SAR and should therefore be considered as part of this application.

A summary of the activities that require resource consent under Sections 9(1), 9(2), 9(3), 13, 14 and 15 of the RMA is provided below. The relevant permitted activities are listed in **Appendix C2**.

3.1 Auckland Unitary Plan – District Plan

The land use consents set out in **Table 3-1** that would otherwise be required under the district rules of the AUP and Section 9(3) of the RMA are sought. These land use consents cover the earthworks required within Tōtara Park outside the designation footprint as shown in **Figure 3-1**. The earthworks are associated with the daylighting of a stream within Tōtara Park which forms part of the mitigation package for the impacts of the Project on streams. The works include the removal of the existing pipe, creation of a stream channel, bank recontouring and riparian planting. The extent of the works outside the designation is shown in **Figure 3-1**. A summary of the relevant matters of discretion under E26.5.7.1(2) is provided in **Appendix C3**.

Table 3-1 Summary of district plan consents sought

Rule / description	Activity status	Summary of activities proposed requiring consent
Section 9(3) – District land use		
AUP Chapter E26 – Infrastructure		
E26.5.3.1 (A95) - Earthworks greater than 2500m ² other than for maintenance, repair, renewal, minor infrastructure upgrading.	Restricted Discretionary	Earthworks greater than 2500m ² and 2500m ³ within Tōtara Park for stream daylighting (and formation) and wetland offset works.
E26.5.3.1 (A96) - Earthworks greater than 2500m ³ other than for maintenance, repair, renewal, minor infrastructure upgrading.	Restricted Discretionary	

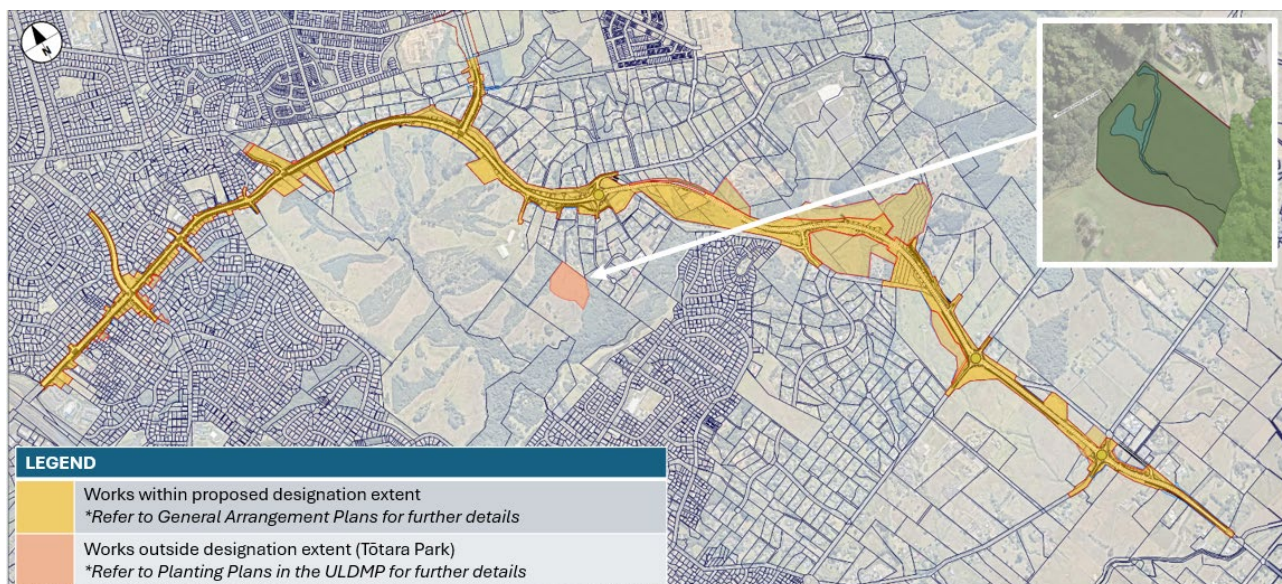


Figure 3-1 Extent of the application site for the land use district consent

3.2 Auckland Unitary Plan – Regional Plan

Rule	Activity status	Activities requiring consent
Section 9(2) – Regional land use		
Chapter E26 – Infrastructure		
E26.5.3.2 (A103) - Earthworks outside a Sediment Control Protection Area (SCPA) - Greater than 50,000m ² where land has a slope less than 10 degrees outside the SCPA other than for maintenance, repair, renewal, minor infrastructure upgrading.	Restricted Discretionary	Approximately 345,000m ² of earthworks within and outside SCPAs.
E26.5.3.2 (A106) - Earthworks outside a SCPA - Greater than 2,500m ² where the land has a slope equal to or greater than 10 degrees other than for maintenance, repair, renewal, minor infrastructure upgrading.	Restricted Discretionary	
E26.5.3.2 (A107) - Earthworks within the SCPA - Greater than 2,500m ² within the SCPA other than for maintenance, repair, renewal, minor infrastructure upgrading.	Restricted Discretionary	
E26.5.3.2 (A118) - Earthworks in a SEA - greater than 2500m ² or 2500m ³ .	Discretionary	Approximately 8,650m ² and 2,760m ³ of earthworks across three SEAs located at Cheesman's Bush (SEA_T_9102), Puhinui Gully (SEA_T_4570) and Everglade Park (SEA_T_538a).
E26.3.3.1 (A77) - Vegetation alteration or removal, including alteration and / or removal within a SEA, riparian area and rural zone that does not comply with Standards E26.3.5.1 to E26.3.5.4.	Restricted Discretionary	Vegetation alteration or removal of approximately 1.2ha within an SEA and riparian vegetation loss outside an SEA not complying with E26.3.5.2 (1), (3), (7) and (7A) as it: (1) Includes trees over 6m in height or 600mm in girth. (3) Results in removal of more than 50m ² within the riparian area or SEA. (7) Is for construction of new infrastructure. (7A) Results in tree trimming or alteration that exceeds the specified thresholds.

Rule	Activity status	Activities requiring consent
Chapter E9 – Stormwater quality – High contaminant generating car parks and high use roads		
E9.4.1 (A7) - Development of a new, or redevelopment of an existing, high-use road greater than 5,000m ² .	Controlled	Development of a new, or redevelopment of an existing high use road with an impervious area of approximately 158,900m ² .
Chapter E10 – Stormwater management area - Flow 1 and Flow 2		
E10.4.1 (A7) - Development of new or redevelopment of existing impervious areas greater than 5,000m ² for a road, motorway or state highway operated by a road controlling authority or rail corridor within a Stormwater Management Area – Flow 1 (SMAF-1) or Stormwater Management Area – Flow 2 that complies with Standard E10.6.1 and Standard E10.6.4.2.	Restricted Discretionary	Development of new or redevelopment of existing impervious area of approximately 21,600m² for a road within a SMAF-1. Compliance will be achieved with Standard E10.6.1 as: (1) Hydrology mitigation will be provided meeting the specified requirements. (2) Stormwater management devices will be built in accordance with design specifications and fully operational prior to use of the impervious area. (3) As built plans will be provided to the Council within three months of work completion. (4) Stormwater management devices will be operated and maintained according to best practice. Compliance will be achieved with Standard E10.6.4.2 as the hydrology mitigation requirements will be met.
Section 13 – Stream works		
Chapter E3 – Lakes, Rivers, Streams and Wetlands		
Diversion of a river or stream		
E3.4.1 (A19) - Diversion of a river or stream to a new course and associated disturbance and sediment discharge outside the SEA overlay.	Discretionary	Permanent diversion of two (2) streams outside the SEA overlay to a new course at the intersection between Mill Road and Alfriston Road and adjacent to 146 Mill Road. Temporary diversion of streams outside of the SEA overlay to create a dry working area to construct in-stream structures (e.g., culverts and outfalls).
E3.4.1 (A19) - Diversion of a river or stream to a new course and associated disturbance and sediment discharge within the SEA Overlay.	Non-complying	Permanent diversion of two (2) permanent streams to a new course within the SEA overlay at 38 Mill Road (Puhinui Gully bridge). Temporary diversion of streams within the Puhinui Gully SEA to create a dry working area to construct in-stream structures (e.g., culverts and outfalls).
Works on existing structures		
E3.4.1 (A26) - Any activities not complying with the general permitted activity standards in E3.6.1.1 or the specific activity standards in E3.6.1.10 – E3.6.1.13.	Discretionary	Replacement of existing culverts which do not meet the standards in E3.6.1.12(2)(a) as the erosion and scour management works exceed 5m in length.
New structures		
E3.4.1 (A29) - New bridges located within a SEA overlay complying with the standards in E3.6.1.16.	Discretionary	New bridges within Cheesman's Bush (SEA_T_9102) and Puhinui Gully (SEA_T_4570). Compliance with E3.6.1.16 will be achieved as: (1) The new structures can comply with standards in E3.6.1.14. (2) Piles will not be located in the bed of the river.
E3.4.1 (A33) - Culverts or fords more than 30m in length when measured parallel to the direction of water flow – outside the SEA overlay.	Discretionary	Nine new culverts outside the SEA overlay with a length greater than 30m (ranging from 35m to 65m).
E3.4.1 (A44) - Any activities not complying with the general permitted activity standards in E3.6.1.1 or the specific activity standards in E3.6.1.14 to E3.6.1.23 outside the SEA overlay.	Discretionary	New stormwater outfalls (outside the SEA) do not comply with E3.6.1.14(1)(b) as the erosion and scour management works exceed the 5m maximum length. Temporary structures (outside the SEA) to create a dry working area for construction of new culverts and/or

Rule	Activity status	Activities requiring consent
		outfalls that do not comply with one or more standards in E3.6.1.15. This includes exceeding the maximum structure length of 30m in E3.6.1.14(1)(c) and the maximum duration of 14 days for temporary structures in E3.6.1.15(3).
E3.4.1(A44) - Activities not complying with the general permitted activity standards in E3.6.1.1 or the specific activity standards in E3.6.1.14 to E3.6.1.23 within the SEA overlay.	Non-Complying	A new stormwater outfall within Everglade Park (within the SEA) does not comply with E3.6.1.14(1)(b) as the erosion and scour management works exceed the 5m maximum length. Temporary structures (within the SEA) to create a dry working area for the construction of new culverts or bridges and do not comply with one or more standards in E3.6.1.15. This includes the temporary culverts needed for the construction of Puhinui Gully bridge exceeding the maximum duration of 14 days for temporary structures in E3.6.1.15(3).
E3.4.1(A49) - New reclamation or drainage, including filling over a piped stream. <i>Note: Reclamation consents are not required when installing culverts, fords and erosion protection structures.</i>	Non-Complying	Reclamation of four intermittent streams resulting in the permanent diversion of these streams. Reclamation or partial reclamation of 14 wetlands.
Section 14 – Water permit		
Chapter E7 – Taking, using, damming and diversion of water and drilling		
E7.4.1 (A20) - Dewatering or groundwater level control not meeting permitted activity standards outside of a High-Use Stream Management Areas Overlay.	Restricted Discretionary	Ongoing water take (exceeding the 30 days specified in standard E7.6.1.6(2)) both within and outside of the High Use Stream Management overlay.
E7.4.1 (A20) - Dewatering or groundwater level control not meeting permitted activity standards within a High-Use Stream Management Areas Overlay.		
Section 14 and 15 – Stormwater permits		
Chapter E8 – Discharge and diversion		
E8.4.1 (A5) - Diversion and discharge of stormwater runoff from additional impervious areas greater than 5,000m ² of road (which include road ancillary areas that are part of a road, motorway or state highway operated by a road controlling authority) or rail corridor that complies with Standard E8.6.1 and Standard E8.6.4.1.	Restricted Discretionary	Diversion and discharge of stormwater runoff from the upgraded road corridor (which will create approximately 117,600m² of additional impervious area) to nearby watercourses and streams. Compliance with Standard E8.6.1 will be achieved as: (1) There are no relevant precinct plans that stormwater management devices need to be consistent with. (2) There will be no increase in scour or erosion at the point of discharge or downstream. (3) Diversion and discharge will not result in increase in flooding of other properties in the 10% Annual Exceedance Probability (AEP) event as required by subclause (a) or inundation of buildings in the 1% AEP event as required by subclause (b). (4) The works will not cause or increase nuisance or damage to other properties. (5) The works will not give rise to the effects specified in subclauses (a) to (e) such as changes in colour or visual clarity in surface water or objectionable odour. (6) No ground soakage is proposed. Compliance with Standard E8.6.4.1 will be achieved:

Rule	Activity status	Activities requiring consent
		(1) Where stormwater runoff is directed to the existing stormwater network (including catchpits), these will be managed and maintained to ensure effective operation and prevent erosion, sediment generation and discharge. (2) No road ancillary area is expected to be used for storage of roading and building materials for more than 30 days continuously or works/building yards. (3) Where stormwater runoff from impervious area is discharged to a stream environment, stormwater management devices are proposed meeting the hydrology requirements. (4) Stormwater devices will be provided to reduce or remove contaminants from stormwater runoff.
Section 15 – Discharge permit		
Chapter E30 – Contaminated Land		
E30.4.1 (A7) - Discharges of contaminants into air, or into water, or onto or into land not meeting controlled activity Standard E30.6.2.1.	Discretionary	The permitted activity standards in E30.6.1.2 are not met because soil disturbance is proposed on land with contaminant levels exceeding the 200 m³ permitted volume threshold, and contaminated material will remain on site under the proposed soil classification protocols. The controlled activity standards in E30.6.2.1 are also not met, as contaminant concentrations exceed applicable environmental and worker criteria. Disturbance of this soil and associated discharges such as dust or surface water could result in 'significant adverse effects' if not properly managed. This includes the site at the corner of Hilltop Road and Redoubt Road.

3.3 National Environmental Standards for Freshwater

The Project is 'specified infrastructure' under the NPS:FM. The relevant regulations of the NES:FW, insofar as they apply to specified infrastructure, and the consents required, are outlined below.

Regulation	Activity status	Activities requiring consent
Regulation 39(1) – Vegetation clearance within, or within a 10m setback from a natural inland wetland for the purpose of natural inland wetland restoration.	Restricted Discretionary	Vegetation clearance and earthworks/land disturbance for natural inland wetland restoration proposed at 116 Ranfurly Road (S17/MW19a), 2 Wastney Road (S21/MW21a), Tōtara Park (TR01/TW01) and 38 Mill Road (PW01, MW33 and MW34).
Regulation 39(2) - Earthworks or land disturbance within, or within a 10 m setback from, a natural inland wetland for the purpose of natural inland wetland restoration.	Restricted Discretionary	
Regulation 45(1) - Vegetation clearance within, or within a 10 m setback from, a natural inland wetland for the purpose of constructing specified infrastructure.	Discretionary	Vegetation clearance and earthworks/land disturbance (including construction of new outfalls, culverts, diversions and the road corridor) within or in the proximity of up to twenty (20) wetlands.
Regulation 45(2) - Earthworks or land disturbance within, or within a 10 m setback from, a natural inland wetland for the purpose of constructing specified infrastructure.	Discretionary	

Regulation	Activity status	Activities requiring consent
Regulation 45(4) - The taking, use, damming, or diversion of water within, or within a 100 m setback from, a natural inland wetland if: (a) it is for constructing or upgrading specified infrastructure; and (b) there is a hydrological connection between the taking, use, damming or diversion and the wetland; and (c) it will change, or is likely to change, the water level range or hydrological function of the wetland.	Discretionary	Damming or diversion of water pursuant to regulation 45(4) within or in the proximity of up to seven (7) wetlands.
Regulation 45(5) - The discharge of water into water within, or within a 100 m setback from, a natural inland wetland if: (a) it is for constructing or upgrading specified infrastructure; and (b) there is a hydrological connection between the discharge and the wetland; and (c) the discharge will enter the wetland; and (d) the discharge will change, or is likely to change, the water level range or hydrological function of the wetland.	Discretionary	Temporary discharge of water into water within or within a 100m setback from natural inland wetlands pursuant to regulation 45(5) within or in the proximity of up to forty-five (45) wetlands.
Regulation 47(3) - The taking, use, damming, or diversion of water within, or within a 100 m setback from, a natural inland wetland if: (a) it is for maintaining or operating specified infrastructure; and (b) there is a hydrological connection between the taking, use, damming, or diversion and the wetland; and (c) it will change, or is likely to change, the water level range or hydrological function of the wetland; and (d) the activity does not comply with the conditions in regulations 46(4) but does comply regulation 47(5).	Restricted Discretionary	Permanent damming and diversion of water within or within 100m of one (1) wetland. Compliance will be achieved with regulation 47(5): a) the activity will be undertaken for as long as necessary to achieve its purpose; and b) before the activity starts, a record will be made (for example, by taking photographs) of the original condition of the natural inland wetland's bed profile and hydrological regime that is sufficiently detailed to enable compliance with paragraph (c) to be verified; and c) the 30-day limit for the bed profile and hydrological regime of natural wetlands to return to their original condition does not apply per subclause (6)(b) as the ongoing damming and diversion of water is needed for the ongoing maintenance and operation of the infrastructure.
Regulation 47(3A) - The discharge of water into water within, or within a 100 m setback from, a natural inland wetland if: (a) it is for the maintaining or operating specified infrastructure; and (b) there is a hydrological connection between the discharge and the wetland; and	Restricted Discretionary	Discharge of water into water (via new stormwater outfalls) within or in proximity of up to ten (10) wetlands. Compliance will be achieved with regulation 47(5): a) the activity will be undertaken for as long as necessary to achieve its purpose; and b) before the activity starts, a record will be made (for example, by taking photographs) of the original

Regulation	Activity status	Activities requiring consent
(c) the discharge will enter the wetland; and (d) the discharge will change, or is likely to change, the water level range or hydrological function of the wetland; and e) it does not comply with any of the conditions in regulation 46(4), but does comply with the conditions in subclause 47(5) of this regulation.		condition of the natural inland wetland's bed profile and hydrological regime that is sufficiently detailed to enable compliance with paragraph (c) to be verified; and c) the 30-day limit for the bed profile and hydrological regime of natural wetlands to return to their original condition does not apply per subclause (6)(b) as the ongoing discharge of water is needed for operation of the infrastructure.
Regulation 57(1) – The reclamation of the bed of any river ⁹ .	Discretionary	Stream reclamation pursuant to regulation 57(1) in relation to four (4) intermittent streams.
Regulation 71(1) - The placement, use, alteration, extension, or reconstruction of a culvert in, on, over, or under the bed of a river that does not comply with any of the conditions in regulation 70(2).	Discretionary	The placement and use of four new culverts in streams that may not provide for the same level of fish passage as would exist without the culvert. Temporary stream diversion via a pipe/culvert may also be required to create a dry working area to construct in-stream structures (e.g., culverts) in relation to up to sixteen (16) streams. These temporary pipes/culverts may not comply with one or more of the conditions in 70(2) including the requirements relating to fish passage, bed substrate and location of the temporary pipe.

Regulation 45(6) states that a resource consent for a discretionary activity under Regulation 45 must not be granted unless the consent authority has first:

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

Regulation 57(2) states that a resource consent for a discretionary activity under Regulation 57 must not be granted unless the consent authority has first:

- (a) satisfied itself that there is a functional need for the reclamation of the river bed in that location; and
- (b) applied the effects management hierarchy.

The requirements above are the same as those set out in the AUP under Policy E3.3(17(b)(ii) – (iv) and Policy E3.3(18)(a) – (b) of the AUP which are assessed in Part D of the SAR. Based on that assessment, the Project will satisfy the requirements of regulations 45(6) and 57(2).

⁹ Under the RMA 'river' means a continually or intermittently flowing body of fresh water; and includes a stream and modified watercourse.

3.4 National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health

Regulation	Activity status	Summary of activities proposed requiring consent
Regulation 10 - Disturbing the soil of the piece of land that does not comply with the conditions in regulation 8(3), where: (a) A Detailed Site Investigation (DSI) of the piece of land exists; and (b) The report on the DSI states that the soil contamination exceeds the applicable standard in Regulation 7; and (c) The report has been provided to the Council.	Restricted Discretionary	Soil disturbance is required to construct the Project including at 1345 Alfriston Road, 38 Mill Road and the eastern corner of Hilltop and Redoubt Road (limited to the southernmost extent of Hilltop Road into the eastern side). A DSI has been prepared (see Appendix C23). The soil contamination exceeds the applicable standard in Regulation 7.

3.5 Bundling

The resource consent applications required for the Project are interrelated. Applying the most restrictive activity status, the application is for a **non-complying activity**. The non-complying activities are, however, limited and relate to works being undertaken within the SEA overlay and reclamation of specific sections of four intermittent streams. Whilst the proposal is a non-complying activity s104(D) of the RMA does not apply (clause 17(1)(b), Schedule 5 of the FTAA).

3.6 Section 105 - Matters relevant to certain applications

Section 105 of the RMA requires the consideration of the following matters for discharge permits:

- The nature of the discharge and the sensitivity of the receiving environment;
- The applicant's reasons for the choice of discharge; and
- Possible alternative methods of discharge, including to another receiving environment.

The nature of the discharges that will result from the Project include:

- Discharge of construction phase stormwater to land and surface water;
- Discharge of dewatering water, including water treatment chemicals, to land and surface water;
- Discharge of soil with above background concentration of contaminants to land (re-use of site won fill); and
- Discharge of operational stormwater to land and water.

The sensitivity of the receiving environment is described in Part B. Where practical, alternative methods of discharge have been considered, as described below.

Construction stormwater discharges are unavoidable during earthworks of this scale. Dewatering discharges will be limited to when groundwater is encountered and a dry working environment is necessary. The stormwater and dewatering water discharges expected during construction are well understood and will be managed (including treatment) in accordance with approaches to be detailed in the site-specific ESCP. The receiving environment for these discharges is the Project site itself (largely existing road corridor or highly modified rural land) and the watercourses (including natural inland wetlands) which intercept the Project site, to which there is no practical alternative.

Re-use of excavated material may constitute a discharge where the material contains above background levels of contaminants. Soils will be handled and placed in accordance with the Contaminated Soil Management Plan (**CSMP**) requirements. Where soils are not suitable for reuse under the CSMP soil categorisation and management framework, they will be disposed of at an appropriately authorised landfill,

Alternative methods, including disposal of affected soils to an off-site landfill or managed fill facility have been considered. However, these alternatives are not considered preferable where material can be safely reused onsite in accordance with the CSMP. The proposed approach enables the beneficial reuse of suitable material and may reduce the demand for imported fill and the volume of material requiring off-site disposal, which may in turn reduce associated transport movements. The CSMP also includes procedures for managing any incidental discoveries of contaminated materials. Accordingly, reuse of suitable material within the Project site is considered the most appropriate method for managing discharge.

During the operational phase of the Project, stormwater discharge from impervious roading surfaces is unavoidable as there is a need to safely and efficiently convey runoff away from the carriageway and prevent flooding and ponding. These discharges are well understood and will be managed using a combination of stormwater management devices including raingardens, swales and wetlands. All stormwater runoff from the Project will be treated before discharging to streams or the Auckland Council piped network.

There are no alternative receiving environments to discharge stormwater to, as both the Papakura and Puhinui Creek catchments drain to the Manukau Harbour. Discharges to land through infiltration systems are not feasible in most locations due to unsuitable ground conditions, high groundwater levels and/or limited space within the road corridor.

3.7 Section 107 Restriction on grant of certain discharge permits

Section 107 of the RMA restricts the granting of discharge consents that would otherwise contravene sections 15 or 15A of the RMA, where the discharge is likely to cause any of the following effects in receiving waters after reasonable mixing:

- a) Conspicuous oil or grease films, scums or foams, of floatable/suspended materials;
- b) Conspicuous change in colour or visual clarity;
- c) Emission of objectionable odour;
- d) Rendering of freshwater unsuitable for consumption by farm animals; and
- e) Significant adverse effects on aquatic life.

The application may be granted if the consent authority is satisfied that:

- a) Exceptional circumstances justify the discharge;
- b) The discharge is temporary in nature; or
- c) The discharge is associated with necessary maintenance work; and
- d) It is consistent with the purpose of the RMA to do so.

During construction, the ESCP will be applied through Site Specific ESCPs. As a result, any adverse effects related to construction discharges will be temporary and minor in nature and will be restricted to the construction period of the Project.

Once completed, all stormwater runoff from the Project will be treated in accordance with Auckland Council's standards prior to discharging to surrounding watercourses, as set out in the Assessment of Stormwater (Operational) Effects (**Appendix C21**).

With the above measures in place, the discharge of treated stormwater from both construction and operational phases of the Project will not generate significant effects on aquatic life.

4. OTHER CONSENTS AND APPROVALS REQUIRED

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

Landowner approval is required from Auckland Council for various works within Tōtara Park, including realignment of mountain bike trails, relocation of grazing facilities for the TPEC, lizard relocation activities and stream restoration activities. Auckland Council Parks has agreed in principle to these works (see Part B of the SAR). NZTA will obtain formal landowner approval from Auckland Council for the work in parallel to this application.

Archaeological authorities will be sought for the Project through the standard HNZPT application process and are therefore not part of this SAR. The wildlife and freshwater fisheries approvals required for the Project form part of this application and are covered in Parts E and F of this SAR.

The Project will also discharge to the Auckland Council stormwater network at three locations: the piped network near Hollyford Drive and the urban streams within Everglade Park and Kingsclere Place Reserve. Approval from Auckland Council is required to utilise its Regional Stormwater Network Discharge Consent, which NZTA will seek separately (see **Appendix C21**).

5. ASSESSMENT OF EFFECTS ON THE ENVIRONMENT

5.1 Approach to effects assessment

For the proposed alterations to Designation 6786, the assessment focuses on the effects arising from the alterations beyond those already authorised by the existing designations. Accordingly, the effects associated with activities already authorised by the existing designations (e.g. construction traffic, noise and vibration, landscape effects, and earthworks) have generally not been reassessed, except where the proposed alterations have the potential to change the nature, extent or significance of those effects.

The Project's benefits are discussed in Part B of this SAR and are not repeated here.

5.2 Summary of effects and management approach

A summary of the scale of the effects of the Project post implementation of the proposed mitigation approach is set out in **Table 5-1** below.

Potential effects will be managed through a combination of measures already incorporated into the Project design, a comprehensive suite of management plans and a focused set of conditions that reflect the implementation-ready nature of the Project. As noted in Part B, considerable effort has been made to avoid adverse effects through the design process, for example, through the refined bridge alignments and relocation of stormwater ponds and outfalls to avoid SEAs.

Condition 1 of the designation, regional consent and district land use consent conditions requires the Project to be undertaken in general accordance with the design plans and management plans (as relevant to each approval). The remaining conditions focus on managing effects that are not covered in the design plans or the management plans at the current time. This approach avoids unnecessary repetition between the conditions and management plans while providing confidence that mitigation and management measures are appropriately secured through the authorisation framework.

The management plans included as part of this application have been prepared by appropriate Suitably Qualified Persons (**SQP**) and developed alongside the Project design and effects assessments. As a result, they contain detailed methods, procedures, monitoring requirements and mitigation measures (where relevant) that will be implemented during construction or operation to avoid, remedy or mitigate adverse effects.

The various condition sets also provide for management plans to be amended, subject to oversight by the relevant SQP and engagement with Mana Whenua. This approach recognises that refinements to the design and/or construction methodology may be required once construction commences, as is typical for projects of this scale and complexity. Any amendments must, however, remain consistent with the relevant

management plan objectives, enabling the detailed methods by which effects are managed to be refined where necessary while maintaining the overall management approach relied upon in the assessment.

Table 5-1: Summary of effects and management

Actual or potential effect / type of effect		Scale of effect (post-mitigation)
Ecological		
Terrestrial: Potential adverse effects include vegetation loss, habitat loss and fragmentation (including WF9 and VS5 forest and mature and old-growth Significant Trees), injury or death of indigenous fauna during construction works		Negligible to no more than minor.
Freshwater: Potential adverse effects include stream and wetland habitat loss and disturbance, impacts on native fish and fish passage, water quality effects, changes in hydrology and flow regimes, and shading from bridges.		Less than minor.
Cultural		
Potential adverse effects on sites, waterways and places of cultural and spiritual significance to Mana Whenua including ancestral raakau.		Mana Whenua have expressed the view that there are significant adverse effects on cultural values associated with the loss of ancestral raakau that cannot be mitigated.
Transport		
Potential adverse construction traffic effects include an increase in light and heavy vehicle movements, congestion, property access disruption and increased safety risks.		Less than minor.
Potential adverse operational effects include changes in approach to active mode provision and existing access arrangements (resulting in increased travel time/detours for some properties).		
Social		
Potential adverse impacts include disruption to the use and enjoyment of community facilities during construction, access restrictions (e.g. altered travel routes), and construction-related disturbance, such as dust and noise.		Less than minor.
Earthworks		
Potential adverse effects include sediment discharges and stormwater runoff, dust generation, temporary disturbance to streams and wetlands, and associated effects on water quality, ecological values and amenity.		Less than minor.
Stormwater quality and quantity		
Potential adverse effects include changes to stormwater quality, stream hydrology and flow regimes, and localised flooding effects associated with increased impervious surfaces and stormwater discharges.		Negligible to positive water quality effects. Negligible stormwater quantity effects on stream health. Negligible flooding effects.
Contamination		
Potential adverse effects to human health and the environment regarding disturbance of soil in relation to three HAIL sites (corner of Hilltop Road and Redoubt Road, 1345		Less than minor.

Actual or potential effect / type of effect	Scale of effect (post-mitigation)
Alfriston Road and 38 Mill Road) and from unexpected discoveries within the Project extent.	
Groundwater and settlement	
Potential effects include groundwater drawdown and diversion associated with deep excavations, with consequent effects on stream flows, wetlands, nearby structures and groundwater users.	Negligible to low.
Archaeology and historic heritage	
Potential adverse effects include modification or destruction of recorded and unrecorded archaeological sites and features as a result of earthworks and land disturbance, and effects on the Alfriston Meeting House, including its potential relocation (if practicable) or demolition.	Negligible.
Noise and Vibration	
Potential adverse construction effects include temporary construction noise and vibration associated with earthworks, piling, road compaction and night works. Potential operational effects include increased traffic noise to protected premises and facilities (PPFs).	Less than minor.
Dust emissions	
Potential adverse effects include dust generation during construction, resulting in potential amenity, nuisance and health effects for nearby sensitive receivers.	Negligible
Network utilities	
Potential adverse effects include damage to existing network utility assets and infrastructure, disruption to utility services, and associated safety, operational and public health risks.	Negligible.

5.3 Ecological effects

5.3.1 Terrestrial ecology

An assessment of the effects of the Project on terrestrial ecology (**Terrestrial Ecology Assessment**) is provided in **Appendix C4**. The assessment addresses terrestrial vegetation and habitats, SEAs, Significant Trees, threatened and at-risk terrestrial flora, bats, avifauna, herpetofauna, terrestrial invertebrates, pest animals and pest plants. An Arboricultural Assessment is appended to the Terrestrial Ecology Assessment which identifies the potential effects of the Project on Significant Trees.

The Terrestrial Ecology Assessment notes that the Project area is largely modified but contains important remnant indigenous forest values associated with Cheesman's Bush, the adjoining 134 Mill Road WF9 forest, Puhinui Gully, and the edge of Everglade Park / Kingsclere Place Reserve. The Arboricultural Assessment identifies that:

- The Cheesman's Bush SEA contains a mixture of species such as puriri, taraire and kahikatea. Some of the trees of these species are also considered 'old growth / remnant'. There are also numerous 'large' and 'mature' species such as kānuka, kahikatea, māhoe, taraire and kohekohe; and
- The Puhinui Gully SEA contains an area of old growth and mature indigenous trees including rimu, tōtara, miro and kahikatea at the northern end of the impacted area; and a mixture of pest plant species dominated by gorse and privet, with emergent species such as ponga, hangehange and māhoe further south of the bridge alignment.

The highest ecological values are associated with WF9 taraire, tawa, podocarp forest, VS5 broadleaved scrub / forest, mature and old-growth Significant Trees, king fern, copper skink, potential habitat for other native lizards, native forest bird habitat, and forest-floor invertebrate habitat. The Project design has been refined to reduce ecological effects where practicable.

Significant effort has been made to avoid and/or minimise adverse effects on old-growth WF9 forest and Significant Trees through the design process and construction methodology development (see **Appendix C4**) Whilst these measures reduce the severity of effects, it is acknowledged they will not avoid all adverse effects. The Project will result in:

- a) The loss of 0.924 ha of in-scope native-dominated vegetation or exotic forest with native understorey;
- b) Permanent modification of 0.1245 ha of WF9 forest and 0.0161 ha of VS5 vegetation associated with bridge vegetation maintenance zones; and
- c) The loss of 0.267 ha of non-native vegetation that provides habitat for copper skink.

A number of Significant Trees will also be impacted. When compared to the existing designations, the updated design significantly reduces the number of Significant Trees impacted by the Project as set out in the table below.

Table 5-2 Comparison of Significant Trees affected by the 2014 design and the proposed design

Location	Total Significant Trees potentially impacted	
	2014 design	Proposed design
Cheesman's Bush	126	60
Puhinui Gully	30	5
Total	156	65

The impact of the Project on the Significant Trees is summarised in the table below.

Table 5-3 Summary of Impacted Significant Trees within Cheesman's Bush and Puhinui Gully SEAs

Tree impact activity	Significant Trees to be completely removed	Significant Trees to be topped and/or trimmed			Total potentially impacted Significant Trees
		Likely to survive	Survival uncertain	Survival unlikely	
Cheesman's Bridge and associated earthworks	12	20	21	7	60
Puhinui Bridge and associated earthworks	2	3	0	0	5

After avoidance and minimisation efforts are applied, the main residual adverse effects are the loss and modification of WF9 taraire, tawa, podocarp forest, VS5 broadleaved scrub / forest, Significant Trees, confirmed and potential native lizard habitat, and potential effects on king fern. The Terrestrial Ecology Assessment summarises the scale of residual effects as follows:

- a) Significant Trees – very high;
- b) WF9 taraire, tawa, podocarp forest – high;
- c) Confirmed and potential native lizard habitat – moderate;
- d) VS5 broadleaved scrub / forest – moderate;
- e) Bats – negligible (reflecting the absence of recent bat detections); and
- f) Avifauna – low or very low (with nesting bird protocols to avoid disturbance or impacts on nests in place).

To manage these residual effects, NZTA has proposed a residual effects management package applying across approximately 27.7 hectares. This area includes approximately:

- a) 16.6 hectares of native WF9 restoration planting, with approximately 5.2 hectares of this area providing specific lizard habitat components;
- b) 6.9 hectares of enrichment planting within the existing Puhinui Gully and Cheesman's Bush SEAs; and
- c) 4.2 hectares of riparian and wetland restoration planting.

The Terrestrial Management Plan (**TMP**) sets out the requirements for the restoration and enhancement planting including pest plant control requirements across all areas and pest animal control within the designation at Cheesman's Bush, Puhinui Gully and 134 Mill Road for a period of 10-years.

The potential effects on terrestrial fauna during the construction period are addressed in the TMP which contains protocols for managing the potential effects on nesting birds and bats and in the Lizard Management Plan which contains the process for lizard salvage.

The proposed effects management package has been assessed using a Biodiversity Compensation Model and the model has been applied conservatively. It assumes total loss for directly affected and permanently modified vegetation, applies elevated risk and uncertainty multipliers, reduces compensation gains through moderate confidence factors, assigns low 10-year value scores to restoration planting, and excludes several expected ecological benefits. Even with this conservative approach, the model indicates that the package provides a 36.6% positive benefit to the affected terrestrial ecosystems.

The Terrestrial Ecology Assessment notes that the Project will result in unavoidable adverse effects on Significant Trees that cannot be replaced in the short or medium term. The Old Growth Tree Management Plan (**OGTMP**) sets out protocols for minimising or otherwise managing the effects on Significant Trees within Cheesman's Bush and Puhinui Gully SEAs including:

- a) Works affecting Significant Trees are to be undertaken and/or overseen by the relevant SQP (e.g., Nominated Project Arborist or Works Arborist);
- b) Specific low impact tree removal requirements, such as requiring a crane or hiab to be used to remove the trees within Puhinui Gully and two trees (Trees 262 and 288) at Cheesman's Bush SEA and conventional best arboricultural measures such as mechanical extraction used for the other 9 trees identified for removal within Cheesman's Bush;
- c) The process for offering the logs from the Significant Trees that have been removed to Mana Whenua for repurposing;¹⁰
- d) Measures to be adopted during construction and maintenance for topping and pruning of Significant Trees; and
- e) The preparation of a Tree Works Completion Report following completion of construction work.

While acknowledging that the loss of mature WF9 and associated Significant Trees is irreplaceable in the short to medium term, the assessment concludes that the proposed effects management package is ecologically appropriate and proportionate to those residual effects. It addresses the affected values through indigenous forest restoration, habitat enhancement, lizard habitat replacement, pest plant and pest animal control, enhancement of retained forest remnants, and ecological outcome monitoring.

The outcome of Biodiversity Compensation Modelling indicates that the mitigation package will result in a positive benefit of 36.6% in ecological values noting that the newly established vegetation will only provide a subset of the ecological function, resilience, structural complexity, and habitat values of the mature vegetation being lost.

The modelling also incorporates deliberately conservative assumptions that increase the quantified scale of effects and reduce the quantified value of compensation outcomes. On this basis, the package is considered sufficient to manage the residual terrestrial ecological effects of the Project and is anticipated to deliver an overall positive outcome for the affected terrestrial ecosystems.

¹⁰ As set out in the Cultural section in Section 5.4.

5.3.2 Freshwater ecology

An assessment of effects on freshwater ecology (**Freshwater Ecology Assessment**) is provided in **Appendix C8**. The assessment addresses the effects of the Project on streams, wetlands, and threatened and at-risk aquatic fauna and habitat.

The Project traverses the Puhinui and Papakura catchments, both of which are highly modified. Twenty watercourses were surveyed, comprising 17 intermittent streams and three permanent streams. Six native fish species and two native freshwater invertebrate species were recorded in the Project area or Zone of Influence (**ZOI**), including species classified as At Risk-Declining and At Risk-Naturally Uncommon. Overall stream ecological values range from 'Low' to 'High'. The highest value streams comprise the permanent streams within the Everglade Park / Kingsclere Reserve and Puhinui Gully SEAs, and an intermittent stream within the Cheesman's Bush SEA.

45 wetlands were identified within the Project area and ZOI. Most are highly modified, exotic-dominated systems with 'Low' to 'Moderate' ecological value. Four wetlands containing *Machaerina* sedgeland vegetation (Critically Endangered WL11 type) were assessed as having 'High' ecological value.

The Project design has been refined to avoid and minimise effects on streams and wetlands where practicable, including through alignment and stormwater outfall refinements, reductions in earthworks and culvert extents. The bridge design at Cheesman's Bush was modified through the design process to avoid direct effects on Stream S14.

Despite these measures, adverse effects remain primarily associated with culvert installation, stream diversions, and stream and wetland reclamation where these features intersect the alignment. These effects include:

During construction

- a) Modification of waterbodies and aquatic habitat including a loss of 681 m of stream habitat (2,361 m²) and 0.58 ha of wetland habitat (including 0.073 ha of the WL11 wetland type);
- b) Temporary habitat modification or disturbance including changes to fish passage;
- c) Potential injury or mortality of native fish;
- d) Short-term water quality effects (including sediment mobilisation and contaminants); and
- e) Alteration of water flows within tributaries and potential erosion.

During operation

- a) Stormwater discharge effects, including increases in elevated levels of PAH and heavy metals;
- b) Changes in hydrology and flow regime;
- c) Shading effects from bridges; and
- d) Changes to fish passage through new culverts, and diversions.

Some of the effects generated during the construction period will be managed via the Native Fish Capture and Relocation Plan (**NFCRP**) (**Appendix C9**), and the ESCP (**Appendix H2**). New and upgraded culverts will provide for fish passage design measures where there is upstream habitat available (**Appendix G** of the Freshwater Ecology Assessment). Stormwater outfalls will be designed with riprap or erosion protection measures. During the operational period, the proposed stormwater treatment devices will result in no adverse effect on water quality and an improvement in terms of the quality of existing stormwater discharges where no treatment currently exists.

Following implementation of these measures, residual effects on most stream and wetland features are assessed as 'Very Low' to 'Moderate'. However, 'Very High' residual effects remain for Streams S12 and S13 due to permanent stream diversions within the Puhinui Gully SEA, and for WL11 type wetlands due to the permanent loss of 0.073 ha and associated habitat fragmentation.

To address residual effects, an offset and compensation package comprising 818 m of stream restoration and 0.956 ha of wetland restoration and enhancement, including 0.05 ha of new wetland habitat, is proposed within the affected catchments. Restoration sites include stream-wetland complexes at 2 Wastney Road (S21/MW21a) and 116 Ranfurly Road (S17/MW19a), an intermittent piped stream in the south-eastern corner of Tōtara Park (TW01), three degraded exotic wetlands at 38 Mill Road and the S20 stream diversion site.

The quantum of offset / restoration required has been calculated using the Environmental Compensation Ratio (for streams) and Biodiversity Compensation Model (**BCM**) (for wetlands). Modelling indicates that the proposed offsets exceed the restoration quantum required to achieve no net loss of stream ecological function and will deliver an overall net gain in stream ecological value. The Project will also result in a net increase in stream length of 178 linear metres through stream creation and daylighting. BCM modelling demonstrates that a net gain of approximately 11.6% in wetland ecological value can be achieved.

Restoration and monitoring will be implemented through the FMP. Through implementation of the proposed avoidance, mitigation, offsetting, and compensation management measures, the assessment concludes that residual effects can be appropriately addressed. The freshwater offset package is expected to achieve a net gain in stream ecological values, while the wetland compensation package is expected to achieve no net loss and a positive biodiversity outcome for wetland values.

5.4 Cultural

NZTA recognises and acknowledges that the Project traverses a culturally significant landscape. The Project Team's understanding of the cultural landscape and the potential impacts to sites, waterways, and places of cultural and spiritual significance to Mana Whenua is informed by the MVAs/CVA prepared for the 2014 NoRs, as well as feedback received from Mana Whenua through working group hui (also summarised in the Iwi Engagement Summary provided in **Appendix B3**).

Acknowledging the potential effects of the Project on the cultural landscape, NZTA has worked collaboratively with Mana Whenua to develop and refine the Project's design, relevant management plans, and proposed conditions. In summary, this has included:

- a) Mana Whenua involvement in the development of the stormwater philosophy for the Project, which prioritises the use of green infrastructure (such as rain gardens, swales) and adopts a treatment train approach (a series of treatment steps) where practicable;
- b) Mana Whenua involvement in the refinement of the design, particularly in relation to the design and construction methodology for the Puhinui Gully and Cheesman's Bush bridges, stream diversions across the Project extent and the Project's interface with the Tōtara Park entrance;
- c) Mana Whenua input into the development of the ecological mitigation package and ongoing involvement in ecological monitoring, planting and seed collection; and
- d) Mana Whenua involvement in the preparation of management plans and in particular the ULDMP which recognises opportunities for Mana Whenua to develop and lead their own cultural design outcomes.

NZTA and Mana Whenua have also developed a Cultural Management Plan (**CMP**) condition (which applies to the designations). This condition requires that Mana Whenua values associated with the area affected by the Project's construction are recognised and provided for through the development of a CMP which is intended to (amongst other matters) address:

- a) Mana Whenua cultural narrative;
- b) The significance of the ancestral raakau / culturally significant trees affected by the Project;
- c) Cultural protocols, requirements and procedures for contractors and subcontractors;
- d) The tikanga and cultural protocols that must be undertaken in relation to the removal of ancestral raakau;
- e) The role and function of kaitiaki and cultural monitors; and
- f) Activities, sites and areas where cultural monitoring is required during construction works and what the cultural monitoring will comprise.

Ongoing Mana Whenua involvement in subsequent stages of the Project is provided for through a specific Mana Whenua engagement condition. This condition requires NZTA to invite Mana Whenua to establish a Mana Whenua Kaitiaki Forum at least six months prior to the start of detailed design for each stage of the Project. The Forum provides a mechanism for Mana Whenua to identify opportunities to incorporate cultural values into the detailed design process.

Included in the OGTMP is the process for the removal of ancestral raakau within Puhinui Gully and Cheesman's Bush. Mana Whenua have requested that they are:

- a) Notified of the removal of any of the fourteen trees (in their entirety) that are identified in the OGTMP at least three months prior to removal of the tree;
- b) Offered the logs of removed tree(s), with NZTA to transport any accepted logs to a location within the Auckland region chosen by Mana Whenua; and
- c) Invited to repurpose the removed tree(s) for cultural expression within the Project area. This may include incorporating Mana Whenua values and narratives through pou, artwork, sculpture and mahi toi for example.

Mana Whenua have stated that, even if the measures above are implemented, they consider that there are significant adverse effects on their cultural values associated with the loss of ancestral raakau that cannot be mitigated.

5.5 Transport

An Assessment of Transport Effects is provided at **Appendix C10**. The assessment addresses the key design changes that have occurred since the 2014 NoR, the associated effects of these changes and recommended measures to manage these effects. A CTMP (**Appendix C11**) has also been prepared that sets out how the construction effects of the Project will be managed.

The operational effects of the Project are largely authorised through the existing Project designation and are predominantly positive (refer to Part B of this SAR). The material changes from the 2014 design are:

- a) Changes to the provision of active modes – Compared with the 2014 design, the Project is anticipated to provide a lower level of service for active modes and achieve a comparatively smaller mode shift outcome. The assessment concludes that the provision of shared paths and the use of the existing 'Old' Mill Road alignment is appropriate given the anticipated use of this infrastructure and remains an improvement compared to the existing provision of active mode facilities in the existing environment;
- b) New raised median barrier in the urban section – The inclusion of a raised median barrier on Redoubt Road between SH1 and Hollyford Drive will restrict vehicles turning right-in and right-out of approximately 124 properties. Left-in and left-out access will be maintained. The assessment concludes that the additional travel times associated with this change are not substantial in the context of overall average journey times along this section of road, and that the safety benefits of the raised median outweigh any inconvenience caused. It is also noted that the inclusion of a median barrier is within NZTA's powers as the road controlling authority and does not itself require any approval under the RMA;
- c) Access changes north of the Ranfurly Road intersection – Compared with the 2014 design, the Project consolidates three existing accesses serving seven properties on the eastern side of the Mill Road alignment between Cheesman's Bush and Ranfurly Road into a single shared access arrangement. While this arrangement differs from the previously anticipated access configuration, the assessment concludes that it provides a safer outcome by reducing conflict points on a high-speed, high-volume corridor while maintaining comparable access outcomes. Overall, the change is not considered to result in additional adverse effects beyond what was anticipated as part of the 2014 design. The Project also proposes a left-in/left-out access arrangement to serve the Watercare site (38 Mill Road) and formalises restrictions on right-in and right-out movements through a wire rope median. Given the low volume of traffic expected from the site with access by authorised vehicles only, the proposed arrangement is considered appropriate and broadly consistent with the outcomes anticipated by the 2014 design, as it does not introduce any new right turn movements.
- d) Access changes as a result of tie-in with Murphys Road – The Project proposes changes to how approximately 15 properties on Murphys Road access the Project. The revised access arrangement will

avoid the need for an additional access point connecting onto the realigned Redoubt Road. Whilst this change results in an increased travel distance of approximately 400m, the detour is considered appropriate as it improves safety and network efficiency; and

- e) Changes to the form of intersections – Changes to the intersections along the Project corridor will result in a generally comparable network performance to the 2014 assessment, and there are no additional adverse effects on intersection performance beyond that identified by the 2014 design.

Effects on the transport network during construction will be consistent with those expected for works on an arterial road and can be readily managed through traditional construction traffic management measures that NZTA has a track record of successfully managing. In particular, they will be managed through the implementation of a CTMP framework as anticipated by the original designation conditions. The CTMP is consistent with the relevant requirements of the existing designation conditions. With the implementation of the CTMP, it is considered that the construction traffic effects associated with the Project will be appropriately managed.

Having regard to the above, it is considered that the Project will not generate additional adverse transport effects beyond what was authorised by the 2014 design and designations noting that the inclusion of a median barrier is not something that is authorised by the approvals sought. Overall, it is considered that any residual adverse effects will be negligible.

5.6 Social

A SIA is provided at **Appendix C12** which identifies that the Project will deliver significant social benefits for communities in Manukau, Flat Bush, Papakura and Drury by enhancing connectivity and accessibility.

The SIA has been prepared in response to the requirements of the existing designation conditions, which require an updated community baseline to be undertaken closer to the time of construction. The updated baseline provides a snapshot of the current community profile and how it has changed since the 2014 NoR process. Significant transformation of the Project area has occurred over the past decade in terms of urban development. Drawing on this baseline, the SIA identifies the Project's potential social impacts.

The SIA also acknowledges that, while the designations have been in place for over a decade, the potential social impacts prior to mitigation include:

- a) Potential loss of decision making in relation to property rights through the acquisition process;
- b) Disruption to the use of community facilities, or reduced ability to use them, due to construction-related noise, vibration, visual changes, and dust; and
- c) Loss of community cohesion arising from perceived or actual disruption and/or severance arising from restriction to access, alternative routes, and delays associated with temporary traffic management.

These impacts are typical of infrastructure projects of this scale and NZTA will undertake the following management measures:

- a) NZTA is currently implementing a range of management strategies (e.g. engagement and communication channels) for the wider community, people adjacent to the Project corridor, and those directly affected by the Project between now and construction commencing;
- b) Impacts during construction will be managed through the implementation of several management plans (such as the CNVMP, CTMP and DMP) which are included as part of the SAR; and
- c) An agreement has also been reached with AC Parks (see Part B) to manage impacts on Tōtara Park users including TPEC and the Mountain Biking Club).

The SIA concludes that the Project is expected to deliver enduring social benefits in the form of safer and more reliable travel and enhanced access to services. The potential effects during the construction period will be appropriately managed through the implementation of the relevant construction-related management plans such that any residual social impacts are expected to be less than minor.

5.7 Earthworks

The total earthworks area for the Project covers approximately 345,000m² of land. Estimated earthworks consist of 229,000m³ of cut, and 212,000m³ of fill (excluding bridge works). These volumes are typical of large-scale transport infrastructure projects of this nature and scale, where cut and fill activities are needed to achieve the design alignment and construct associated infrastructure. Some earthworks will also be undertaken within and adjacent to existing waterbodies to enable activities such as the installation of erosion protection structures, construction of culverts, stream daylighting, wetland creation and temporary and permanent stream diversions.

The earthworks required during construction of the Project has the potential to result in sediment discharges and stormwater runoff into waterbodies which may have adverse effects on cultural and ecological values. Earthworks can also generate discharges of dust to air which can lead to amenity, nuisance and public health effects.

To manage these potential construction effects, an ESCP and DMP have been prepared for the Project (see **Appendix H2** and **Appendix C18**). These plans apply to all earthwork extents across the Project, including earthworks associated with stream daylighting and wetland restoration in Tōtara Park, located outside of the altered designation extent and which form part of the freshwater ecology offset and compensation package.

The ESCP is supported by the following consent conditions (refer to Part G) requiring:

- a) Preparation and implementation of a Site Specific ESCP by a SQP, for each stage of works; and
- b) Preparation and implementation of a flocculation management plan (if required).

The Site-Specific ESCP must also include erosion and sediment control methodologies for works in and adjacent to streams and wetlands.

The selection of appropriate construction methodologies, equipment and construction staging will also contribute to managing effects from the proposed earthworks. NZTA will manage these requirements in conjunction with the appointed contractor through their principal contractor's requirements. ESCPs are well understood by construction contractors and are an effective tool for large linear infrastructure projects and can be delivered in stages.

The SSESOP will be implemented in accordance with the *Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region – Guideline Document 2016/005 (GD05)*. Proposed erosion and sediment controls include staging and progressive stabilisation of works, diversion of clean and dirty water, sediment retention devices (including ponds, bunds, silt fences and silt socks), flocculation treatment and stabilised site access points. The controls will be in place for the duration of the land disturbance activities and until the land is returned to an erosion resistant state.

Dust management measures set out in the DMP include stockpile management, control of unsealed roads and exposed surfaces and progressive stabilisation of disturbed areas. Additional mitigation and contingency measures will be implemented where necessary, including in response to monitoring results or complaints from nearby sensitive receivers.

Where earthworks are required within or adjacent to waterbodies (e.g., to construct culverts), priority will be given, where practicable, to undertaking works in the dry. This may include constructing works offline or adjacent to the existing channel and/or temporarily diverting stream flows around the work area. Where this is not practicable, temporary flow management measures will be implemented to isolate the works area from flowing water including:

- a) Flow diversions – including gravity diversions, pumped diversions and offline stream water diversions; and
- b) Cofferdams – for any works where the site footprint does not extend across the whole width of the watercourse.

For works in and adjacent to a watercourse, the regional consent conditions require the management of any flow diversions required during works, the provision of stabilised flow paths during flood events, and the stabilisation of reconstructed stream channels prior to the re-diversion of flows (see **Appendix G2**). Fish salvage will also be undertaken in accordance with the NFCRP (see **Appendix C9**) prior to the commencement of streamworks.

Overall, it is considered that any adverse effects associated with earthworks will be appropriately managed and any residual effects will be less than minor.

5.8 Stormwater quality and quantity

The Assessment of Stormwater Effects (see **Appendix C21**) contains an assessment of the actual and potential operational stormwater effects. The proposed stormwater design is provided in **Appendix H1**. Condition 1 of **Appendix G2** requires stormwater design to be in general accordance with those drawings and Conditions 7 – 11 impose additional requirements for the performance of the system. Conditions 5 and 6 of **Appendix G1** also set out outcomes to be achieved to be manage flood risk.

Water quality

Existing stormwater quality treatment within the Redoubt-Mill Road corridor is limited, with no formal treatment devices along much of the route and only a downstream wet pond west of Tōtara Park that does not meet current Auckland Council GD01 standards. East of Tōtara Park, treatment is largely limited to grassed verges and roadside swales.

The Project will create approximately 117,600m² of additional impervious surface. Runoff from road surfaces may contain contaminants including sediment, heavy metals (such as zinc and copper) and hydrocarbons which could degrade water quality in the receiving environment. Stormwater quality management is proposed to treat runoff from all existing and new road surfaces in the urban section, and from new road surfaces within the rural section, before discharging to nearby waterbodies (or the Auckland Council network). This includes a combination of catchpits/GPTs, raingardens, swales, wetlands and propriety devices designed to meet GD01 requirements. Treatment exceeding Council minimum standards is also achieved where devices exceed minimum sizing or operate in a treatment train.

Whilst the works in the urban section (Redoubt Road) comprise largely of widening of the existing corridor, the Project proposes treatment of the overall upgraded corridor and not just the widened portion of road.

Overall, the Project is expected to result in negligible to positive water quality effects by substantially increasing the extent and standard of stormwater treatment compared to what currently exists.

Water quantity – stream health

Several watercourses intersect the Project area or form part of the downstream receiving environment for Project stormwater discharges including within Tōtara Park and the rural area. These drain to the Pahurehure Inlet and Papakura Channel, and ultimately the Manukau Harbour. Much of the urban section is within the SMAF-1 control area where protection of stream health and aquatic biodiversity is a key objective. The rural section of the Project is not within the SMAF-1 control.

The Project will increase the overall impervious area and the associated stormwater discharges have the potential to adversely affect stream hydrology and channel stability. These effects will be managed through a network of detention-based stormwater devices, including raingardens, wetlands, underground storage systems and check dams, designed in accordance with GD01 and SMAF-1 requirements. Although the rural section is outside the SMAF-1 control area, impervious areas from road discharging to streams that exceed 5000m² are required to meet the same hydrology mitigation requirements as SMAF control areas,¹¹ and criteria for SMAF-1 control have been adopted for these devices. Appropriate outlet structures and erosion protection measures will also be provided.

As a result, the effects of stormwater discharges on stream health are expected to be negligible, with runoff managed to minimise adverse effects on downstream waterways.

Water quantity – flooding

Existing flood risk along the urban section is generally low, reflecting its ridgeline location, elevated development, and provision for overland flow conveyance. The rural section intersects several watercourses and overland flow paths, with the southern tie-in located within the wider Takaanini floodplain. Localised areas of higher flood risk have been identified through Auckland Council flood extent mapping at the Mill

¹¹ Under Standard E8.6.4.1(3) of the AUP.

Road southern tie-in, Ranfurly Road culvert, and the SH1/Redoubt Road interchange. Earthworks within Tōtara Park associated with stream daylighting and wetland creation will involve localised changes to landform, however they are not anticipated to adversely affect floodplain conveyance, will not change the entry and exit points of overland flow paths or flood risk beyond the Project extent.

The Project will introduce new impervious surfaces and modify site topography, which has the potential to increase runoff and flood risk if not appropriately managed. Flooding effects were assessed for both the 10% AEP (stormwater network performance and nuisance flooding) and the 1% AEP event (flood hazard and property risk) using rainfall-runoff modelling, hydrological assessment methods, available Auckland Council mapping and incorporating relevant climate change allowances in accordance with Auckland Council's Stormwater Code of Practice (**CoP**).¹² Detailed hydrological and hydraulic modelling was not considered necessary for the purposes of the assessment of effects.

Within the urban section, no increase in nuisance flooding is predicted for most downstream properties, with identified localised effects mitigated through targeted stormwater measures. Within the rural section, while some increases in peak flows may occur, existing streams and channels have sufficient capacity to contain these flows and no increase in downstream flooding is anticipated.

The Project will maintain existing overland flow paths and floodplain conveyance, with new culverts designed to accommodate flows and provide fish passage where required. A short section of the Project lies within the existing Papakura Stream floodplain near the Mill Road tie-in; however, flood risk in this area is largely driven by wider catchment constraints and the Project's effect on overall flood storage and flooding is negligible.

Only three properties at 1/1B Aspiring Avenue, 16 Redoubt Road and 3/1327 Alfriston Road (Locations G, E and M in **Appendix C21**) require specific consideration during the 1% AEP event. Conditions are proposed in Part G requiring no increase in flood risk during the 1% AEP event at these properties. Overall, the Project is not expected to exacerbate flood risk during either the 10% AEP or 1% AEP events, and adverse flooding effects are expected to be negligible with mitigation.

5.9 Contamination

A DSI has been completed (see **Appendix C23**) to identify locations within the Project where contaminated soil may be encountered during construction of the Project and to set out a process for managing contaminated soil.

Intrusive investigations were undertaken across the Project area, with soil sampling at 347 locations on more than 60 properties, including all identified Hazardous Activities and Industries List (**HAIL**) sites. A total of 361 samples were analysed for heavy metals, asbestos and other contaminants of concern. Fewer than 5% of samples exceeded the relevant human health or environmental criteria.

Most samples from residential properties and road verges met the applicable human health and environmental criteria and soils in these areas are considered low risk. Only limited areas contain contaminant concentrations that are likely to require management during construction (see the soil categorisation in Appendix H of **Appendix C23**).

Three properties with identified HAIL land uses contained soil contamination exceeding the applied human health and/or environmental criteria and require site-specific handling and management controls. The identified contaminants of concern that could pose a risk to site workers and the receiving environment include elevated heavy metal concentrations at the Hilltop Road/Redoubt Road corner and 1345 Alfriston Road, and asbestos at the Hilltop Road/Redoubt Road corner and 38 Mill Road.

Risks to human health and the environment will be effectively managed through the CSMP (**Appendix C24**). The CSMP sets out pre-works requirements and provides a framework for managing soil movement across the Project including:

- a) Soil handling and disposal requirements based on the soil classification (i.e., whether it is considered 'cleanfill', 'unrestricted use', 'controlled use' or 'restricted use' soil);
- b) Site-specific management measures for the three HAIL properties where high-risk soils are identified;

¹² See Appendix B of the Assessment of Stormwater Effects in Appendix C21 for further detail.

- c) Protocols for managing high-risk soils during excavation and construction;
- d) Procedures for accidental discoveries of unexpected contamination; and
- e) Closure reporting requirements for contaminated soil activities.

Overall, it is considered that risks associated with contaminated land will be appropriately managed and any residual adverse effects are expected to be less than minor.

5.10 Groundwater and settlement

The Assessment of Effects on Groundwater (see **Appendix C22**) assesses the potential groundwater and settlement effects of the Project, particularly where deep cuts or drains are proposed and where there is the potential for flow depletion to nearby streams and wetlands. Existing groundwater level information across the Project extent has been informed by a series of previous investigations including:

- a) Automatic groundwater level monitoring using level loggers at 19 piezometers undertaken between December 2020 and February 2023; and
- b) Manual groundwater monitoring at 15 piezometers at Murphys Road, Redoubt Road and Cheesman's Bush over May and July 2025.

Automatic level loggers have also been installed at the 15 piezometers described in (b) and are currently recording level data. To date, only winter groundwater levels are available in the new piezometers, and it is noted that these levels correspond to seasonal highs.

In most locations across the corridor, the groundwater level sits well below the depth of excavation, particularly during dry seasons when levels are at their lowest. Potential groundwater drawdown and diversion were identified at five key locations where deeper cuts are proposed (see **Figure 5-1**). The assessment indicated low or negligible risk of groundwater drawdown and settlement at these locations. This is because the proposed cuts sit above the measured groundwater levels¹³ or the estimated extent of drawdown is small and would likely result in settlement less than 3mm (diminishing with distance).¹⁴

Groundwater modelling estimates that potential groundwater diversion away from streams (e.g., at the cuts west of Cheesman's Bush and 286-310 Redoubt Road) represents a negligible (>5%) percentage of the groundwater contribution to streamflow in winter, as these streams are predominantly rain fed. No diversion is expected in summer with cuts anticipated above the groundwater table.

No adverse effects are anticipated on consented water takes and diversions in the vicinity of the Project as the nearest consent is at least 540m from the nearest deep cut.

¹³ 186–200 Redoubt Road, the Murphys Road and 367 – 375 Redoubt Road.

¹⁴ 286–310 Redoubt Road and Cheesman's Bush bridge cut.

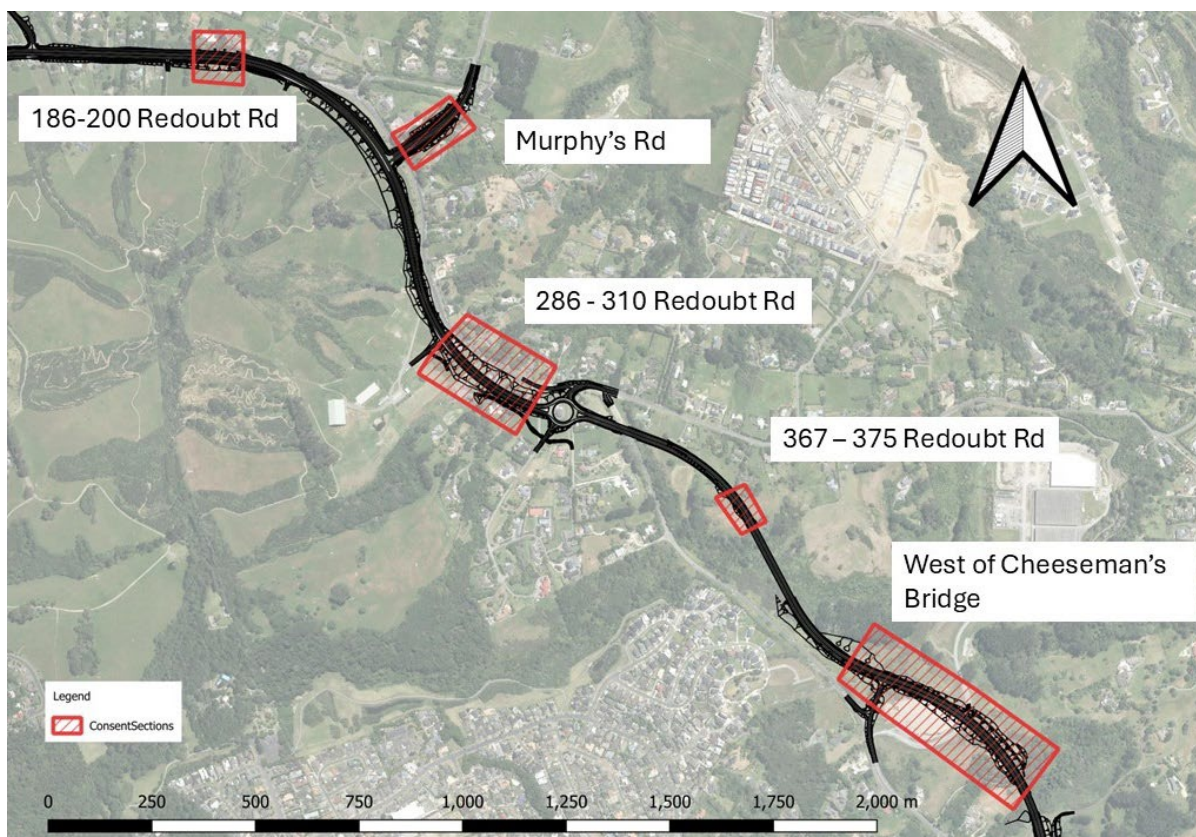


Figure 5-1: Road cuts potentially requiring a consent and assessed in Appendix C22.

Overall, potential adverse groundwater effects from the Project are assessed to be negligible to low.

5.11 Landscape and visual

An Assessment of Landscape and Visual Effects is provided at **Appendix C13**. The assessment considers the effects of the design changes since the 2014 NoR and the associated alterations to the designations across five character areas. Each character area is assessed in terms of biophysical/landscape quality, visual amenity, and landscape character, in line with the current landscape assessment guidance.¹⁵ The original landscape assessment undertaken in support of the 2014 NoR was used as the baseline for this assessment.

Construction activities across the character areas will result in temporary effects arising from the presence of machinery, earthworks, vegetation clearance, and construction compounds (as described in Part B of this SAR). The extent of these effects is typical of infrastructure projects and will vary depending on the existing environment and proximity to sensitive receptors. Overall, effects on biophysical/landscape quality, landscape character and visual amenity generally range between low-moderate to moderate in most character areas. The greatest impacts at a 'High' rating are expected in Character Areas 3 and 4 in relation to visual amenity. Effects of construction will be managed through reinstatement as shown in the Planting Plans (refer to **Appendix C14**) and the screening of construction areas and yards.

The operational effects ratings for the character areas are broadly consistent with those assessed in 2014 as summarised in **Table 5-4** below.

¹⁵ Te Tangi a Te Manu, Aotearoa New Zealand Landscape Assessment Guidelines (2022).

Table 5-4: Landscape and visual effects assessment summary – operational effects

	Biophysical/Landscape Quality		Visual Amenity		Landscape Character	
	2014	Current	2014	Current	2014	Current
Character Area 1	Low-Moderate	Low-Moderate	Low-Moderate to Moderate; reducing to Low-Moderate	Low to Low Moderate; reducing to Low	Low	Low
Character Area 2	Low	Low	Positive	Positive	Low	Low
Character Area 3	Moderate	Moderate	Moderate-High	Moderate High	Low	Low
Character Area 4	Moderate	Moderate	Low-Moderate to Moderate-High	Moderate-High; reducing to Moderate	Moderate	Moderate
Character Area 5	Low-Moderate	Low-Moderate	Positive	Positive	Low-Moderate	Low-Moderate

The Project now also involves works outside the designation in Tōtara Park as part of the mitigation package for the effects of the Project on freshwater ecological values. The land use aspects of this work will be authorised by land use consent as set out in section 3.1 above. These works are considered to be minor in nature and the overall landscape and natural character effects will be managed in general accordance with the ULDMP and are anticipated to be positive.

The assessment concludes that no further mitigation is required in response to the proposed design changes beyond what is already anticipated through the existing designation conditions which require the preparation of a ULDMP. A ULDMP is provided **Appendix C14** which sets out measures (including design guidance) to manage the Project's landscape and visual effects. With the implementation of the ULDMP, it is considered that these effects will be appropriately managed.

Overall, the potential adverse effects from the construction and operation of the Project, are comparable to those authorised by the existing designations those effects will be managed through the implementation of the ULDMP lodged with this application and any residual effects will be less than minor.

5.12 Archaeology and historic heritage

An Assessment of Archaeological and Historic Heritage Effects is provided at **Appendix C19**.

The archaeological and historic heritage effects of the Project relate primarily to proposed earthworks and the location of new infrastructure. The effects of these works within the existing designation extent were considered as part of the 2014 NoRs. The updated assessment focuses on the current design and proposed alterations to the designation boundaries, as well as updated guidance, specifications, and assessment criteria from HNZPT.

The assessment confirms that the Project:

- Will impact the Alfriston Meeting House (R11/2074) which is located within the designation extent. This building was anticipated to be impacted by the original designation confirmed in 2016 and irrespective of the proposed designation alterations. A building condition survey of the Meeting House was undertaken and concluded that the building has numerous defects and is in very poor condition;
- Has the potential to encounter and destroy 19th century archaeological features and/or sites. This includes subsurface features associated with the former use of the Alfriston Meeting House (R11/2074) and Alfriston Post Office (R11/2069) sites, as well as unrecorded archaeological sites within the extent of works; and
- Abuts the St John's Redoubt site (R11/534) but does not encroach into its scheduled or known extent.

The following measures to manage effects have been identified:

- A HHMP has been prepared and is included as **Appendix C20**. The HHMP will guide construction and land disturbance works across the Project (including the works associated with stream daylighting and wetland creation within Tōtara Park). It includes induction requirements for contractors and

subcontractors, management of construction related risks to historic heritage, and procedures for archaeological monitoring and investigation including accidental discovery protocols and the monitoring of 9 areas identified as being high risk areas;

- b) The Alfriston Meeting House (R11/2074) will be either demolished and recorded as per HNZPT Archaeological Guidelines Series No.1: Investigation and Recording of Buildings and Standing Structures (November 2018) ('HNZPT AGS1 guidelines') (refer to Section 2.3 of the HHMP in **Appendix C20**) or relocated to an alternative site if practicable and if a third party (new owner) can be identified who is willing to accept the building in its current condition and undertake any necessary renovation or remedial works to enable its adaptive reuse; and
- c) Recording of any archaeological or historic heritage features encountered during works will be undertaken by a suitably qualified heritage consultant in line with International Council on Monuments and Sites (**ICOMOS**) best practice to meet the standards outlined by NZTA in its P45 heritage specification for land transport infrastructure.

Overall, no additional adverse effects beyond those authorised by the existing designations are expected, and any residual effects will be negligible following the implementation of the HHMP.

5.13 Noise and vibration

Assessments of Construction Noise and Vibration and Traffic Noise are provided in **Appendix C15** and **Appendix C16**.

5.13.1 Construction effects

Construction noise effects from the Project will largely arise from earthworks, the construction of retaining walls, and road construction activities (including milling, compaction, and surfacing). The primary sources of vibration will be road compaction and the installation of retaining walls. These effects were assessed as part of the 2014 NoR process, are authorised under the existing designations and were required to be managed by a CNVMP.

The design changes and proposed alterations to the designation boundaries have been identified as having the following implications in relation to construction noise and vibration effects:

- a) The design changes are generally predicted to result in a reduction in construction noise and vibration effects, particularly where retaining walls are no longer required and are replaced by embankments;
- b) Changes to the design near the intersection of Redoubt Road/Mill Road and the inclusion of the bridge crossover of the existing Mill Road in the rural section are predicted to have no significant change to construction noise and vibration levels previously assessed;
- c) Where designation boundary adjustments result in the removal of additional dwellings, some remaining rear dwellings may experience a reduction in shielding from construction activities (approximately three additional dwellings compared to the 2014 design). This change may result in higher construction noise levels than previously anticipated for these dwellings. However, for these dwellings compliance with daytime noise limits is still expected to be achieved at all times;
- d) Earthworks associated with stream daylighting and wetland creation in Tōtara Park, outside the altered designation extent, are expected to comply with the relevant construction noise and vibration standards and can be undertaken as a Permitted activity (see **Appendix C2**);
- e) The magnitude and duration of construction noise and vibration effects will remain similar to those assessed in 2014; and
- f) The anticipated construction noise and vibration effects of the Project are consistent with those typically associated with large infrastructure projects. While elevated noise and vibration levels will occur during construction, adverse effects on receivers will be limited in duration and frequency as works progress along the alignment.

A CNVMP has been prepared and is provided at **Appendix C17**. The CNVMP identifies the performance standards for the Project and sets out the use of best practicable options (**BPO**) for managing these effects. The proposed amendments to the designation conditions require the Project to be constructed in general

accordance with the CNVMP and provide for the preparation of Noise and Vibration Schedules in instances where the relevant criteria cannot practically be met.

Overall, it is considered that the potential construction noise and vibration effects of the Project can be effectively managed through the implementation of the CNVMP and any residual effects will be less than minor

5.13.2 Traffic noise effects

The Assessment of Traffic Noise Effects provided in **Appendix C16** has been undertaken in general accordance with NZS 6806:2010. It adopts the same seven areas of PPFs identified in the 2014 assessment: three in the urban sections, three in the peri-urban section, and one in the rural section.

Where the Project involves widening existing roads in the urban and peri-urban sections, the traffic noise effects will be broadly consistent with those authorised under the existing designations. There will, however, be changes in the noise criteria category for some PPFs within the urban and peri-urban sections (compared to the 2014 Assessment) because:

- a) Based on advice from pavement specialists, porous asphalt is not considered a practicable surface option in urban environments due to durability issues. Asphaltic concrete (SMA10) has therefore been assumed for Project. As SMA10 provides less noise reduction than porous asphalt (which was recommended in the 2014 assessment), a greater number of PPFs are predicted to fall within Category C compared with the 2014 assessment. The proposed conditions require building modification mitigation measures (such as ventilation and upgrades to glazing and/or façades) to be investigated for dwellings predicted to receive Category C noise levels. The conditions also require PPFs receiving Category C noise levels to be confirmed during detailed design. If an alternative road-surface type or structural mitigation, such as noise barriers, is identified during detailed design and implemented as part of the Project, then the number of dwellings receiving Category C noise levels and requiring building modifications will decrease;
- b) Where the Project deviates from existing road corridors in the rural section, traffic noise from the new road will be noticeable for some adjacent PPFs. However, the predicted noise levels will be typical of other major roads, and effects on identified PPFs will be appropriately managed through recommended mitigation measures (see Conditions 8-10 of **Appendix G1**) as previously anticipated by the 2014 designation. In particular:
 - i) Use of low noise road surface for areas where they are practicable (i.e. from Hilltop Road south); and
 - ii) Installation of a 2m noise barrier between 353 and 375 Redoubt Road.

Overall, with the implementation of the recommended mitigation measures, the Project's traffic noise effects will be appropriately managed, remain generally consistent with those anticipated under the existing designations, and will be less than minor.

5.14 Dust emissions

During the construction phase of the Project, there is potential dust emissions from earthworks. Construction activities including excavation and stockpiling may generate dust, which can cause amenity, nuisance and health effects, particularly for nearby sensitive receivers, if not appropriately managed.

Air quality effects were considered as part of the 2014 NoR and the existing designation conditions include air quality-related provisions to manage potential effects during construction.

A DMP has been prepared and is provided at **Appendix C18**. The DMP sets out how potential dust emissions will be managed across the Project. Measures include:

- a) Stockpile management measures such as minimising their height, sheltering them from the wind and/or keeping them damp or covered, and locating them away from sensitive receptors;
- b) Control of unpaved roads and surfaces through sealing where practicable, regular wetting, compaction and ongoing maintenance;

- c) Minimisation of exposed ground through limiting areas of bare surfacing and stabilizing cleared areas; and
- d) Implementation of contingency measures and additional mitigation in specific circumstances (for example, in response to complaints and/or monitoring indicating elevated dust emissions at sensitive receptors).

Overall, the Project is not anticipated to generate any additional adverse dust effects compared to the existing designation, and any residual effects will be negligible with mitigation.

5.15 Network utilities

The Project has the potential to impact existing infrastructure assets and facilities such as Transpower, Vector, One NZ, Chorus and Watercare assets. If works are not appropriately managed, or designed there is potential to damage these assets or affect the performance of the infrastructure, which can have subsequent impacts the wider network and cause potential safety and public health risks.

Given the advanced nature of the design for the Project, extensive engagement has occurred with the NUOs and will continue through to completion of the Project.

Appropriate construction methodologies will be adopted, consistent with those implemented on other NZTA projects. This includes identifying, protecting or relocating network utilities to minimise the risk of damage. All personnel undertaking works that may impact network utilities will receive appropriate training and briefings on excavation practices, utility location and safe work practices in and around existing network utilities.

NZTA will continue to engage with relevant NUOs throughout the detailed design and construction phases and will make arrangements with relevant NUOs where assets require relocation. This process will be managed by NZTA and the relevant NUO in accordance with the Government Roadway Powers Act 1989 and network utilities legislation including the Electricity Act 1992, Telecommunications Act 2001, Utilities Access Act 2010 and National Code of Practice for Utility Operators Access to Transport Corridors. Overall, the Project is not anticipated to generate any adverse effects on network utilities.

6. OUTLINE PLAN WAIVER

As per Section 29(a) of Schedule 5 the FTAA, if the Panel grants a designation, it may waive the requirement for an outline plan as required by section 176A of the RMA. NZTA considers that the requirements of Section 176A(2)(b) of the RMA have been appropriately satisfied through this SAR. **Table 6-1** below sets out how the matters referred to in subsection (3) of Section 176A have been incorporated into the designation and subsequently requests that the Panel waive the outline plan requirement in accordance with Section 29(a) of the FTAA.

Table 6-1: Assessment against s176A of the RMA

Section 176A Requirements	Where the information can be found
The height, shape, and bulk of the public work, project, or work	Design plans (Appendix H1) and ULDMP, including the Planting Plans (App A of Appendix C14).
The location on the site of the public work, project, or work	
The likely finished contour of the site	
The vehicular access, circulation, and the provision for parking	
The landscaping proposed	ULDMP and Planting Plans (App A of Appendix C14)
Any other matters to avoid, remedy, or mitigate any adverse effects on the environment.	The potential adverse effects of the Project are managed by the following plans, management plans and conditions: - General Arrangements and Long Section Plans, Cross Sections and typical Details dated June 2026 (Appendix H1) - DMP (Appendix C18) - CTMP (Appendix C11) - ULDMP (Appendix C14) - HHMP (Appendix C20) - CNVMP (Appendix C17) - The noise conditions requiring building modifications, noise barriers and low noise surfaces (Conditions 8 to 10 of Appendix G1)

APPENDIX C1 DESIGNATIONS PLANS AND PROPERTY SCHEDULES

APPENDIX C2 PERMITTED ACTIVITY ASSESSMENT

Rule / Regulation	Summary of activities that are a Permitted activity
Auckland Unitary Plan	
Chapter E3 – Lakes, rivers, streams and wetlands	
E3.4.1(A39) Stormwater outfalls outside overlays complying with the relevant standards in E3.6.1.14.	Construction of three outfalls outside overlays will meet the relevant standards in E3.6.1.14: (1) The structures will not exceed the maximum 30m structure length and maximum 5m scour and erosion management works length; (2) Bed disturbance will not exceed 10m either side of the structures (excluding the length of the structure); (3) There are no fish species identified in streams where the outfalls are proposed; (4) The structures will not cause more than minor bed erosion, scouring or undercutting; (5) Construction material and ancillary structure will be removed from the bed following construction; and (6) The structures accommodate the 1% AEP floodplain and will not increase flood levels up stream or downstream.
E3.4.1(A45) Removal or demolition of an existing reclamation or drained area that does not complying with the standards in E3.6.1.24.	A stream reclamation existing before 30 September 2013 (existing piped stream) within Tōtara Park will be removed as part of stream daylighting works that form part of the freshwater ecology effects management package. The works will meet the relevant standards in E3.6.1.24: (1) Council be notified of the proposed demolition of the reclamation prior to work starting; (2) The reclamation will be removed from the bed as far as practicable; (3) Any remaining sections will not be a hazard to public access or health and safety; and (4) The bed will be restored to a profile that does not inhibit water flow or prevent the passage of fish upstream and downstream if the stream contains fish. Noted that the new bed profile will be designed following the measures in the Freshwater Management Plan (see Appendix C8).
E3.4.1(A53) Any activity that is undertaken in, on, over or within the bed of an ephemeral river and streams complying with the standards E3.6.1.1.	Construction of three outfalls and five culverts within the beds of ephemeral streams, and diversion of an existing ephemeral stream, will comply with the relevant standards in E3.6.1.1: (1) The activities will not result in the production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials; any conspicuous change in the colour or visual clarity; objectionable odour emissions; freshwater unsuitable for consumption by farm animals; and any significant adverse effects on aquatic life; (2) The activities will not result in an increase of existing flooding levels up to and including the 1% AEP flood plain; (3) The activities will not result in more than minor erosion or land instability; (4) Machinery will not sit directly on the wetted cross section of the bed at the time of work; (5) No explosives will be used; (6) Mixing of construction materials and refuelling or maintenance of equipment will not occur within 10m of the bed and best site management practice will be used; (7) The activities will not destroy or modify any sites scheduled in the Historic Heritage Overlay or the Sites and Places of Significance to Mana Whenua Overlay; (8) The activities will not prevent public access to the streams – noting that most of these streams are in private land.
Chapter E7 – Taking, using, damming and diversion of water and drilling	
E7.4.1(A27) Diversion of groundwater caused by any excavation (including trench) or tunnel.	Five significant project cuts can potentially result in a groundwater diversion for a period longer than 10 days and as per E7.6.1.10(1)(d) is not exempt from Standards E7.6.1.10(2) – (6).

	Further assessment of these cuts against standards E7.6.1.10(2) – (6) in the Assessment of Groundwater Effects (see Appendix C22) confirmed compliance with the permitted activity standards.
Chapter E14 – Air quality	
E14.4.1(A1) Activities meeting the permitted activity standards and not provided for by any other rule.	Earthworks and construction from the Project can be managed to comply with the relevant standards under E14.6, specifically E14.6.1.1 as: (1) the discharge (dust) is unlikely to cause adverse effects on human health, property or ecosystems beyond the boundary of the Project. (2) the discharge will not cause noxious, dangerous, offensive or objectionable odour, dust, particulate beyond the boundary. (3) There will be no dangerous, offensive or objectionable visible emissions. (4) There will be no spray drift or overspray beyond the boundary. (5) The measures in the DMP (see Appendix C18) will manage dust effects during construction and support compliance with these standards.
Chapter E25 – Noise and vibration	
E25.4.1(A1) Activities that comply with all the relevant permitted activity standards.	Construction work is required within Tōtara Park (Open Space – Informal Recreation Zone) outside the designation for stream daylighting (see Part C). These specific works will be undertaken to comply with the relevant construction noise and vibration standards in E25.6.27 and E25.6.30. The Contractor is expected to implement typical management measures such as those in the CNVMP (see Appendix C17) including: - Appropriate equipment selection; - Avoiding unnecessary noise and vibration (e.g., no shouting, no banging or shaking of excavator buckets, no unnecessary dropping of heavy objects and using skilled excavator operators); and - Locating stationary equipment (e.g., generators) away from noise sensitive receivers or screening them.
Chapter E26 - Infrastructure	
E26.3.3.1(A74) Pest plant removal	Vegetation clearance within riparian areas and SEAs is required to facilitate construction the Project. Some of these areas include pest species.
Chapter E40 – Temporary activities	
E40.4.1(A20) Temporary activities associated with building or construction, (including structures and buildings that are accessory activities), for the duration of the project, or up to 24 months, whichever is the lesser.	Temporary activities (including associated structures) are proposed within Tōtara Park outside the designation extent (see Part C) associated with stream daylighting. The activities will be required for the duration of the Project construction.
National Environmental Standards for Freshwater	
Culverts	
Regulation 70(1) - The placement, use, alteration, extension, or reconstruction of a culvert in, on, over, or under the bed of any river or connected area is a permitted activity if it complies with the conditions.	The placement and use of five new culverts in streams complying with the conditions in 70(2) including the fish passage requirements. Refer to assessment undertaken in Appendix G of the Freshwater Ecology Assessment (see Appendix C7).

APPENDIX C3 DISTRICT PLAN CONSENT – SUMMARY OF RELEANT MATTERS OF DISCRETION

Matters for discretion	Assessment
(a) compliance with standards.	As assessed below, the works at this specific site largely comply with the applicable general standards in E26.5.5.2 (specifically the district plan standards in E26.5.5.2 (9) – (24)). The only potential non-compliance is with E26.5.5.2(20) relating to temporary land disturbance within an overland flow path exceeding the 28-day duration. (9), (10) and (11) – Not applicable. The earthworks are not for the operation, repair, renewal, upgrading, or maintenance of existing roads or utilities. (12) - No land disturbance will occur within Riparian Yards or Coastal Protection Yards. (13) - Works will not result in instability of land or structures on or beyond the site boundary. (14) - Land disturbance will not cause malfunction or damage to network utilities. (15) - Access to public footpaths, berms, private properties, network utilities or public reserves will not be obstructed except where necessary for safety or construction. (16) - Only cleanfill will be used (where required). (17) – Dust emissions will be managed in accordance with the DMP (Appendix C11). (18) – Earthworks within the 1% AEP floodplain will not raise ground levels by more than 300mm, will not exceed 10m³, and will not cause adverse flood hazard effects beyond the site. (19) - Overland flow path entry and exit points will be maintained, and no adverse flood hazard effects will occur. (20) - Temporary land disturbance within an overland flow path may conservatively exceed the 28-day duration limit. Appropriate construction methodologies and ESCP measures will however be implemented to manage sediment and flood-related effects. (21) – No burial of marine mammals is proposed. (22), (23), (24) Not applicable. The works are not located near Transpower NZ Ltd electricity transmission infrastructure.
(b) effects of noise, vibration, odour, dust, lighting and traffic on the surrounding environment.	The specific earthworks activity in Tōtara Park (for stream daylighting) will be undertaken to comply with the relevant noise and vibration standards for Open Space – Informal Recreation Zone in Standards E25.6.27 and E25.6.30. Earthworks in this specific area is not anticipated to exceed 20 weeks in duration. The Contractor is expected to implement typical management measures such as those in the CNVMP (see Appendix C17). Dust, odour, lighting and traffic effects associated with the land disturbance can also be suitably managed through the implementation of best practice construction methodology, ESCP and typical management measures included in the CTMP (Appendix C11) and DMP (Appendix C18). Refer also to the assessments undertaken in Sections 5.5, 5.7, 5.13 and 5.14 of this Part.
(c) effects on the stability and safety of surrounding land, buildings and structures.	The earthworks will not compromise the stability or safety of surrounding land, buildings, or structures. Works will follow best practice with appropriate ESCP measures. Refer to Section 5.7 of this Part.
(d) effects on overland flow path and flooding.	Overland flow path entry and exit points will be maintained and the works will not exacerbate flood hazard risk. Refer to assessment in Section 5.8 of this Part. ESCP measures will also be implemented to manage potential flooding effects during construction (refer to Appendix H2).
(e) protocol for accidental discovery of kōiwi, archaeology and artefacts of Māori origin.	Appropriate protocols will be implemented in the event of accidental discovery. Refer to HHMP (Appendix C20).

(f) the treatment of stockpiled materials on the site including requirements to remove material if it is not to be reused on the site.	Any stockpiling will occur outside 1% AEP floodplains and overland flow paths. Material not reused on site may be used elsewhere within the wider Project (where appropriate) or removed off-site in accordance with best practice.
(g) staging of works and progressive stabilisation.	The proposed land disturbance will be undertaken in accordance with best practice, with the extent of works limited as much as practicable to what is required to complete the daylighting/wetland offset works. Given the relatively small scale and temporary duration of earthworks at this location, no specialised or project-specific monitoring is anticipated to be necessary. Standard construction monitoring will be undertaken as part of the contractor's environmental management procedures, including routine checks of erosion and sediment control devices, dust management measures, and site stabilisation. These measures are consistent with industry best practice and are considered sufficient to ensure that any potential adverse effects are appropriately managed throughout the works. Refer also to the ESCP measures proposed in Appendix H2 .
(h) information and monitoring requirements.	
(i) timing and duration of works.	
(j) term of consent.	Land use consent is sought in perpetuity. The earthworks required to complete the daylighting/wetland offset works will however be temporary and limited in duration.
(k) potential effects on significant ecological and indigenous biodiversity values.	The earthworks at this location are not anticipated to generate any discernible adverse effects on significant ecological or indigenous biodiversity values during construction. The works will daylight an existing piped intermittent stream and create additional wetland habitat as part of the Project's freshwater ecological offset and compensation package, contributing to an overall net gain in freshwater ecological values. See also Section 5.3.2 of this Part.
(l) risk that may occur as a result of natural hazard.	The works are not located within coastal hazard areas, land instability areas, or areas at risk of wildfire. While works occur within overland flow paths, they will not alter flow entry or exit points or exacerbate flood hazard. Refer also to Section 5.8 of this Part.
(m) protection of or provision of network utilities and road networks.	No network utilities have been identified within the specific earthworks area in Tōtara Park associated with stream daylighting and wetland creation.
(n) potential effects on natural character and values of the coastal environment, lakes, rivers and their margins, where works encroach into riparian or coastal yards.	The works do not encroach into riparian yards or coastal yards.
(o) positive effects enabled through the land disturbance.	The land disturbance will facilitate the daylighting of an existing piped watercourse and the creation of new stream and wetland habitat, which is expected to contribute to an overall net gain in freshwater ecological values.

**APPENDIX C4 ASSESSMENT OF TERRESTRIAL ECOLOGY
EFFECTS**

APPENDIX C5 TERRESTRIAL MANAGEMENT PLAN

APPENDIX C6 OLD GROWTH TREE MANAGEMENT PLAN

**APPENDIX C7 ASSESSMENT OF FRESHWATER ECOLOGY
EFFECTS**

APPENDIX C8 FRESHWATER MANAGEMENT PLAN

**APPENDIX C9 NATIVE FISH CAPTURE AND RELOCATION
MANAGEMENT PLAN**

APPENDIX C10 ASSESSMENT OF TRANSPORT EFFECTS

**APPENDIX C11 CONSTRUCTION TRAFFIC MANAGEMENT
PLAN**

APPENDIX C12 SOCIAL IMPACT ASSESSMENT

APPENDIX C13 ASSESSMENT OF LANDSCAPE AND VISUAL EFFECTS AND URBAN DESIGN

**APPENDIX C14 URBAN AND LANDSCAPE DESIGN
MANAGEMENT PLAN (AND PLANTING PLANS)**

APPENDIX C15 ASSESSMENT OF CONSTRUCTION NOISE AND VIBRATION EFFECTS

APPENDIX C16 ASSESSMENT OF TRAFFIC NOISE EFFECTS

**APPENDIX C17 CONSTRUCTION NOISE AND VIBRATION
MANAGEMENT PLAN**

APPENDIX C18 DUST MANAGEMENT PLAN

**APPENDIX C19 ASSESSMENT OF ARCHAEOLOGICAL AND
HISTORIC HERITAGE EFFECTS**

APPENDIX C20 HISTORIC HERITAGE MANAGEMENT PLAN

APPENDIX C21 ASSESSMENT OF STORMWATER EFFECTS

APPENDIX C22 GROUNDWATER EFFECTS ASSESSMENT

**APPENDIX C23 CONTAMINATED LAND ASSESSMENT
(DETAILED SITE INVESTIGATION)**

APPENDIX C24 CONTAMINATED SOIL MANAGEMENT PLAN