Boffa Miskell

Healthy Waters – Te Ararata Flood Resilience Works – Walmsley Road Bridge Replacement

Landscape and Natural Character Effects Assessment
Prepared for Healthy Waters
5 November 2024

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Cover photograph: [View east from the corner of McKenzie Road and Coronation Road, © Oliver May, 2024]

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1.0 Introduction

Boffa Miskell has been engaged by Auckland Council's Healthy Waters department (Healthy Waters) to undertake a Landscape and Natural Character Effects Assessment (LNCEA) for the proposed Te Ararata Walmsley Road bridge replacement works (the Project). The Project is positioned in the Mangere locality and is related to flood resilience works and has been developed to support a resource consent application under the Severe Weather Emergency Recovery (Auckland Flood Resilience Works) Order 2024.

This report assesses the construction and operational landscape (including visual) and natural character effects of the Project based on an indicative construction methodology and concept design developed to support the resource consent application.

A reasonable worst case and effects envelope has been assumed within this assessment to account for potential changes to activities and programme. Minor changes to the final methodology and detailed design are unlikely to change the overall envelope of effects as presented in this report.

1.1 Project background

The January 2023 floods, followed closely by Cyclone Gabrielle, marked a period of unprecedented weather challenges for Auckland. The floods, and the subsequent cyclone caused significant infrastructural damage, with an estimated 8,000 homes destroyed or damaged and thousands of residents' lives affected. The events underscored the city's vulnerability to extreme weather, prompting Auckland Council to endorse the "Making Space for Water Programme" developed by Healthy Waters. This initiative aims to mitigate flood risks through a series of blue-green networks, addressing critical flood-prone areas with sustainable stormwater solutions.

As part of the overall Programme, Healthy Waters identified a combination of interventions within the Te Ararata catchment (overall referred to as the Te Ararata Project) to collectively address the flood resilience issues further outlined in the Assessment of Effects on the Environment (AEE).

1.2 Project Overview

The first package of works within the overall Te Ararata Project is for the Walmsley Road bridge replacement works (i.e. the Project) and is the subject of this assessment. The Project seeks to achieve greater flow capacity and reduce blockage risk beneath Walmsley Road and within Te Ararata Creek.

A detailed description of the proposed work and indicative methodology is provided in the AEE prepared for the application. The Project is located within the existing Walmsley Road bridge, Te Ararata Creek, Black Bridge Reserve and Walmsley Road Reserve (refer to Figure 1 below). Overall construction of the Project is anticipated to take approximately 10 – 12 months, with closure of the existing Walmsley Road bridge required for approximately 7 months during this period. Within the construction period the levels of activities will not be consistent, peaks in

activity during the earthworks, pilling and bridge installation will have a greater visibility visual influence on the surrounding landscape.

In summary, the Project includes the following key elements:

- Demolition and removal of the existing Walmsley Road twin culvert;
- Construction of a new replacement Walmsley Road bridge over Te Ararata Creek;
- Works to tie in the new replacement bridge with the existing road network;
- Recontouring of the stream banks under the bridge to achieve a wider stream channel;
- Relocation of the existing Watercare watermain pipe bridge foundations to achieve a strengthened and wider clearance beneath the structure;
- Existing service relocation and/or realignment;
- Vegetation clearance, including within riparian margins and the removal of trees;
- Earthworks associated with temporary and permanent works, including within the riparian margins;
- Other temporary works and activities to facilitate the construction of the permanent Project including:
    - The formation and operation of laydown areas and a site compound predominantly within Black Bridge Reserve.
    - Works within and around the Te Ararata Creek including temporary stream diversion; and
    - Temporary traffic management measures including a temporary bailey bridge to facilitate pedestrian and active mode diversions between Coronation Road and Walmsley Road. Vehicular traffic will be diverted to the wider existing road network.

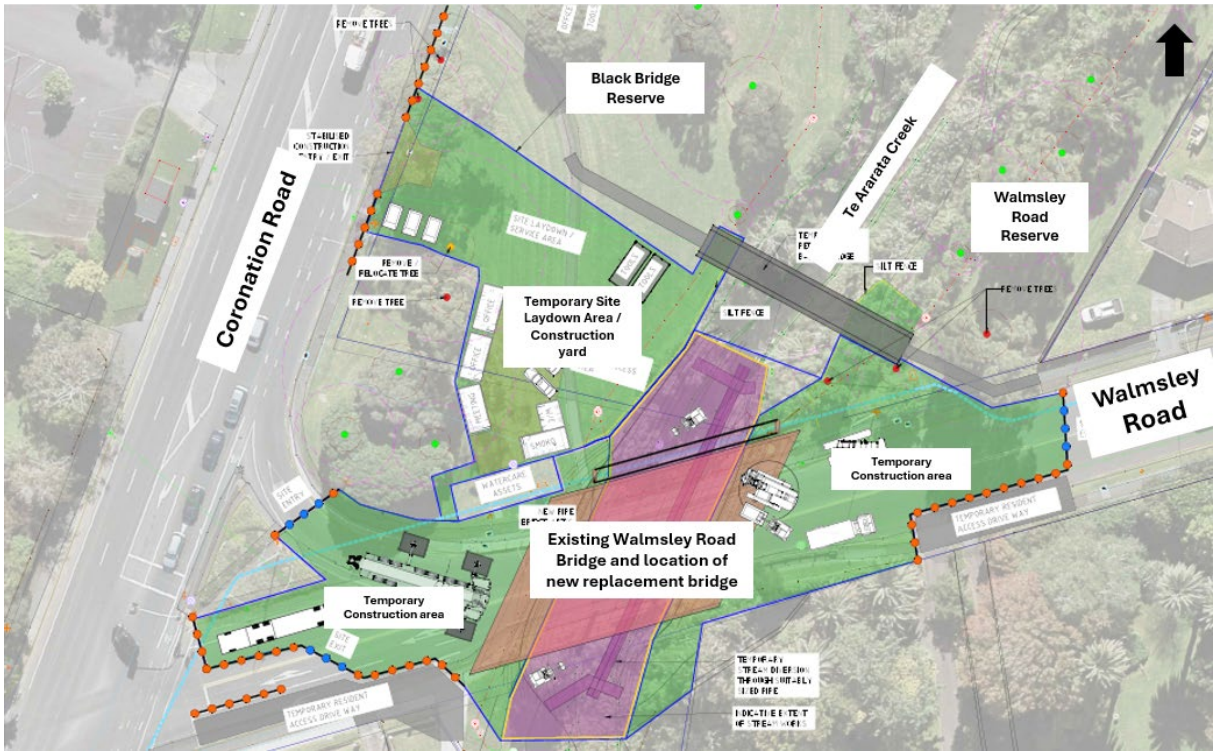


Figure 1: Proposed location and works extent for the Project Site

It is noted other activities such as temporary construction yards/laydown areas and construction equipment (i.e., cranes) will also be located within the Project Site. These are not however within the scope of this assessment as they can be undertaken as Permitted activities under the relevant chapters of the AUP OiP including under Chapter E26 Infrastructure and E40 Temporary Activities. The full list of relevant Permitted activities are further identified in the AEE.

1.2.1 Mitigation Strategy

A proposed Replacement Planting Plan (RPP) has been developed to address the landscape and visual effects as a result of the construction works. The landscape and natural character effects have been assessed with the consideration that the proposed RPP will be implemented as part of the Project. The RPP has been developed with consideration of the recommendations of the CVAs (Cultural Values Assessments) to ensure that the natural character (including cultural values) are maintained or enhanced. This assessment recognises that planting will take several years to provide a mitigation role and will reduce the landscape and natural character effects. Full details of the RPP are presented in Appendix 4: Replacement Planting Plan.

The mitigation strategy has two key objectives to reduce adverse effects as a result of the Project. These objectives will be achieved by implementing supporting actions to reduce or remove adverse effects on the landscape character and natural character.

1. **Replace stream and bank vegetation and removed during construction**
    - Propose indigenous species historically found within the local area or currently present in the existing landscape.

The proposed riparian mitigation planting will comprise linear band of indigenous species selected based on species found within the surrounding riparian corridor and within the WF7 (listed below) com. Two planting typologies in broadly linear strip adjacent to the stream detailed below

Stream Edge Planting – 138.5m2

- Oioi, Apodasmia similis
- Rautahi, Carex geminate
- Pūkio, Carex virgata
- Rākau, Machaerina rubiginosa

Bank planting – 893m2

- Rautahi, Carex geminata; C. lessoniana
- Pūkio, Carex virgata
- Karamū, Coprosma robusta
- Tī kōuka, Cordyline australis
- Kahikatea, Dacrycarpus dacrydioides
- Kohekohe, Didymocheton spectabilis
- Kānuka, Kunzea robusta
- Pukatea, Laurelia novae-zelandiae
- Mānuka, Leptospermum scoparium
- Māhoe, Melicytus ramiflorus
- Harakeke, Phormium tenax
- Tarata, Pittosporum eugenioides
- Tōtara, Podocarpus totara
- Whauwhaupaku, Pseudopanax arboreus
- Kōwhai, Sophora microphylla
- Pūriri, Vitex lucens

2. Replace large trees removed during construction.

- Propose exotic and indigenous species historically found within the local area or currently present in the existing landscape.

The proposed specimen trees will replace the trees removed within the open spaces and stream edge during construction. This planting will restore the screening and enclosure of the vegetation removed and will be undertaken in consultation with iwi and Auckland Council Urban Forest Team. The proposed specimen tree species are intended to comprise 45L-grade, large-growing, climate-ready species listed below. However, it is understood that the species composition will be decided as part of the consultation process.

Specimen Trees

- Water oak, Quercus nigra
- Common Yellowwood, Afracarpus falcatus
- Golden Medalian Tree, Cassia leptophylla
- Monkeys Palm Tree, Chiranthodendron pentadactylon
- Coastal Maire, Nestigis apetala
- Smith's milkwood, Streblus smithii
- Coastal kōwhai, Sophora chathamica
- Rātā moehau, Metrosideros bartlettii

1.3 Assessment Process

This assessment follows the concepts and principles outlined in *Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines*[1]. A full method is outlined in **Appendix 1** of this report. In summary, the effects ratings are based upon a seven-point scale which ranges from very low to very high.

The Site was visited on the 2nd of September 2024 during fine weather to investigate the Site and the surrounding area, obtain representative viewpoint photographs from viewing audiences and record information on the natural and built environment.

2.0 Existing Environment

2.1 Landscape Context and Site Description

The Site is located across Black Bridge Reserve (west of the Te Ararata Creek), Walmsley Road Reserve (east of the Te Ararata Creek), Walmsley Road and Te Ararata Creek (refer to Figure 2 below). Coronation Road is a busy arterial road connecting to the Southwestern Motorway (SH20) and Walmsley Road is a key arterial road between Mangere and Ōtāhuhu (refer to Figure 3 below).

[1] *'Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines', Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022.*

Figure 2: Indicative Site boundary (in red) and the wider landscape context.

The existing Walmsley Road bridge is located over Te Ararata Creek and accommodates two-traffic lanes and pedestrian footpaths either side of the bridge. Beneath the bridge are two 2.5m wide / 3.7m tall culverts. An existing Watercare Pipe Bridge is located to the north of the existing Walmsley Road bridge between the Walmsley Road Reserve and the Black Bridge Reserve.

The area to the south of the Site is residential in nature and zoned as Mixed Housing Urban (MHU). All other surrounding residential land to the north, east and west of the Site is zoned as Mixed Housing Suburban (MHS). The Site is zoned Open Space – Informal Recreation Zone and Open Space – Conservation Zone With Road and Water also identified within the Auckland Unitary Plan – Operative in Part (AUP OiP).

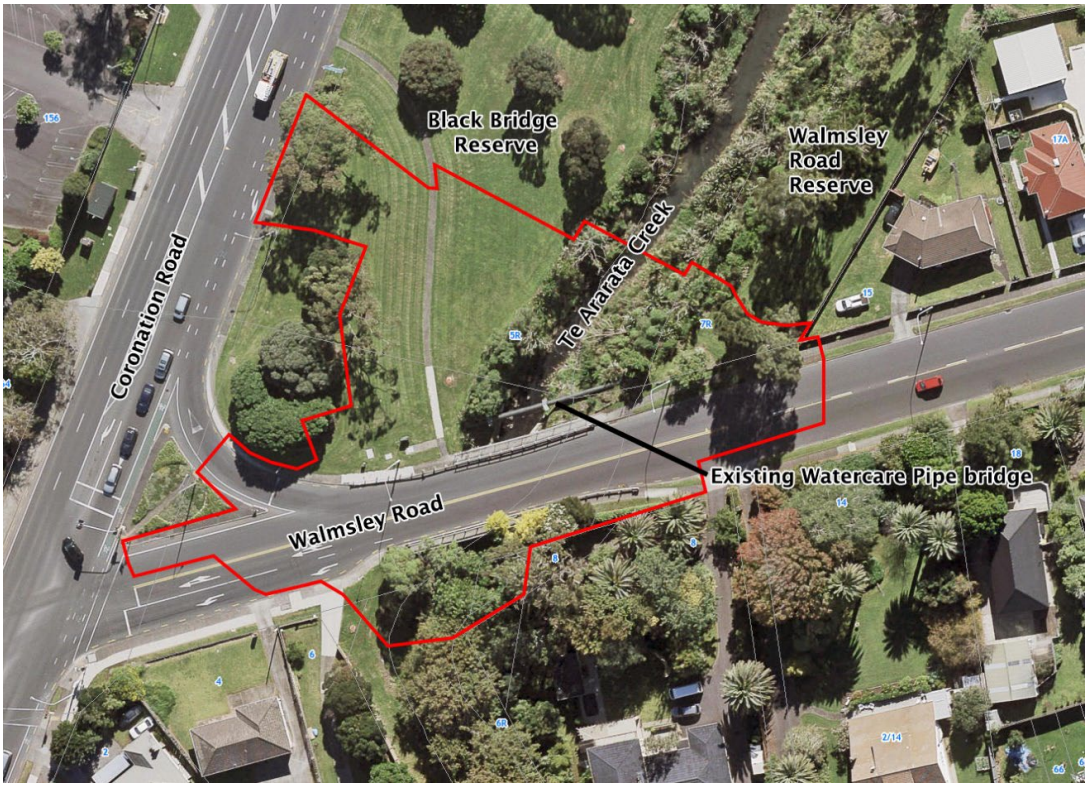


Figure 3: Indicative Site boundary (in red)

Residential development to the south of Walmsley Road is reasonably dense, although not as dense as allowed for in the zone. Dwellings are generally set back from the road and generally have front yards which support established vegetation with amenity planting providing separation from the road. However, residential audiences to the west of the Te Ararata Creek have open boundaries to the road.

Photograph 1: Front yards of residential properties to the south of Walmsley Road.

To the west of the Site development along Coronation Road comprises:

- two large religious buildings and parking lots[2]
- Petrol Station
- a small number of residential properties

The four lanes of arterial road provides a considerable separation between the Black Bridge Reserve to the east and the developed land to the west (refer to Photograph 2 below). No street trees located along Coronation Road or Walmsley Road, all substantial vegetation is located within privately owned residences, businesses and Black Bridge Reserve.

Photograph 2: View north along Cambridge Road from the corner of Miller Road.

Within Black Bridge Reserve predominantly comprises mown grass interspersed by exotic and indigenous tree species (refer to Photograph 3 below).

[2] Plymouth Brethren Christian Church and Siasi Tokaikolo ‘ia Kalaisi - ‘Api ko Nasaleti – Namoa Christian Preschool and Tongan Early Childhood Centre.

Photograph 3: View north through Black Bridge Reserve from the southern boundary of the reserve.

Existing trees within the Black Bridge Reserve comprise:

- two clusters of five (a total of ten) Pohutukawa to the north and south of the open grassed area of the reserve
- a large stand of 14 Magnolia trees located within the centre of the reserve
- seven Eucalypts distributed across the open grass areas of the reserve

The Te Ararata Creek separates the Black Bridge Reserve to the west and Walmsley Road Reserve to the east, in a roughly north to south orientation, with a pronounced bend towards the northern end of the open spaces. The stream has deeply incised banks approximately 4-5m lower than the surrounding topography. To the north of the Walmsley Road bridge is an existing Watercare pipe bridge which also bridges the Te Ararata Creek and has an above ground length of approximately 21m (refer to Photograph 4 below). The margins of the stream are densely planted with indigenous riparian species including cabbage tree, flax, ngaio, kānuka, mānuka, pūriri, purei and kohekohe (detailed further in the assessment below).

The Walmsley Reserve is located between the Te Ararata Creek and the residential properties at 15, 17, 17A and 19 Walmsley Road. The riparian edge of the Te Ararata Creek comprises the same species as within the Black Bridge Reserve, however amenity tree planting comprises mature evergreen exotic species including , English elm, she oak, bunya pine and eucalyptus.

Photograph 4: View north along the Te Ararata Creek viewed from the Walmsley Road bridge Culvert, the Watercare watermain pipe bridge can be seen in the foreground.

To the south of the Walmsley Road bridge the Te Ararata Creek Reserve linear open space extends 0.9km to the Moyle Park open space (refer to Photograph 5 below). This linear open space supports a pedestrian pathway to the west of the Te Ararata Creek which links Moyle Park to Hinau Road. Vegetation within the Te Ararata Creek Reserve comprises ngaio and karaka species which are typical of species within urban stream corridors. The Te Ararata Creek Reserve also contains non-native species including phoenix palm, English oak and privet. Residential properties back on to the eastern and western side of the Te Ararata Creek Reserve, which creates a sense of enclosure and separation from the wider landscape.

Photograph 5: View south along the Te Ararata Creek viewed from the Walmsley Road bridge Culvert into the Te Ararata Creek Reserve.

The Te Ararata Creek is located at a low point in the wider landscape. The landform is generally flat but gently rises to the east and the west of the stream along Walmsley Road and Miller Road. The low lying landform either side of the stream are within a mapped flood plain which extends to the wider landscape to the south (refer to Figure 4 below).

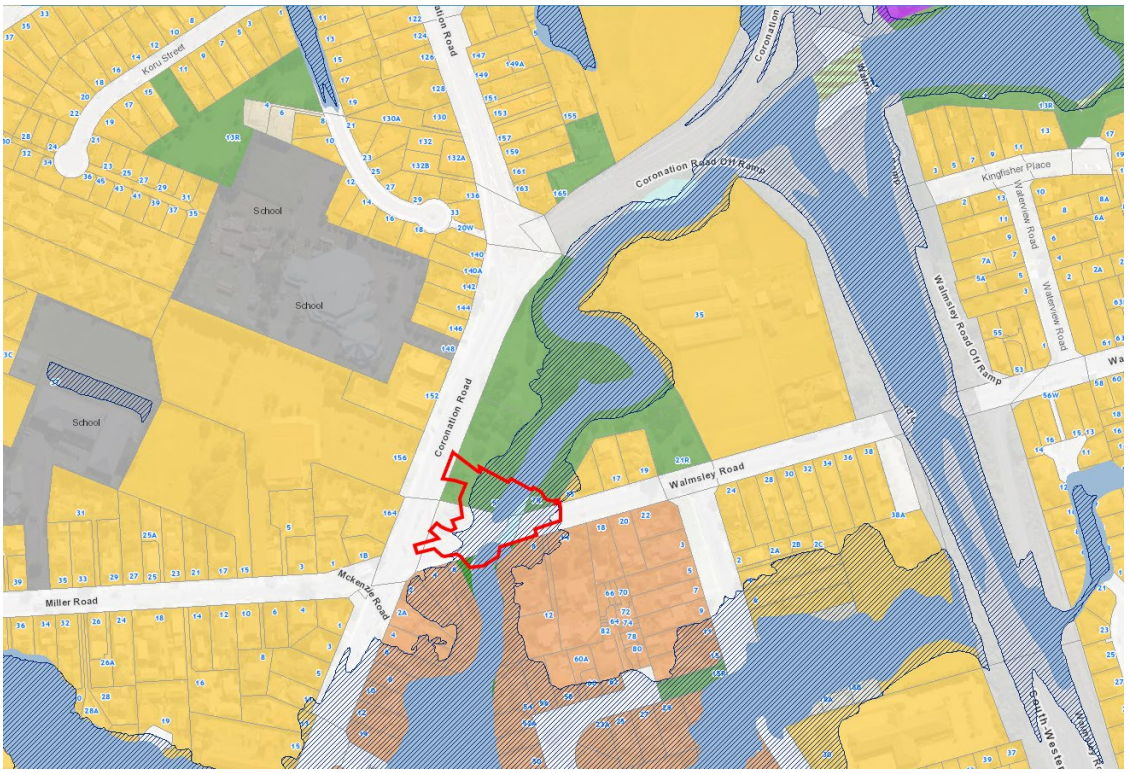


Figure 4: AUP OiP Zoning and including flooding overlays

There are no Notable Trees, Outstanding Natural Landscapes (ONLs), Outstanding Natural Features (ONFs), Outstanding Natural Character Areas (ONCs) or High Natural Character Areas (HNCs) within the Site or the immediate surrounding context. To the west of the site 1439 Topping House[3] located at 164 Coronation Road has a Historic Heritage Overlay and is considered to have social, aesthetic and contextual heritage values.

The Mount Mangere Regionally Significant Viewshaft[4] overlays the Site at a height of approximately 24m above the existing ground level. The origin point of the viewshaft is located on the South-western Motorway (SH20) interchange with SH20A travelling north approximately 1.2km from the site.

[3] Topping House Historic Heritage Place – Auckland Unitary Plan: Schedule 14.1 Schedule of Historic Heritage - [accessed online] https://unitaryplan.aucklandcouncil.govt.nz/Images/Auckland%20Unitary%20Plan%20Operative/Chapter%20L%20Schedules/Schedule%2014.1%20Schedule%20of%20Historic%20Heritage.pdf

[4] Natural Heritage: Regionally Significant Volcanic Viewshafts And Height Sensitive Areas Overlay - M4, Mount Mangere -Auckland Unitary Plan: Appendix 20 Volcanic Viewshafts and Height Sensitive Areas – Values Assessments [accessed online]

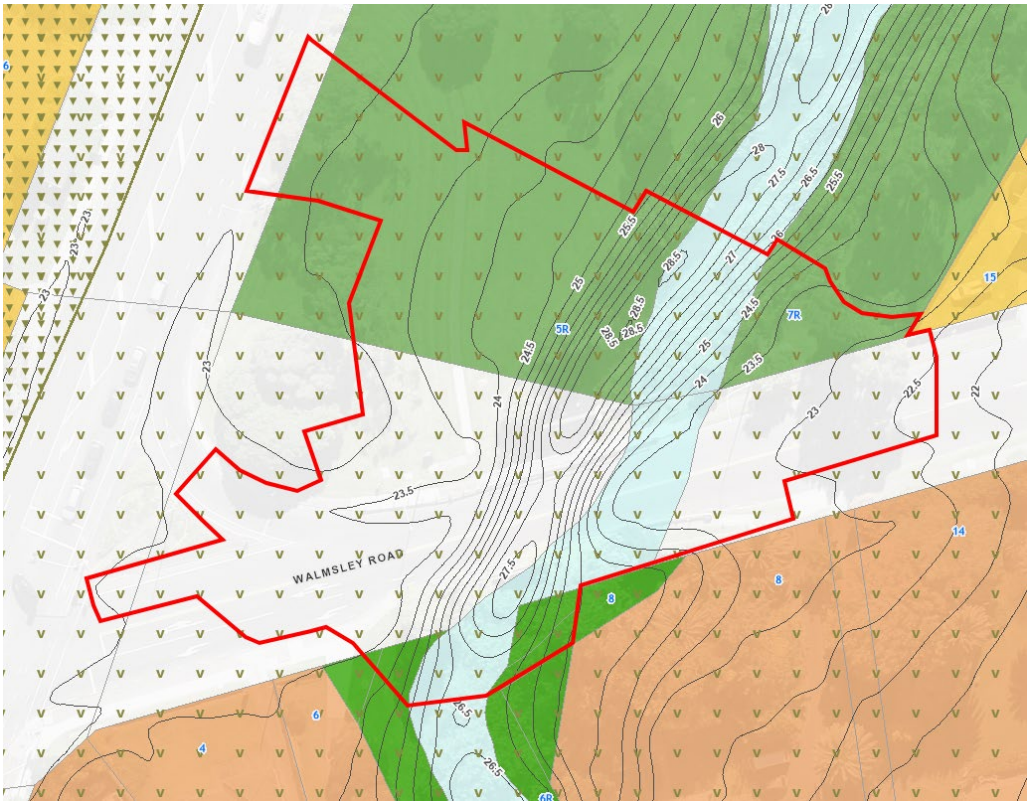


Figure 5: AUP OiP Zoning and including the M4 Volcanic Viewshaft overlay

2.2 Natural Character Condition

As outlined in the methodology in Appendix 1: Method Statement, the natural character study and analysis has been undertaken in relation to the "*wetlands, and lakes and rivers and their margins*" that occur within the Site.

This section describes the existing natural character of the Site in relation to the physical, perceptual and associative attributes. These attributes reflect the extent that natural elements, patterns and processes occur and the extent of human modification. Secondary experiential aspects associated with the context of such waterbodies and their margins have also been considered.

The Te Ararata Creek is the most relevant natural feature within the Project area. An approximately 76m length of creek is within the Site the creek and its margins has an average width 18m. As described above, the watercourse is predominantly bordered on either side by indigenous riparian vegetation.

The natural character of river, streams and watercourses are in formed in part by cultural associations and the relationship of mana whenua with awa. Water is a taonga of huge importance to Iwi. Water is linked to identity, used for transport, gathering food and other materials. Healthy Waters have engaged with local iwi in the development and design of the Project.

The Te Ākitai Waiohua and Te Ahiwaru iwi have been approached to ensure that design decisions are sensitive to cultural issues. Both iwi have undertaken Cultural Values Assessments (CVAs) to represent the relationship between the iwi, the natural environment and the Site.

The Te Ahiwaru CVA[5] outlines the importance of the Awa and it's wider connection with the swamp mosaic of Taotaoroa, a key cultural feature of Māngere. The CVA identifies the following key factors as potentially resulting in adverse effects on the awa:

- Disruption of the natural water flows
- Permanent or temporary loss of biodiversity through the removal of vegetation
- Restriction of views and connections to the awa

The CVA also provides recommendations and principals to be implemented into the design and mitigation of potential landscape and natural character effects:

- *We recommend the support [of] our aspirations of ecological and ancestral landscape enhancement. Utilise native plants and specimen trees only for landscaping, amenity and mitigation planting;*
- *Prioritise natural solutions like daylighting and naturalisation of the streams wherever possible;*
- *Develop stream and wetland management plans as consent conditions that expressly provide for Te Ākitai Waiohua input into the plans;*
- *Utilise the Kāinga Ora Ngā Hau o Māngere Ngahere Planting Guide to help inform local planting;*
- *Develop a final landscaping plan; and;*
- *Utilise ecological assessments and Native Freshwater Fauna and Management Plans to account for Te Ākitai Waiohua cultural values in stream and wetland works*

The Te Akitai CVA[6] details the historic cultural relationships between the iwi and the awa. The CVA includes the ongoing involvement with Te Ākitai Waiohua Kaitiaki Team (Kaitiaki Team) to provide cultural advice on Te Ākitai Waiohua cultural values, history, whakapapa (genealogy), tikanga (protocol), kawa (ceremony) and korero (talk). The Te Ākitai Waiohua support the Te Aranga Cultural Landscape Principles, these principles have been adapted to create a set of recommendations. These recommendations are listed in full in the AEE.

The Tonkin + Taylor ecology consultants have surveyed the stream and the riparian habitat, and fully describe extents of the watercourse and riparian margins within the Site and the immediate surrounding area. The full ecological assessment is available in the "Te Ararata Improvements Flood Resilience Works - Walmsley Road Bridge" provided as an appendix to the AEE.

An evaluation of the natural character relating the active bed, margins and context of the stream within the Site is provided in Appendix 3 of this assessment. The evaluation considers the ecological report which forms part of the application. A summary of these findings are provided below.

[5] Te Ahiwaru Cultural Values Assessment_HWD Flood Resilience Project Harania Te Ararata_v1.0, [dated] 17 September 2024

[6] Cultural Values Assessment by Te Ākitai Waiohua for Healthy Waters Te Ararata Flood Resilience Project [dated September 2024]

Table 1: Watercourse

Watercourse Name	Degree of Natural Character	
	Biophysical Active Bed + Biophysical Margins	Experiential
Te Ararata Creek	Moderate + High	Moderate

To the north of Walmsley Road bridge the stream is bordered by riparian vegetation and large trees with their canopies are set back from the stream. To the south of the Walmsley Road bridge the stream is shadowed by the canopies of exotic trees including English oak, phoenix palm and coral tree species, predominantly on the eastern bank of the stream (refer to Photograph 6 below).

Photograph 6: Exotic trees located to the south of Walmsley Road bridge on the eastern bank of Te Ararata Creek

The indigenous riparian margins along the Te Ararata Creek are typical of native species and include:

- mānuka (*Leptosperum scoparium*)
- kānuka (*Kunzea robusta*)
- pūriri (*Vitex lucens*)
- tī kōuka (*Cordyline australis*)
- karaka (*Corynocarpus laevigatus*)
- māhoe (*Melicytus ramiflorus*)
- lemonwood (*Pittosporum eugenioides*)
- ngaio (*Myoporum laetum*)
- flax (*Phormium tenax*)
- trembling brake (*Pteris tremula*)
- mercury bay weed (*Dichondra repens*)
- purei (*Carex secta*)
- kohekohe (*Didymocheton spectabilis*)

The flow of the stream was observed to have to be moderately slow flowing with some visible suspended sediment. It is noted that debris including tree limbs and litter have been observed within the stream particularly after heavy rainfall (refer to Photograph 7 below). A range of aquatic fauna have been identified within the Te Ararata Creek, a full list of species is provided in the Ecological Management Plan provided by Tonkin + Taylor. The notable “threatened” and “at risk” species identified are Redfin bully (*Gobiomorphus huttoni*), Inanga (*Galaxias maculatus*), Longfin eel/tuna (*nguilla dieffenbachia*) and Smelt/pōrohe (*Retropinna retropinna*) and Giant kokopu (*Galaxias argenteus*).

Photograph 7: The Te Ararata Creek viewed from southern edge of the Walmsley Road bridge

In summary, the natural character of the stream are Moderate abiotic, High biotic and Moderate experiential, noting that the stream is in an urban setting and influenced by wider human modification, the managed reserves and the existing bridge. The High and Moderate natural character ratings are due to the combination of modified and unmodified elements within the stream and its margins. The channelised and culverted sections of the stream around the Walmsley Road bridge, are the most apparent examples of human modification (refer to Photograph 8 below). The majority of the stream remains unmodified to the north and immediate south of Walmsley Road bridge. Furter upstream the Te Ararata Creek was modified during the establishment of farmland and later channelised in the 1960s as Mangere was urbanised.

Photograph 8: The Walmsley Road bridge culvert viewed from the south.

2.3 Key Landscape Attributes and Values

This assessment considers that the key characteristics and values of the Site are broadly captured within the natural and physical environment, perceptual and associative dimensions.

The natural and physical environmental elements in relation to the site are considered to be the:

- Low lying flat topography
- Extensive indigenous riparian vegetation
- The Te Ararata Creek
- Steep banks of the stream sides
- Amenity tree planting within the Black Bridge Reserve and Walmsley Bridge Reserve

The natural stream within the Site vary in condition and exhibited natural attributes.

2.4 Visual Catchment and Associated Viewing Audiences

To understand the visual catchment of the Site and the Project, a desktop study was undertaken utilising aerial photography, landform (contours) and building /vegetation patterns to identity viewing audiences and the extent of visibility. During the visit to the site and the surrounding area, the assumptions made in the desktop study were ground truthed.

Using the combined information gathered, the nature and qualities of potential viewing audiences of the Site were identified and representative viewpoint photographs were taken to assist in determining the likely level and nature of change. Representative viewpoint photographs have been taken from the nearest available public locations where views of the Site could be obtained.

As discussed earlier, the Site is located within a built up urban area at the confluence of two arterial roads. The combination of low lying topography of the Site and the, the surrounding developed built environment and existing vegetation limits the visual catchment of the Site and the Project. The Project will predominantly be visible from the adjacent roads, Black Bridge Reserve and immediately adjacent residential audiences. Glimpsed views from beyond the identified visual catchment are anticipated experience a greatly reduced level of effects.

Based on the above analysis, viewing audiences have been determined and categorised into the following geographical groups (refer to Appendix 2: Graphic Supplement, Figure 1 and VP 1 - 10).

Viewing Audience Group 1 to the North of the Site

- Users of the Black Bridge Reserve and pedestrians along Coronation Road
- Residents of properties at 142, 144 and 146 Coronation Road
- Road users travelling south on Coronation Road

Viewing Audience Group 2 to the South of the Site

- Residents of properties at 2 McKenzie Road and 4, 6, 8, 10 and 14 Walmsley Road with direct views into the Site.
- *Road users and pedestrians travelling along Walmsley Road.*

Viewing Audience Group 3 to the East of the Site

- Residents of properties at 15, 17, 18 and 20 Walmsley Road with oblique views towards the Site
- Road users and pedestrians travelling along Walmsley Road

Viewing Audience Group 4 to the West of the Site

- Residents of properties at 164 Coronation Road and 1B Miller Road
- People visiting Plymouth Brethren Christian Church and commercial businesses along Coronation Road.
- Road users and pedestrians McKenzie Road, Miller Road and Coronation Road.

The range of viewpoints representing the key audiences listed above and representative photographs are provided are presented in Appendix 4: Graphic Supplement.

3.0 Assessment of Effects

The effects addressed in this assessment, include those that occur in relation to changes to:

- landscape effects: landscape attributes and values
- visual effects: character and visual amenity (i.e. viewing audiences and their outlook)
- natural character effects: in relation to the modification of the stream environment

Natural character, landscape and visual effects can result from change in the components, character or quality of the landscape values. Usually these are the result of landform or vegetation modification or the introduction of new structures, facilities or activities. This assessment assesses the potential effects based on a combination of the nature of the landscape and visibility, and the nature and scale of the project in relation to the existing characteristics of the site.

The degree to which effects on the landscape, visual and natural character are generated are dependent on a number of factors; these include the:

- degree to which the project contrasts, or is consistent, with the qualities of the surrounding landscape
- proportion of the project that is visible, determined by the observer's position relative to the objects viewed
- distance, backdrop and foreground context within which the project is viewed
- area or extent of visual catchment from which the project is visible
- number of viewers, their location and situation (static or moving) in relation to the view
- predictable and likely known future character of the locality
- quality of the resultant landscape, its aesthetic values and contribution to the wider landscape character to the area.

A change in a landscape does not necessarily constitute an adverse effect. Landscape is dynamic and constantly changing over time in both subtle and more dramatic transformational ways, these changes are both natural and human induced. What is important in managing landscape change is that substantial and / or inappropriate adverse effects are avoided or sufficiently mitigated to ameliorate the effects of the change in land use.

The scope of this assessment is primarily focussed on the activities in the Project which trigger resource consent. As discussed in the 1.2 Project Overview specific construction activities within the road environment, terrestrial open space is permitted and detailed within the AEE. The permitted activities include the infringement of the proposed crane into the M4 Volcanic Viewshaft which is permitted as it is temporary in nature and an infrastructure activity. A summary of the activities which will trigger resource consent are in Table 2 below.

Table 2: Relevant activities to be considered in this assessment

Relevant Section of the Resource Management Act 1991 (RMA	**Activities that trigger resource consent**
Section 9 Land	Construction of a temporary bailey bridge within the Open Space Zone (likely to exceed the permitted building areas and height for network utilities)
	Replacement and relocation of the existing Watercare pipe bridge abutments / pipe strengthening works.
	Erosion protection (rock armouring and retaining walls) beneath the bridge new structure and within the riparian yard
	Removal of vegetation within the riparian area
	Removal of trees greater than 4m in height and 400mm girth within the road or open space zone.
	Earthworks exceeding permitted thresholds within the riparian area
Section 13 River and lake beds	Recontouring of the existing streambanks to achieve the proposed stream profile (includes installation of rock armouring and retaining walls).
	Temporary stream diversion during construction via a pipe (and associated disturbance to achieve a dry working platform)
	Partial demolition of the existing twin culvert
	Construction of a temporary bailey bridge over Te Ararata Creek in exceeding the durations for temporary structures

This assessment includes a Replacement Planting Plan and recommendations to address the potential adverse effects. This assessment considers effects with and without the inclusion of mitigation.

3.1 Landscape Effects

3.1.1 Effects on Landscape Character, Attributes and Values

Landscape character is derived from the distinct and recognisable pattern of elements that occur consistently in a particular landscape. It reflects particular combinations of geology, landform, soils, vegetation, land use and features of human settlement. It creates the unique sense of place defining different areas of the landscape.

The implementation of the Project will require the alteration of the landform, removal of existing trees, temporary alteration of the watercourse, and the construction of a replacement watercourse crossing. This will result in permanent and temporary changes to the Site. The most valued physical aspects of the Site are the mature trees within the Black Bridge Reserve, the Te Ararata Creek and associated indigenous riparian vegetation along the watercourse (refer to Photograph 9 below).

Photograph 9: Riparian planting along the eastern bank of the Te Ararata Creek

It is anticipated that the proposed construction methodology will result in the removal of up to 28 established individual trees (11 standalone trees, a group of 15 she oak and a group of three lemonwood) within the reserves and riparian margins to accommodate the Project. The removed trees will comprise she oak, lemonwood, karaka, pōhutukawa and eucalyptus species. There is the potential for a single pōhutukawa in the Black Bridge Reserve to be relocated in the reserve. A further area of approximately 571m^2 of indigenous riparian vegetation will be removed to enable construction of the Project, which includes the temporary bailey bridge. The removal of vegetation will be predominantly located to in the Black Bridge Reserve, Walmsley Road Reserve and within the riparian margins of the stream within the construction footprint. The site compound and material storage area will result in the temporary removal of approximately1,500m^2 of amenity grassland.

The existing individual trees are an overt feature which characterises the western and southern boundaries of the reserve, the removal of up to 28 trees will be an apparent and notable change in the to the open spaces. The reduced canopy coverage and vertical vegetated mass within the reserve, reducing the sense of enclosure within the park and the separation between the reserve and the surrounding arterial roads.

The removal of riparian vegetation either side of the stream will have a localised impact on the amenity and natural qualities of the stream. However, it is also noted that the impact on the riparian vegetation will be localised and temporary. The proposed Replacement Planting Plan (RPP) includes the provision for planting indigenous riparian species along the Te Ararata Creek and the removed specimen trees to mitigate the removal of vegetation.

It is anticipated that riparian vegetation in proximity to the existing Walmsley Road bridge will be removed to facilitate the construction of the Project (refer to Photograph 10 below). Works within the stream to regrade the banks, install rock armour retaining walls and replace the abutments of the Watercare watermain pipe bridge will alter the structure and form of the banks of the creek within proximity to the Walmsley Road Bridge. The wider area of the banks will be regraded and planted to have a natural appearance.

Photograph 10: Riparian planting along the Te Ararata Creek viewed from the Te Ararata Creek Reserve to south of the Walmsley Road bridge.

Within the context of the combined physical, associative and perceptual attributes of the Site, the construction activities within the Te Ararata Creek will result in **Low** adverse effects. Immediately after the construction phase has finished and all construction plant and bridge structures have been removed, adverse landscape effects will be **Neutral.** The replacement riparian vegetation to the south of Walmsley Road Bridge will be an improvement of the vegetation removed to accommodate the works and the overall area of indigenous planting to the north of the Walmsley Bridge will be expanded. As a result, after approximately 3 years when the mitigation planting has established adverse landscape effects will be **Positive.**

3.1.2 Visual Effects

Visual amenity effects are influenced by a number of factors including the nature of the Project, the landscape absorption capability and the character of the Site and the surrounding area. Visual amenity effects are also dependent on distance between the viewer and the Project, the complexity of the intervening landscape and the nature of the view.

The viewing audience groups identified in 2.4 Visual Catchment and Associated Viewing Audiences have been assessed regarding the type of viewing audiences, the composition of their view and the nature and degree of visual effect in relation to the project. As discussed

previously this assessment will focus on the effects in relation to the works (construction activity, earthworks and vegetation removal) within the stream, related to the temporary bailey bridge and the new abutments for the Watercare watermain pipe bridge. However, it is recognised that some permitted activities will change the visibility and viewing experience of the activities which require resource consent.

This visual assessment has been undertaken with photographs from publicly accessible land and the Site. Individual private properties have not been visited, views for these viewing audiences have been assessed using a combination of representative nearby photographs, desktop analysis and reverse views from the Site. The following assessment refers to viewpoint photographs in Appendix 2: Graphic Supplement have been provided to assist with understanding the project and change to the view in relation to the surrounding context.

3.1.2.1 Viewing Audience Group 1 to the North of the Site

Figures References:

- *Figure 1, Appendix 2: Graphic Supplement*
- *Viewpoint 1*

Viewing Audiences

- *Users of the Black Bridge Reserve and pedestrians along Coronation Road*
- *Residents of properties at 142, 144 and 146 Coronation Road*
- *Road users travelling south on Coronation Road*

Existing Views

This viewing audience group comprises residents on Coronation Road, road users, pedestrians and visitors to the Black Bridge Reserve. This audience group is defined by their position to the north of the Site's northern boundary. The generally flat landform is typical of the low lying flat landscape of the site and the surrounding area.

Residential dwellings are 142, 144 and 146 Coronation Road are orientated to have a roughly east to west orientation. The primary views form these properties comprise short to medium distance views across Coronation Road towards the northern end of Black Bridge Reserve towards the Te Puketoka Lane residential development. Views are generally contained by tall vegetation within the northern extent of the Black Bridge Reserve and along the margins of the Te Ararata Creek. Oblique views towards the Site are partially screened by trees within the Black Bridge Reserve.

Road users and pedestrians travelling south along Coronation Road have views characterised by open the strong patterns of vegetation within the Black Bridge Reserve to the east of the road and developed residential and commercial development to west of the road. The wide open arterial road corridor creates a strong vista against the tall vegetation and built form either side of the road. Glimpsed views of the Site area available of the through intervening vegetation within the northern area of the Black Bridge Reserve.

People in the Black Bridge Reserve experience views which are partially enclosed by the mature vegetation within the reserve, but still maintain a visual relationship with the arterial road to the west. Similarly, short distance views towards the Site are partially filtered by existing vegetation although the visibility of the Site will vary based on viewers position within the reserve.

Proposed Views

During construction it is anticipated that the primary outlooks from within these residential audiences will fundamentally change. However, the oblique views of the proposed construction works will be available along the northern and western boundaries of the site. Within the context of the existing view the removal of specimen trees and the introduction of construction activities will alter only a small aspect of the residential views resulting in **Very Low** adverse effects.

Views from road users and pedestrians by their nature are transient and experience views within the context of the dynamic arterial road environment. From the area to the north of the site road users and pedestrians travelling southbound on Coronation Road are anticipated to experience glimpsed oblique views of construction activity through retained vegetation in the northern portion of the reserve. The removed vegetation will be noticeable but would not change the overall vegetated character of views. It is anticipated that visual effects will be **Very Low** adverse.

People in the Black Bridge Reserve will experience a range of short distance views of the construction works within the Te Ararata Creek and around the temporary bailey bridge. The introduction of the bridge and the removal of indigenous riparian vegetation in particular will introduce an apparent and obvious change in views within the reserve. These visual changes are anticipated to be exacerbated by the removal of trees and vegetation within the reserve. During the construction works it is anticipated that visual effects will vary from **Low to Very Low** adverse effects, depending on the intensity of the construction activity.

During operation of the Project and the proposed RPP has been implemented, it is anticipated that visual effects will reduce to **neutral** for people in residences and road users. For people in the Black Bridge Reserve it is anticipated that immediately after construction visual effects will be **Very Low** adverse due to the large construction footprint and vegetation removed to accommodate the bridge. Once planting has matured for approximately three years, it is anticipated that adverse effects will reduce to **Neutral**.

3.1.2.2 Viewing Audience Group 2 to the South of the Site

Figures References:

- *Figure 1, Appendix 2: Graphic Supplement*
- *Viewpoint 2 and Viewpoint 3*

Viewing Audiences

- *Residents of properties at 2 McKenzie Road and 4, 6, 8, 10 and 14 Walmsley Road with direct views into the Site.*
- *Road users and pedestrians travelling along Walmsley Road.*

Existing Views

This viewing audience group is defined by their position to the south of the Site's southern boundary. The generally flat landform and built development along Walmsley Road reduces visual catchment over the site to residential properties in the short distance.

Residential audiences in this group generally have a northerly primary outlook, with the exception of 2 McKenzie Road, which has a northwesterly outlook into the road junction. The dwellings at 6, 8, 10 and 14 Walmsley Road are set back from the road and have views towards

the road and the Site which are heavily screened by amenity vegetation in their front yard and along the Te Ararata Creek. Views from these residential audiences are characterised by the short distance views towards busy arterial roads. Although existing vegetation within the front yards of these properties provides some screening, glimpsed views of passing vehicles are anticipated for the residential audiences at 4, 6 Walmsley Road and 2 McKenzie Road.

Oblique views over the Te Ararata Creek Reserve are available from the residential properties at 6 and 8 Walmsley Road although these views are screened in part by vegetation within the side yards of properties and the edges of the reserve.

Road users and pedestrians immediately to the south along Walmsley Road experience short distance open views into the Black Bridge Reserve. Tall established vegetation along the Te Ararata Creek and within the western boundary of the Black Bridge Reserve partially restricts wider views to the east and west. Views over the Te Ararata Creek and into the open spaces to the north and south of Walmsley Bridge are available from the pedestrian footpaths either side of the road. The existing Watercare watermain pipe bridge is notable structure in short distance to the the north of the Walmsley Bridge from the footpath.

Proposed Views

During construction it is anticipated that during the proposed replacement bridge installation, construction vehicles and construction activities along Walmsley Road will be partially visible from residential audiences with screening vegetation in their front yards at 6, 8, 10 and 14 Walmsley Road. It is anticipated that glimpsed views of the site compound will be available from these residential properties, despite the removal of vegetation. The proposed construction activity visible within Walmsley Road will not be dissimilar to the existing views of traffic from these audiences and is permitted with the AUP OiP. Vegetation removed to the south of the Walmsley Road bridge is anticipated to be visible along the from oblique views from the residential properties at 6 and 8 Walmsley Road. However, it is anticipated that the existing character, canopy cover and vegetation density will be retained. It is anticipated that adverse visual effects will be **Very Low** adverse during construction.

After the construction is complete and the RPP vegetation has been planted, it is anticipated that there will be no residual adverse visual effects on the audiences. As a result it is anticipated that effects will be **Neutral**.

Short distance open oblique views of the construction activity will be available from the properties at 4 Walmsley Road and 2 McKenzie Road. From these properties the permitted construction activity will be clearly visible within the western end of the Site along Walmsley Road. It is anticipated that only glimpsed views of construction activities within the stream or the bailey bridge. It is anticipated that during construction these audiences will experience up to **Very Low** adverse visual effects.

After the construction is complete and the RPP vegetation has been planted, it is anticipated that there will be no residual adverse visual effects on these residential audiences. As a result it is anticipated that effects will be **Neutral**.

During construction it is anticipated that pedestrians will experience short to medium distance as they travel through the Site and along the temporary accessway and over the bailey bridge. This transient audience will have visibility of all the construction works, however these views will be fleeting and have a clear correlation to views of works associated with road corridors. Due to the removal of vegetation within the Site combined with the open short distance views of construction activity within the stream, it is anticipated that **Low** to **Very Low** adverse visual effects would be experienced depending on the level of construction activity.

After the construction is complete and the RPP vegetation has been planted. The proposed new bridge abutments for the Watercare watermain pipe bridge will initially be visible from the Walmsley Bridge to the south, however after approximately 3 years, once the RPP planting has established the abutments will no longer be visible. Materially views of the pipeline will be broadly similar to the views of the existing pipes, the proposed reinforcing steel girders spanning the stream will increase the size of the pipe structure. However, considering the open nature of the support structure and the context of the existing pipe the overall dominance of the pipe bridge structure will not change.

Once the RPP planting has established, it is anticipated that there will be no residual adverse visual effects on road users or pedestrian audiences, as a result it is anticipated that effects will be **Neutral**.

3.1.2.3 Viewing Audience Group 3 to the East of the Site

Figures References:

- *Figure 1, Appendix 2: Graphic Supplement.*
- *Viewpoint 5, Viewpoint 6 and Viewpoint 7.*

Viewing Audiences

- *Residents of properties at 15, 17, 18 and 20 Walmsley Road with oblique views towards the Site.*
- *Road users and pedestrians travelling along Walmsley Road.*

Existing Views

This viewing audience group is defined by their position to the east of the Site's eastern boundary. The landform is generally flat along Walmsley Road and combined with the intervening built forms of neighbouring residential development together with the tall vegetation within front yards and along the Te Ararata Creek, views towards the site are reduced.

Residential audiences in this group have oblique views to the north and south of Walmsley Road. The residential audience at 18 and 20 Walmsley Road have dwellings which are orientated to the north and experience views towards the site which are screened by amenity vegetation in adjacent residential lots. Views from the entrance to the lots will be similar to the views for pedestrians and road users on Walmsley Road, described below. Views from the residential dwellings at 15 and 17 Walmsley Road are south facing and are also afforded oblique views. The western boundary of 15 Walmsley Road borders the Black Bridge Reserve and the eastern side of the Te Ararata Creek. Tall mature trees to the east of the Te Ararata Creek comprise exotic evergreen species including she oak, English elm. These trees combined with the established indigenous riparian species along the Te Ararata Creek provide an effective screen between the dwelling and the Black Bridge Reserve. From the dwelling at 17 Walmsley Road oblique views are afforded along Walmsley Road towards the Site. There are no views available into the Black Bridge Reserve.

Road users and pedestrians along Walmsley Road experience long vistas in western directions along the road towards the Site. Tall established vegetation within private residential properties and the open spaces either side of the road restricts views to the north and the south. Views over the Te Ararata Creek and into the open spaces to the north and south of Walmsley Road bridge are available from the pedestrian footpaths either side of the road.

Proposed View

During construction it is anticipated that residential audiences to the east will experience glimpsed views of the permitted construction activity along Walmsley Road will be available from the outside the residential dwellings at 15, 18 and 20 Walmsley Road. From within the dwellings it is anticipated that there will be no direct views available of construction activity on Walmsley Road or within the stream corridor.

It is anticipated that construction activities within the Black Bridge Reserve will be screened from view from the residential properties at 15, 18 and 20 Walmsley Road by intervening buildings and screening vegetation. People in the dwelling at 17 Walmsley are anticipated to experience partial views of the southern extent of the proposed bailey bridge crossing due to the removal of three large trees which to the southwest of the property. The removal of these trees will also open up views towards the construction activity around the Walmsley Road bridge and within the Te Ararata Creek. The construction activity within the stream but will not be dissimilar to the existing regular heavy traffic currently viewed along Walmsley Road or permitted constriction activity within the road corridor.

It is anticipated that the construction activities will result in **Very Low** adverse visual effects on the audiences at 15, 18 and 20 Walmsley Road and Low adverse effects on the audience at 17 Walmsley Road.

After the construction is complete and the RPP vegetation has been planted, it is anticipated that there will be no residual adverse visual effects on residential audiences to the east. As a result it is anticipated that effects will be **Neutral**.

During construction it is anticipated that road users and pedestrians will experience short to medium distance as they travel toward the Site from the east. These transient audiences will experience open views of the permitted construction works. The removal of existing trees and riparian vegetation will open up partial views of the bailey bridge and construction activity within the Te Ararata Creek. Based on the above analysis it is anticipated that **Low** to **Very Low** adverse visual effects would be experienced for road users and pedestrians depending on the level of construction activity.

After the construction is complete and the RPP vegetation has been planted, it is anticipated that there will be no residual adverse visual effects on road users or pedestrian audiences, as a result it is anticipated that effects will be **Neutral**.

3.1.2.4 Viewing Audience Group 3 to the West of the Site

Figures References:

- *Figure 1, Appendix 2: Graphic Supplement*
- *Viewpoint 4, Viewpoint 8 and Viewpoint 9*

Viewing Audiences

- *Residents of properties at 164 Coronation Road and 1B Miller Road*
- *People visiting Plymouth Brethren Christian Church and commercial businesses along Coronation Road.*
- *Road users and pedestrians McKenzie Road, Miller Road and Coronation Road.*

Existing Views

This audience group is defined by its position to the west and southwest of the Site. The is visual catchment of this audience is limited by the density of built form and vegetation along Coronation Road, McKenzie Road, Walmsley Road and Miller Road.

Residential audiences with the potential to obtain views of the Stie are considered to be at 164 Coronation Road and 1B Miller Road. The dwelling at 164 Coronation Road is orientated to the east towards the Site, the dwelling at 1B Miller Road faces south perpendicular to the Site. Views from both of these audiences are partially contained by boundary walls and mature screening vegetation along the eastern boundaries of the lots.

Visitors to the Plymouth Brethren Christian Church are generally orientated close to the church building separated Coronation Road by approximately 80m of car parking. The eastern perimeter is partially bordered by amenity planting either side of the gateway entrance. Open views of the site are available from the petrol station to the west of Coronation Road from the forecourt. The busy wide arterial road is an influential visual element in the short to middle distance of views which creates separation from the reserve and residential development beyond.

Road users and pedestrians along McKenzie Road, Miller Road and Coronation Road experience a range of views towards the Site through as they traverse the road and street network. Short distance open views towards are available from the pedestrians and road users along Coronation Road, although the Site is perpendicular to the direction of travel. Pedestrians and road users on McKenzie Road and Miller road only experience open views at their northern and western ends of the road, respectively. The near continuous traffic along the adjacent road are a dominant and dynamic element in the views. The existing mature trees within the Black Bridge Reserve provide a vegetated backdrop to the views.

Proposed View

During the construction phase of works it is anticipated that the people in the residential property at 164 Coronation Road will experience partially filtered views of the construction works at the western end of Walmsley Road. Construction machinery including cranes, will be visible in the middle distance partially filtered by amenity planting within the front yard of the lot and vehicular movements along Coronation Road. The residential property is 1B McKenzie Road will experience similar views, however due to the orientation of the dwelling only oblique views will be available of the construction activity.

The trees removed along the western boundary of the Black Bridge Reserve will open up views across the reserve towards the construction compound and works within the Te Ararata Creek from the residential property at 164 Coronation Road. Although this construction activity will change the character of the views of the southern portion of the reserve this is a permitted activity. It is anticipated that oblique partially filtered views of the temporary bailey bridge and works within the will be available from the residential property. Although much of the construction activity is permitted, the removal of mature existing mature trees within the open space will reduce the visual amenity associated with the southern extent of the Black Bridge Reserve.

Based on the above analysis it is anticipated that people in the residential property at 164 Coronation Road would experience **Very Low** adverse visual effects during the construction

works. It is anticipated that the residential property at 1B McKenzie Road will experience **Very Low** to **Neutral** visual effects.

After the construction is complete and the RPP vegetation has been planted. It is anticipated that there will be no residual adverse visual effects on residential audiences, as a result it is anticipated that effects will be **Neutral**.

It is anticipated that visitors to the Plymouth Brethren Christian Church will have no views of the on ground construction works with the Te Ararata Creek or the temporary bailey bridge. It is anticipated that glimpsed views will be available of the removed existing trees within the Black Bridge Reserve. It is anticipated that users of the petrol station on Coronation Road will have open short distance views of the Black Bridge Reserve where the amenity trees will be removed and filtered views of the temporary bailey bridge and works in and around the Te Ararata Creek. The removal of the existing individual trees and introduction and presence of construction activity around the Te Ararata Creek will alter the character and amenity of the reserve in the view. However, people in this audience are transient in nature, typically spending a relatively short time at the business, and are anticipated to be less receptive to the amenity of the view or the changes.

Based on the above analysis it is anticipated that people visiting the Plymouth Brethren Christian Church and the petrol station on Coronation Road would experience **Very Low** adverse visual effects during the construction works. After the construction is complete and the RPP vegetation has been planted, it is anticipated that there will be no residual adverse visual effects on residential audiences, as a result it is anticipated that effects will be **Neutral**.

Views from road users and pedestrians along McKenzie Road, Miller Road and Coronation Road are anticipated to be experience transient views as the travel east along Miller Road and north/south along Coronation Road and McKenzie Road. Within the context of the four lane arterial road vehicular users will experience transient views towards the Site as they travel along the road. Road users travelling south on Coronation Road will experience short distance open views of the permitted construction activity in the Black Bridge Reserve and Walmsley Road construction areas and partially filtered views of the temporary bailey bridge and Te Ararata Creek works. All other road users and pedestrians will have views partly screened or disrupted by vehicular movements in the road environment. As described above the removal of trees in the reserve construction activities will change the amenity of the Black Bridge Reserve. Despite being transient pedestrians are anticipated to experience more notable changes in the view due to the relative speed which they travel to the west of the Site.

Base on the above analysis it is anticipated that road users will experience **Very Low** adverse visual effects and pedestrians will experience **Low** to **Very Low** adverse visual effects during construction depending on the level of construction activity.

After construction is complete and the RPP vegetation has been planted. It is anticipated that there will be no residual adverse visual effects on road users. It is anticipated that pedestrian audiences will initially experience **Very Low** adverse visual effects post construction. Visual effects on pedestrians are anticipated to reduce to **Neutral** after approximately 3 years, once the RPP planting has established.

4.0 Natural Character Effects

In terms of natural character, the highest degree of naturalness occurs where there is the least amount of human induced modification. Structures and construction, such as bridge piers, culverts, stream diversions and disturbance of the stream bed can adversely change and alter the natural character of an area. The significance of this effect is dictated by the size, location and sensitivity of the receiving environment.

Section 2.2 of this assessment describes the areas containing natural character, the stream within the Site and the degree of natural character for these features and consider the biophysical and experiential attributes.

The Project involves the construction of the temporary bailey bridge, a replacement bridge, the relocation and strengthening of the Watercare watermain pipe bridge foundations, a temporary stream diversion and recontouring of the Te Ararata Creek and it's margins.

The existing biophysical and hydrological functions of the stream anticipated to be adversely affected during the construction of the replacement bridge, temporary stream diversion and recontouring of the stream banks. As described previously in this assessment the vegetation removed to the north of the Walmsley Road bridge and the temporary bailey bridge will comprise primarily indigenous vegetation along the riparian margins of the stream. To the south of the Walmsley Road bridge vegetation removed will predominantly comprise exotic tree species on the eastern banks of the stream.

The abiotic values of the unmodified steep banks of the Te Ararata Creek will be impacted by the replacement of the Walmsley Bridge. The margins of the stream will be regraded and upheld by retaining structures and reinforced by rock amour. This will result in a localised permanent change to the banks and margins of the stream in proximity to the Walmsley Bridge for a combined length of approximately 85m. The outer margins of the bank will also be modified by replacement abutments to strengthen the foundations of the existing Watercare waterpipe bridge to the north of the Walmsley Bridge. The existing pipe will remain in place but will be supported by new steel girders spanning between the stream banks.

It is anticipated that a further limited area of modification is required to the wider banks of the stream to accommodate the proposed Bailey bridge. However, these are anticipated to be impacted on a temporary. The abiotic and biotic values of the stream bed are also anticipated to be impacted by temporary stream piping to create a dry working environment. This impact will be limited to the area located within the footprint and immediately surrounding area of the existing bridge.

The recontouring of the banks and margins of the creek will permanently alter the profile of the stream corridor, however this is in the context of existing modification and previously culverted stream. It is anticipated that there will be no additional impacts on the stream bed. It is anticipated that no further impacts will be experienced downstream.

During construction, the proposed removal of vegetation, described previously, will remove indigenous vegetation to the north of Walmsley Road bridge and predominantly exotic vegetation to the south of the bridge. The indigenous riparian vegetation is highly valued and contributes to the character of the stream. On balance the overall area of removed vegetation will be a relatively small within the context of the extensive riparian vegetation. Although the proposed temporary bailey bridge will alter the banks of the stream, they will not interrupt the wider abiotic processes of the stream. Post construction, the proposed area of clearance will be replanted with indigenous species that are found in the wider riparian. The area of replanting will

be larger area than the planting area removed. With the above in mind, it is considered the adverse effects on the natural character attributes of the stream will be **Low** adverse.

During operation, the existing culvert will be removed and the active stream bed will be restored. It is anticipated that this will improve the flow of the stream and reduce interruption during and after storm events. The margins of the stream will be altered by rock armour retaining wall works and abutments for the Watercare watermain pipe bridge, however these will be set back from the active stream bed. With the above in mind, it is anticipated that the operational effects on the natural character attributes of the stream will result in neutral or positive effects. The proposed replacement bridge will materially appear the same as the existing bridge, once the proposed RPP planting has established (approximately after 3 years). It is anticipated in the experiential values of the Te Ararata Creek will be broadly the same, however the changes to the stream banks including retaining resulting in a change to the natural appearance of the stream resulting in **Very Low** adverse effects.

5.0 Recommendations

Based on the above assessment, in order to suitably mitigate identified adverse landscape and natural character effects it is recommended that the following measures are embedded in the implementation of the Project.

- The proposed RPP shall be implemented immediately following planting season following the removal of the temporary accessway.
- That all planting shall be maintained in perpetuity to natural growth height and form, for the purposes of maintaining the landscape and natural character mitigation that the vegetation provides.
- Where practicable, the procurement of plants come from Makaurau Marae Nursery, which are specimens eco-sourced from the same ecological district as the Site.
- That a vegetation maintenance plan is prepared and provided to Council for certification prior to the commissioning of the Plan that addresses:
    - Plant maintenance during the first five years
    - Replacements
    - Weed and pest control measures.

6.0 Conclusions

In conclusion the landscape character, visual amenity and natural character of the Site and the surrounding landscape area able to be maintained after the establishment of the proposed replacement bridge culvert. The visibility of the project and the replacement bridge culvert is broadly limited by the density of development and vegetation surrounding the Site.

Landscape character effects are anticipated to be as a result of the removal of indigenous riparian vegetation along the stream and established amenity trees within the adjacent reserves. During construction, the character of the landscape will be adversely affected due to the removal of vegetation, temporary construction activities and permanent changes to the banks of

the Te Ararata Creek. Adverse landscape effects will primarily be reduced after the end of the construction works, the remaining effects will be predominantly mitigated by the proposed RPP planting.

Residential, road and pedestrian audiences potentially affected by the proposed construction works and the new bridge culvert will be limited to those with short distance views of the Te Ararata Creek construction works. During the operation of the new bridge and stream it is anticipated that there will be no long term adverse visual effects on any audiences.

Natural Character effects are anticipated to be localised to the construction footprint within and will not extend to the wider landscape. The abiotic effects will be a result of the clearance of vegetation to accommodate stream crossings, the reinforcement of the watercourse either side of the replacement bridge and the temporary and permanent changes to the bridge and watermain pipe bridge abutments. Biotic effects will be related to the temporary culverting of the stream, removal of existing vegetation and impeding aquatic fauna in the stream. During operation it is anticipated that these effects will be predominantly mitigated. Similarly the experiential effects on the natural character are anticipated to be primarily impacted during construction, during operation the adverse effects are considered to be **Very Low** adverse.

It is anticipated that the replacement of the bridge can be established and maintained without compromising the landscape, natural character and amenity of the Site and the wider context. Potential adverse long term effects will be mitigated through the RPP to provide appropriate indigenous and replacement vegetation. It is considered that the landscape character, visual amenity and natural character can be maintained following the establishment of the Project.

Appendix 1: Method Statement

30 October 2024

This assessment method statement is consistent with the methodology (high-level system of concepts, principles, and approaches) of 'Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines', Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022. The assessment provides separate chapters to discuss landscape, visual and natural character effects where relevant, but is referred to throughout as a Landscape Effects Assessment in accordance with these Guidelines. Specifically, the assessment of effects has examined the following:

- *The existing landscape;*
- *The nature of effect;*
- *The level of effect; and*
- *The significance of effect.*

The Existing Landscape

The first step of assessment entails examining the existing landscape in which potential effects may occur. This aspect of the assessment describes and interprets the specific landscape character and values which may be impacted by the proposal alongside its natural character where relevant as set out further below. The existing landscape is assessed at a scale(s) commensurate with the potential nature of effects. It includes an understanding of the visual catchment and viewing audience relating to the proposal including key representative public views. This aspect of the assessment entails both desk-top review (including drawing upon area-based landscape assessments where available) and field work/site surveys to examine and describe the specific factors and interplay of relevant attributes or dimensions, as follows:

Physical –relevant natural and human features and processes;

Perceptual –direct human sensory experience and its broader interpretation; and

Associative – intangible meanings and associations that influence how places are perceived.

Engagement with tāngata whenua

As part of the analysis of the existing landscape, the assessment should seek to identify relevant mana whenua (where possible) and describe the nature and extent of engagement, together with any relevant sources informing an understanding of the existing landscape from a Te Ao Māori perspective.

Statutory and Non-Statutory Provisions

The relevant provisions facilitating change also influence the consequent nature and level of effects. Relevant provisions encompass objectives and policies drawn from a broader analysis of the statutory context and which may anticipate change and certain outcomes for identified landscape values.

The Nature of Effect

The nature of effect assesses the outcome of the proposal within the landscape. The nature of effect is considered in terms of whether effects are positive (beneficial) or negative (adverse) in the context within which they occur. Neutral effects may also occur where landscape or visual change is benign.

It should be emphasised that a change in a landscape (or view of a landscape) does not, of itself, necessarily constitute an adverse landscape effect. Landscapes are dynamic and are constantly changing in both subtle and more dramatic transformational ways; these changes are both natural and human induced. What is important when assessing and managing landscape change is that adverse effects are avoided or sufficiently mitigated to ameliorate adverse effects. The aim is to maintain or enhance the environment through appropriate design outcomes, recognising that both the nature and level of effects may change over time.

The Level of Effect

Where the nature of effect is assessed as **'adverse,'** the assessment quantifies the level (degree or magnitude) of adverse effect. The level of effect has not been quantified where the nature of effect is neutral or beneficial. Assessing the level of effect entails professional judgement based on expertise and experience provided with explanations and reasons. The identified level of adverse natural character, landscape and visual effects adopts a universal seven-point scale from **very low** to **very high** consistent with Te Tangi a te Manu Guidelines and reproduced below.

Landscape Effects

A landscape effect relates to the change on a landscape's character and its inherent values and in the context of what change can be anticipated in that landscape in relation to relevant zoning and policy. The level of effect is influenced by the size or spatial scale, geographical extent, duration and reversibility of landscape change on the characteristics and values within the specific context in which they occur.

Visual Effects

Visual effects are a subset of landscape effects. They are consequence of changes to landscape values as experienced in views. To assess where visual effects of the proposal may occur requires an identification of the area from where the proposal may be visible from, and the specific viewing audience(s) affected. Visual effects are assessed with respect to landscape character and values. This can be influenced by several factors such as distance, orientation of the view, duration, extent of view occupied, screening and backdrop, as well as the potential change that could be anticipated in the view as a result of zone / policy provisions of relevant statutory plans.

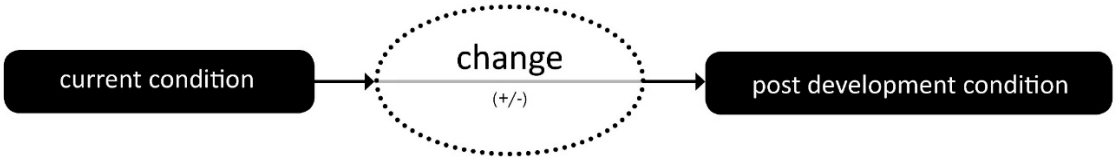
Natural Character Effects

Natural Character, under the RMA, specifically relates to *'the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development.'* Therefore, the assessment of natural character effects only involves examining the proposed changes to natural elements, patterns and process which may occur in relevant landscape / seascape contexts.

As with assessing landscape effects, the first step when assessing natural character effects involves identifying the relevant physical and experiential characteristics and qualities which occur and may be affected by a proposal at a commensurate scale. This can be supported through the input of technical disciplines such as geomorphology, hydrology, marine, freshwater, and terrestrial ecology as well as input from tāngata whenua. An understanding of natural character considers the level of naturalness and essentially reflects the current condition of the environment assessed in relation to the seven-point scale. A higher level of natural character means the waterbody and/or margin is less modified and vice versa.

A natural character effect is a change to the current condition of parts of the environment where natural character occurs. Change can be negative or positive. The resultant natural character effect is influenced by the existing level of naturalness within which change is proposed; a greater level of effect will generally occur when the proposal reduces the naturalness of a less modified environment. In short, the process of assessing natural character effects can be summarised as follows:

- Identify the characteristics and qualities which contribute to natural character within a relevant context and defined spatial scale(s), including the existing level of naturalness;
- Describe the changes to identified characteristics and qualities and the consequent level of natural character anticipated (post proposal); and
- Determine the overall level of effect based on the consequence of change.



The Significance of Effects

Decision makers assessing resource consent applications must evaluate if the effect on individuals or the environment is less than minor[7] or if an adverse effect on the environment is no more than minor[8]. For non-complying activities, consent can only be granted if the s104D 'gateway test' is satisfied, ensuring adverse effects are minor or align with planning objectives. In these situations, the assessment may be required to translate the level of effect in terms of RMA terminology.

This assessment has adopted the following scale applied to relevant RMA circumstances[9] (refer to diagram below), acknowledging low and very low adverse effects generally equate to 'less than minor' and high / very high effects generally equate to significant[10].

[7] RMA, Section 95E

[8] RMA, Section 95E

[9] Seven-point level of effect scale. Source: Te tangi a te Manu, Pg. 15

[10] The term 'significant adverse effects' applies to specific RMA situations, including the consideration of alternatives for Notices of Requirement and AEEs, as well as assessing natural character effects under the NZ Coastal Policy Statement.

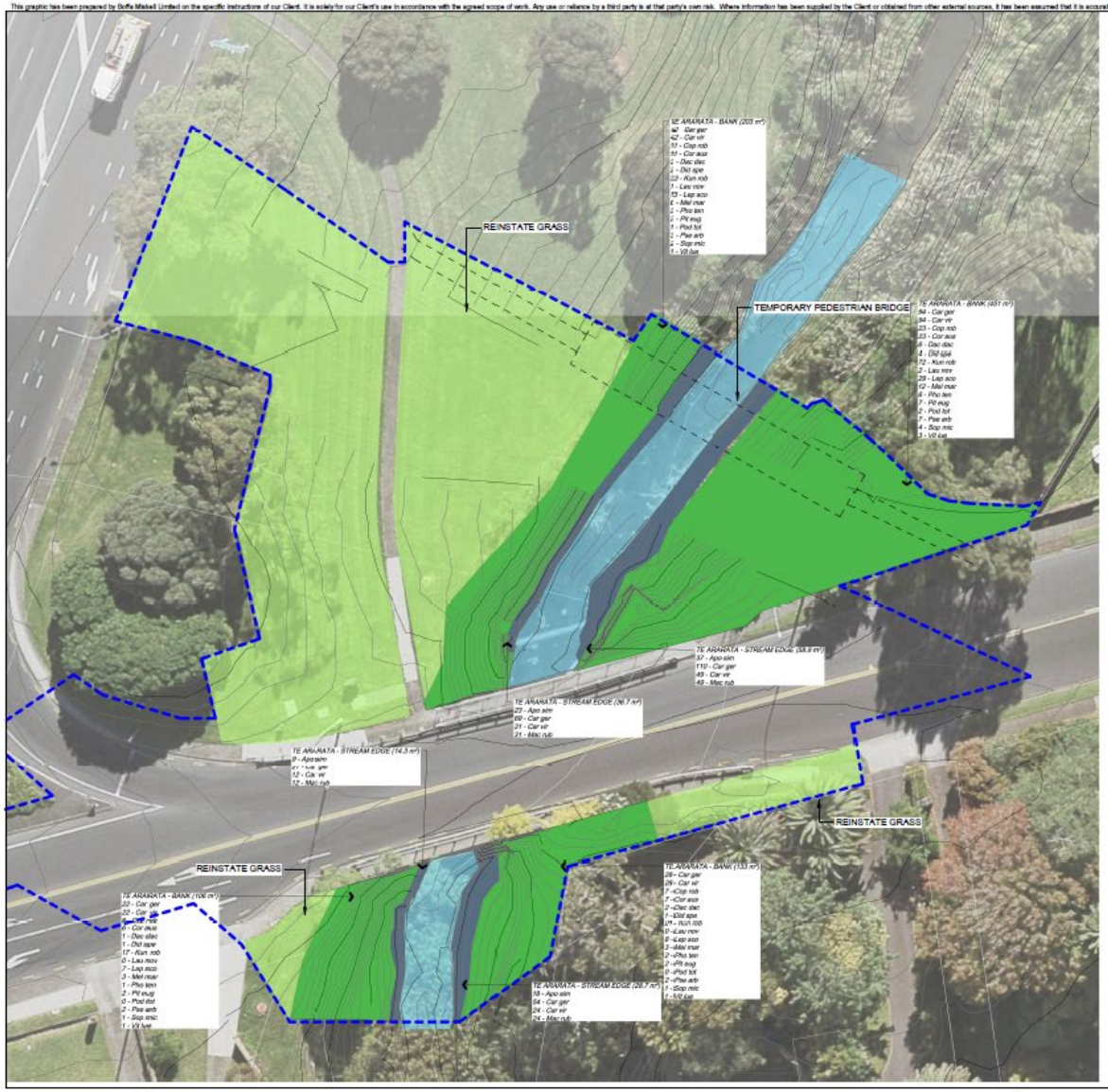
Appendix 2: Graphic Supplement

Appendix 3: Natural Character Evaluation

Table 3.1: Stream Natural Character Evaluation

Te Ararata Creek	
Existing Natural Character Description	Rating
Biophysical – Active Bed • The stream bed contains intermittent large rocks and smaller grade aggerate • Low levels mud and silt content from the upstream and the surrounding urban catchment were observed. • A steady flow of water is well contained within the banks, the water flow varies considerably during times of heavy rain fall. • Debris has been noted as collecting in the stream, particularly after heavy rain fall. • "Threatened" and "at risk" aqua fauna species identified in the stream: Redfin bully (*Gobiomorphus huttoni*), Inanga (*Galaxias maculatus*), Longfin eel/tuna (*nguilla dieffenbachia*) and Smelt/pōrohe (*Retropinna retropinna*) and Giant kokopu (*Galaxias argenteus*). • The Walmsley Road bridge culvert disrupts the natura stream bed	High
Biophysical – Margins • A narrow stream with banks ranging from steeply incised, channelised and partially banks to the south of Walmsley Road bridge the banks are less structured and partially degraded. • The majority of species long the watercourse are indigenous riparian species to the north of Walmsley Road bridge, to the south of the bridge and exotic trees and ground cover are present.	Moderate
Experiential • The existing Walmsley Road bridge culvert is the most overt example of human modification. • To the north of the Walmsley Road bridge the stream channel is naturalised and predominantly unmodified. • To the south of the Walmsley Road bridge the stream channel has historically been modified to accommodate farming and latterly residential land uses. • To the south of the bridge the stream is open and to the south of the bridge the stream is partially covered by overhanging tree canopies • The wider landscape surrounding the stream is notably heavily urbanised. • The regular flow of the stream is not a notable process in the wider environment.	Moderate

Appendix 4: Replacement Planting Plan



PLANTING SCHEDULE

SYMBOL	CODE	BOTANICAL NAME	COMMON NAME	CONT	SPACING	QTY
SHRUB AREAS						
		TE ARARATA - STREAM EDGE				138.5 m²
	Apo sim	Apodasmia similis	oioi	1L	15% @ 500 mm	87
	Car ger	Carex geminata	rautahi	1L	45% @ 500 mm	260
	Car vir	Carex virgata	pūkiō	1L	20% @ 500 mm	116
	Mac rub	Machaerina rubiginosa	Rākau	1L	20% @ 500 mm	116
		TE ARARATA - BANK				893 m²
	Car ger	Carex geminata	rautahi	1L	5% @ 500 mm	186
	Car vir	Carex virgata	pūkiō	1L	5% @ 500 mm	186
	Cop rob	Coprosma robusta	karamū	1L	5% @ 1,000 mm	47
	Cor aus	Cordyline australis	tī kōuka	1L	5% @ 1,000 mm	47
	Dac dac	Dacrycarpus dacrydioides	kahikatea	8L	5% @ 2,000 mm	12
	Did spe	Didymocheton spectabilis	Kohdkohe	8L	3% @ 2,000 mm	8
	Kun rob	Kunzea robusta	kānuka	1L	30% @ 1,400 mm	143
	Lau nov	Laurelia novae-zelandiae	pukatea	8L	3% @ 3,000 mm	3
	Lep sco	Leptospermum scoparium	mānaka	1L	12% @ 1,400 mm	57
	Mel mar	Melicytus ramiflorus	māhoe	1L	5% @ 1,400 mm	24
	Pho tan	Phormium tenax	harakeke	1L	5% @ 2,000 mm	12
	Pit eug	Pittosporum eugenioides	Tarata	1L	3% @ 1,400 mm	14
	Pod tot	Podocarpus totara	tōtara	8L	3% @ 3,000 mm	3
	Pse arb	Pseudopanax arboreus	Whauwhaupaku	1L	3% @ 1,400 mm	14
	Sop mic	Sophora microphylla	kōwhai	8L	3% @ 2,000 mm	8
	Vit luc	Vitex lucens	Pūriri	8L	5% @ 3,000 mm	6

14 (No.) 45L TREES TO BE PLANTED FOR ADDITIONAL MITIGATION PLANTING. SPECIES AND LOCATIONS TO BE DETERMINED BY PROJECT ARBORIST IN CONJUNCTION WITH AUCKLAND COUNCIL PARKS.

NOTE: EXTENT OF WORKS LINEWORK AND TEMPORARY BRIDGE LOCATION TAKEN FROM A DIFFERENT COORDIANTE SYSTEM TO THE PROJECT COORDINATE SYSTEM

ORIGINAL IN COLOUR

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KEY

EXTENT OF WORKS

REV	DATE	DESCRIPTION	APP
A	16.10.24	FOR APPROVAL	MLe
B	18.10.24	FOR APPROVAL	MLe
C	23.10.24	FOR APPROVAL	MLe

DRAFT UNDER REVISION

Healthy Waters - Te Ararata Flood Resilience Work

Walmsley Road Bridge Replacement Planting Plan

Design	MBe	Scale	Date
Drawn	DH	1:200 @ A1	16.10.2024
Check	MLe	1:400 @ A3	

RESOURCE CONSENT

DRAWING NO: BM230171C510 REVISION C

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