



WINSTONE
AGGREGATES

Boffa Miskell



Part
B

Appendix B12.4.10a

Landscape Effects Assessment

Hunua Quarry Development

Landscape Effects Assessment
Prepared for Winstone Aggregates Limited

23 March 2026





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<p>Release and Reliance This report has been prepared by Boffa Miskell Limited on the instructions of our Client, in accordance with the agreed scope of work. If it is intended to support an application under the Fast-track Approvals Act 2024, it may be relied upon by the Expert Panel and relevant administering agencies for the purposes of assessing the application. While Boffa Miskell Limited has exercised due care in preparing this report, it does not accept liability for any use of the report beyond its intended purpose. Where information has been supplied by the Client or obtained from external sources, it has been assumed to be accurate unless otherwise stated.</p>				

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Cover photograph: View from within the Site, looking towards the ONL and stream realignment area, © BML, 2025.

Executive Summary

This Landscape Effects Assessment (LEA) evaluates the landscape, natural character, and visual effects associated with the proposed development of the Symonds Hill Pit at Hunua Quarry, to be undertaken by Winstone Aggregates under the Fast-Track Approvals Act 2024. The assessment draws on site visits, visibility analysis, digital modelling, technical inputs, and mana whenua workshops, in a manner consistent with a methodology developed under *Te Tangi a te Manu*.

The Project will expand the existing, consented quarry footprint from 42ha to approximately 108ha, deepen the pit to around –50m RL, construct a new western haul road, create additional overburden disposal areas, and realign approximately 1,200m of the Mangapū Stream Tributary into a newly constructed 570m meandering realignment. These works will provide access to additional greywacke resources anticipated to sustain quarry operations for approximately 50 years and enable access to 80 years of supply.

The Site is located within a rural hill country landscape characterised by steep greywacke landforms, indigenous¹ vegetation, rural production activities, and existing quarrying, notably the Hunua Quarry. A small portion (6ha) of the quarry development area extends into the Ponga Road Outstanding Natural Landscape (ONL) overlay, and approximately 44.46ha of indigenous vegetation will be removed across the Site during the life of the quarry.

Landscape Effects

The Project results in long-term changes to landform and vegetation patterns within the ONL and Significant Ecological Areas. At the local scale, physical landscape effects are assessed as **high** (adverse) during operation before mitigation, reducing to **moderate to moderate high** (adverse) at completion after mitigation. At the broader landscape management area² scale, physical landscape effects are assessed as **low** (adverse) during operation before mitigation, reducing to **very low** (adverse) after mitigation.

The landscape character effects at the local level are assessed as **moderate-high** (adverse) during operation before mitigation, reducing to **moderate** (adverse) at completion (after mitigation). At the broader landscape, landscape character effects are assessed as **low** (adverse) during operation before mitigation, reducing to **very low** (adverse) at completion (after mitigation).

Localised effects on the ONL are assessed as **moderate** (adverse) during operation before mitigation, reducing to **low–moderate** (adverse) at completion after mitigation. At the broader ONL level, the effects are

¹ For clarity, this assessment uses the term '*native*' to describe the proposed mitigation planting, while '*indigenous*' refers specifically to species that originate from, and are characteristic of, a particular locality or ecological district, including the existing indigenous vegetation within the identified Significant Ecological Areas and the Outstanding Natural Landscape.

² Refer to Figure 2, Appendix 4.

considered to be **low-moderate (adverse)** during operation before mitigation, reducing to **low** (adverse) at completion after mitigation.

Natural Character Effects

The Mangapū Stream Tributary realignment and removal of several watercourses and natural inland wetlands will result in **high** adverse effects on natural character within the affected reach due to the loss of existing 'high to very high' natural character. These effects reduce over time as the realigned channel naturalises, with long-term effects assessed as **moderate** (adverse) at the tributary scale and **low-moderate** (adverse) reducing to **very low** (adverse) at the broader Mangapū Stream scale.

Visual Effects

Visual effects vary across different viewing audiences. The most noticeable effects occur for private properties located to the south and west of the Site, where quarry faces will broaden in scale and become more visible during Stages 7–8. Visual effects from private locations range from **neutral** to **moderate-high** (adverse) during operation before mitigation, progressively reducing as rehabilitation and mitigation planting matures on the upper quarry benches.

Public locations generally experience **low** to **moderate** (adverse) visual effects during operation before mitigation, reducing to **very low** (adverse) to **low-moderate** (adverse) at completion after mitigation.

Landscape Mitigation and Rehabilitation

A suite of measures is proposed, including:

- Staged riparian and native stream corridor planting along the realigned Mangapū Stream Tributary including native revegetation of the benches under the Mangapū Stream Tributary Realignment Management Plan;
- Native re-vegetation across neighbouring offset sites in advance of vegetation clearing within the quarry development area;
- Progressive bench and OBDA rehabilitation under the Landscape Rehabilitation Strategy and Management Plan; and
- Off-site mitigation planting offered to residents who are assessed as experiencing potential **moderate-high** adverse visual effects.

These measures collectively will reduce long-term landscape, natural character, and visual effects, supporting eventual reintegration of modified landforms and vegetation patterns into the surrounding rural hill country setting.

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1.0 Introduction

Winstone Aggregates (“**Winstone**”), a division of Fletcher Concrete and Infrastructure Limited, has engaged Boffa Miskell Limited (“**BML**”) to assess the potential landscape, natural character and visual effects of the proposed development of Hunua Quarry at 489 Hunua Road, Hunua, Auckland.

Winstone is seeking approval of the project under the Fast-Track Approvals Act 2024 (FTAA). The Hunua Quarry Development is a Listed Project in Schedule 2 of the FTAA, reflecting its regional and national significance. The proposal is to expand the existing quarry to increase annual quarry production to a peak of approximately 5.4 million tonnes of aggregate, and to enable the continued extraction of aggregate for a further 80 years (“**the Project**”) or also referred to as the “**quarry development area**”. Through this approval process, Winstone propose to update the consent conditions and quarry management plans applying to the Site to incorporate the changes and enable greater operational efficiency.

Information on the preparation of this report and the assessments undertaken is provided in Section 2.0. The first part of this report describes the Project, its broader landscape setting, including relevant landscape values and the statutory context. The second part assesses the effects of the Project within this landscape context, identifying the nature and level of landscape, natural character, and visual effects.

1.1 The Site

The Hunua Quarry is located in South Auckland, approximately 5 kilometres (km) southeast of Papakura and 35km southeast of the Auckland Central Business District (“**CBD**”). The Hunua Quarry has been operating on ‘the Site’ since the 1920’s and produces greywacke rock and supplies a significant part of the Auckland region’s aggregate requirements, primarily for use in civil infrastructure such as roading and concrete. The Quarry is recognised as one of Auckland’s three most strategically important sources of aggregate. The location of the Site is illustrated in **Image 1** below.

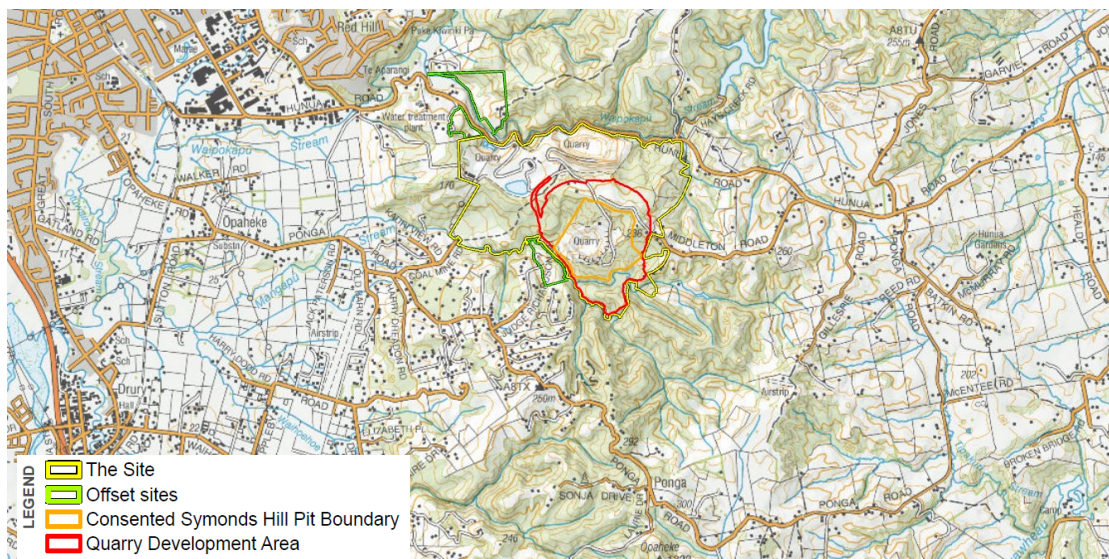


Image 1: The location of the Site.

Currently, material is extracted from the Symonds Hill Pit and processed on-site, with material with no value (referred to as overburden) being deposited on-site in the overburden disposal area (the previous Hunua Pit). Refer to **Image 2** below.

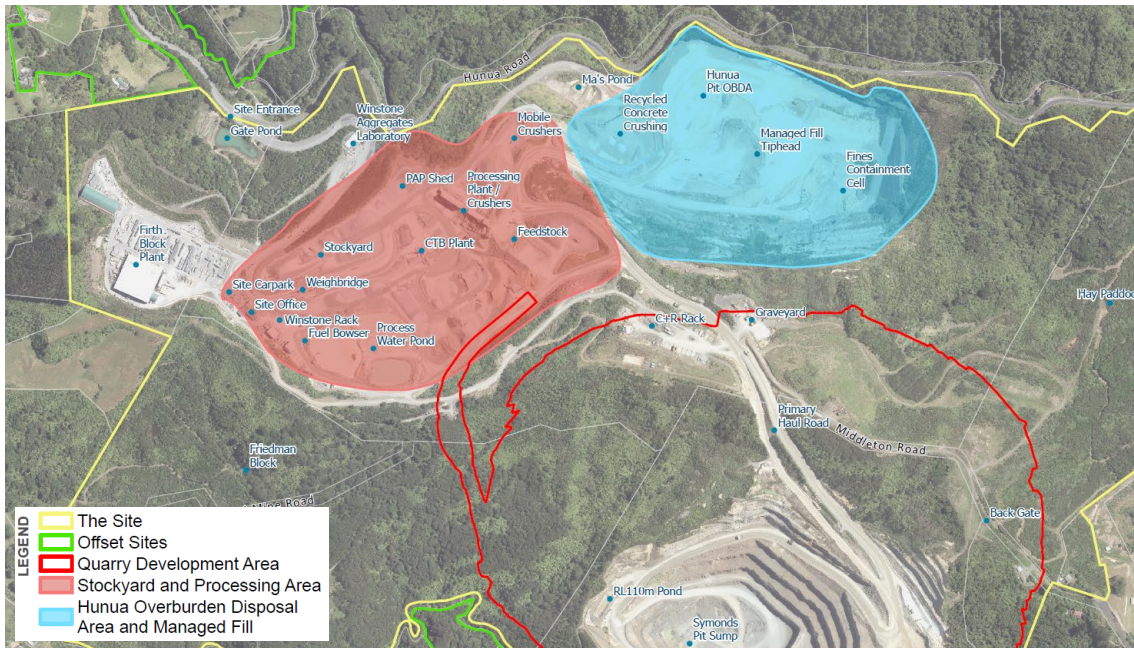


Image 2: Existing pit features on the Site.

To extend the Quarry’s operational life, Winstone proposes a 50ha expansion and to deepen the existing Symonds Hill Pit to access additional high-quality greywacke resource. Initial investigations confirm that the Site contains a substantial greywacke resource, sufficient to meet projected demand for up to 80 years, based on current rates of extraction and know site constraints. The Project is proposed to be undertaken in (8) stages, as shown in **Image 3** below.

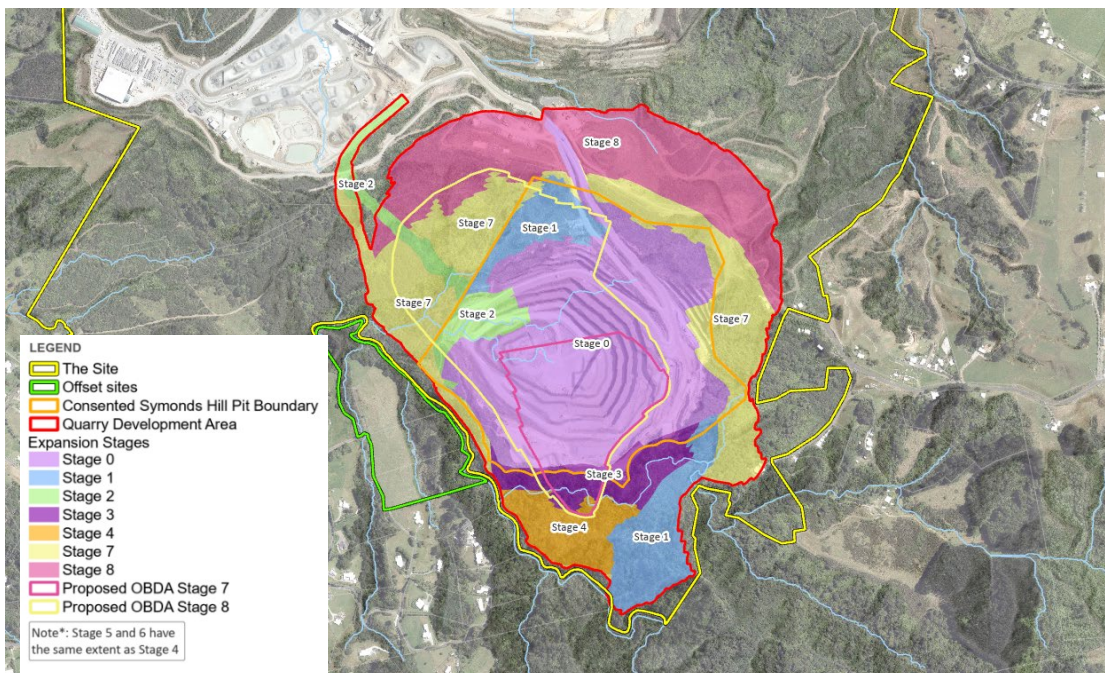


Image 3: The proposed staging of the quarry development area.

Under the provisions of the Auckland Unitary Plan (Operative in Part), the existing quarry is zoned Special Purpose – Quarry Zone (SPQZ), but the proposed pit extent will extend the

quarry into the adjoining Rural - Mixed Rural Zone. The quarry development area is also subject to the following overlays:

- Quarry Buffer Area (Chapter D27),
- Outstanding Natural Landscape (ONL) (Area 60 Ponga Road),
- Significant Ecological Areas (SEA) (SEA_T_5323 and SEA_T_7032),
- High Use Stream Management Area (HUSMA), and
- Natural Stream Management Area (NSMA).

The Site is also subject to the Council's Proposed Plan Change 120 Housing Intensification and Resilience (PC 120). This proposed plan change includes provisions to better manage development for natural hazards across the region. In the case of the Hunua Quarry, the Site and wider area are identified as flood plains. These provisions have immediate legal effect.

Copies of the relevant planning maps and overlays are set out in **Appendix B** of the **Assessment of Environmental Effects (AEE)** prepared by Boffa Miskell.

1.2 Purpose of the report

This technical report has been prepared to accompany the resource consent application under the Fast Track Approvals Act 2024 (FTAA). The purpose of this report is to:

- Assess the existing landscape (encompassing the existing physical, perceptual and associative characteristics and values), natural character attributes of the Mangapū Stream Tributary, within the relevant statutory context to determine the nature and level of potential landscape, natural character and visual effects as a result of the Project.

This report should be read together with the other technical assessments prepared in support of the application for substantive approvals.

1.3 Basis of Assessment

Our assessment is based on a combination of on and off-site fieldwork, project shaping and technical advice, visibility analysis, and photography from representative publicly accessible viewpoints. Conceptual landscape mitigation and rehabilitation plans³ have also been prepared to address adverse effects and to identify appropriate measures (where possible) to mitigate landscape, natural character, and visual effects.

In undertaking this assessment, the authors and peer reviewers have visited the wider Hunua Quarry and site of the Project to gain an understanding of its existing landscape attributes, values, and character, as well as the physical and visual relationships between the Project and the surrounding built and natural environment. Additionally, the visual catchment and viewing audiences within the wider area have been identified and taken into consideration.

1.4 Author and Code of Conduct Statement

The authors of this report are described below:

- **John Goodwin** is a Consulting Partner and Landscape Architect at Boffa Miskell with over 40 years of professional experience. He holds a Bachelor of Social Science from

³ Refer to Appendix 6, Landscape Rehabilitation Strategy and Management Plan.

the University of Waikato and a Diploma of Landscape Architecture from Lincoln University and is a Fellow of the New Zealand Institute of Landscape Architects (NZILA). John specialises in landscape, natural character, and visual effects assessments for major infrastructure, quarrying, and development projects across Aotearoa. With extensive experience in site selection, pit design, overburden management, and land rehabilitation, he has contributed to more than 50 aggregate extraction projects and has a deep understanding of Winstone's existing operations. John regularly provides expert evidence at Council, Environment Court, and Board of Inquiry hearings and is widely regarded as a strategic advisor and peer reviewer for complex multidisciplinary projects.

- **Amanda Anthony** is an Associate Principal Landscape Architect with over 16 years of experience across New Zealand, Australia, and the United States. She holds a Bachelor of Landscape Architecture from Louisiana State University and is a Registered Member of the NZILA as well as a member of the Resource Management Law Association. Amanda specialises in landscape and visual effects assessments, natural character evaluations, and the identification of Outstanding Natural Landscapes (ONLs). Her experience includes major infrastructure projects, solar farms, airport upgrades, and regional landscape studies. She regularly prepares evidence for Council hearings and has undertaken peer review work for multiple councils.

The report has been reviewed by:

- **Rhys Girvan** is a Senior Principal Landscape Planner and Landscape Planning Technical Lead at Boffa Miskell with more than 20 years of experience in New Zealand and the United Kingdom. He holds a Master of Landscape Architecture from Lincoln University and a Bachelor of Arts in Psychology from the University of Canterbury and is a Registered Landscape Architect with the NZILA. Rhys has extensive expertise in quarry development, broad-scale landscape characterisation, natural character assessments, landscape and visual effects assessments, and landscape capacity studies. His work spans a wide range of urban, rural and coastal environments, and he regularly provides expert evidence for Council and Environment Court hearings. Rhys is experienced in leading multidisciplinary teams, preparing landscape strategies, and developing mitigation approaches that support successful infrastructure and development proposals.

The respective curriculum vitae (CVs) are included in **Appendix 1**.

This report has been prepared and reviewed in accordance with the Environment Court's Code of Conduct for Expert Witnesses, contained in the Environment Court Practice Note 2023. Other than where it is stated that reliance is placed on the advice of another person, the authors confirm that the issues addressed in this report are within their area of expertise. The authors have not omitted consideration of any material facts known to them that might alter or detract from the opinions expressed.

1.5 Project background

Hunua Quarry has been operating for approximately 100 years and is recognised as one of Auckland's three most strategically important sources of aggregate. Boffa Miskell consultants (planning, ecology and landscape planning) have been involved in various aspects of the Hunua Quarry for over 24 years.

Boffa Miskell has provided ongoing landscape planning and visual assessment expertise for Hunua Quarry since 2002, including vegetation management strategies, planting proposals, landscape assessment and visual simulations for various consent applications. The team has

supported quarry development projects through detailed analysis, community liaison graphics, and expert evidence at council hearings.

2.0 Assessment Methodology

This assessment follows the concepts and principles outlined in *Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines*⁴. A full method is outlined in **Appendix 2** of this report. In summary, the effects ratings are based upon a seven-point scale which ranges from very low to very high. **Appendix 3** assesses visual effects from private locations within 500m, 1km, and beyond 1.5 km of the Site. **Appendix 4** provides a **Graphic Supplement** featuring maps, figures, Site photographs, visibility analysis, viewpoints, and visual simulations.

2.1 Assessment Process

The assessment involved the following tasks to inform an understanding of the existing landscape context, the visibility of the quarry development area, and the potential landscape, natural character, and visual effects arising from the Project.

2.1.1 Project Familiarisation, Desktop Review and Contextual Analysis

The initial steps of the assessment involved familiarisation with the proposed Symonds Hill Pit development, including the staging of works and relevant background documentation. This was supported by a desktop assessment of the Site, the Project, and the surrounding landscape context, including a review of relevant landscape, natural character, and visual information, as outlined below:

- Winstone Aggregates (2025). Hunua Quarry Design Plans, Stages 0–8, and associated Overburden Disposal Area (OBDA) design plans for the consented Hunua Pit (Stages 7 and 8).
- Te Ākitai Waiohua (2024). *Cultural Values Assessment for Hunua Quarry Long Term Development*, prepared for Winstone Aggregates.
- Tonkin & Taylor Ltd (2010). *Hunua Quarry: Symonds Hill Extraction Pit – Vegetation Management Plan*, prepared for Winstone Aggregates.
- Boffa Miskell Ltd (2009). *Auckland Regional Policy Statement Review: Landscape*, prepared for Auckland Regional Council (Report No. A08211_004).

2.1.2 Visibility Analysis and Modelling

A series of Zones of Theoretical Visibility (ZTV) analysis⁵ were prepared for Stages 0, 1+2, 6, 7, and 8, together with a 3D model to assist in understanding the potential visibility of the Project within the wider landscape.

⁴ *Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines*, Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022.

⁵ A GIS analysis tool using ground and above-ground topographical information combined with the elevation of project elements to determine areas in the context of a site that may obtain views of the project.

2.1.3 Site Visits and Fieldwork

A series of site visits were undertaken to understand the existing landscape, its visual context and the broader rural landscape surrounding the Site.

- A site visit was undertaken by Amanda Anthony, John Goodwin and Rhys Girvan (Landscape Architects of Boffa Miskell) on 15 December 2025 during clear and sunny weather conditions to understand the Site, including the proposed Mangapū Stream Tributary realignment location, its context and the nature of available views. The surrounding landscape was also visited to understand the receiving environment within which the quarry development area of Hunua Quarry would be visible, and photographs from within the Site and representative public viewpoints were taken. The location of these photographs and an annotated depiction from each location are included in the **Graphic Supplement (Appendix 4)**.
- John Goodwin attended a site visit with Auckland Council planners (Warwick Pascoe and Emma Chandler) and landscape peer reviewer Simon Cocker on 14 January 2026.
- A further site visit was undertaken by Amanda Anthony and John Goodwin with Simon Cocker on 28 January 2026 to review viewpoints and visual simulation locations.

2.1.4 The Project

A review of the project description was undertaken to identify and summarise the key components relevant to this landscape assessment.

2.1.5 Existing Environment

A description of the existing environment was prepared to inform the baseline context, including the landscape character and values of the wider Site and natural character attributes of the Mangapū Stream Tributary.

2.1.6 Statutory Context Review

A review of the relevant statutory provisions within the Fast Track Approvals Act 2024 (“**FTAA**”), the Resource Management Act 1991 (“**RMA**”) and the Auckland Unitary Plan (“**AUP**”) was undertaken to understand the policy and regulatory framework applicable to the Project and to inform the assessment of landscape, natural character, and visual effects.

2.1.7 Visual Simulations and Supporting Material

A suite of plans (**Appendix 4**) and a series of visual simulations (**Figures 44 – 56, Appendix 4**) were prepared to assist in analysing the potential effects of the Project.

Four viewpoint photographs were selected to represent the range of viewing audiences and to illustrate views from different distances and locations. The visual simulations have been prepared in accordance with the NZILA Best Practice Guideline for Visual Simulations⁶.

To provide an accurate understanding of the Project, the visual simulations illustrate the quarry at different points in time, both with and without mitigation, corresponding to the specific stages visible from each viewpoint. The locations and associated stages are outlined below. The

⁶ http://www.nzila.co.nz/media/53263/vissim_bpg102_lowfinal.pdf

existing view shows the Site as it is currently experienced. **Stage 2** represents conditions approximately five years after the commencement of the Project, **Stage 7** reflects conditions at around 35 years, and **Stage 8** illustrates the end of the quarry's operational life, anticipated to be approximately 50-80 years from commencement.

- a. **111 Middleton Road** (existing view, proposed Stages 7 and 8).
- b. **80 Judge Richardson Drive** (existing view, proposed Stages 2, 7 and 8).
- c. **571 Ponga Road** (existing view, proposed Stage 8).
- d. **East Street Playground** (existing view, proposed Stage 8).

The visual simulations also illustrate the likely growth rates of the proposed native vegetation either in the foreground or on the upper quarried benches. The vegetation illustrated in the visual simulations forms part of the landscape mitigation response. Refer to **Section 7.0** for further information.

2.1.8 Landscape Effects Assessment

An assessment of landscape, natural character and visual effects of the Project was undertaken, including a response to relevant statutory provisions. Refer to the Ecological Effects Assessment prepared by Boffa Miskell for further information regarding offset planting and the ecological effects of the Project.

2.1.9 Project Shaping: Mitigation and Rehabilitation

Landscape input was provided through participation in the multidisciplinary 'Stream Team' throughout the design process for the Mangapū Stream Tributary realignment. This input, alongside other technical experts, informed the development of the realigned channel to reflect equivalent natural characteristics and features, and guided the associated riparian and native mitigation planting strategy to ensure an appropriate landscape, natural character and ecological response.

As part of developing the mitigation and rehabilitation strategy, an iterative design process informed the shaping of cut faces, benches and broader landform modification. This process focused on achieving more naturalistic landform profiles, tying into the adjacent landform, and implementing native planting on the upper quarry benches and the overburden disposal areas within the quarry development area. A context-responsive native plant palette was developed to sustain the harsh quarry growing conditions, soften quarry faces (over time), and supplement the surrounding vegetated character.

Based on the above, recommended mitigation measures were developed to manage adverse effects on the ONL, visual effects on adjacent properties and wider viewing audiences, effects associated with the Mangapū Stream Tributary realignment works, and to support effective long-term landscape rehabilitation. Refer to **Section 7.0** of the report for further details.

2.2 Consultation

2.2.1 Mana Whenua Engagement

Three separate iwi engagement workshops were held in January/February 2026 with Ngāti Tamaoho, Te Ākitai Waiohū and Ngāti Te Ata to discuss the Mangapū Stream Tributary realignment. This consisted of a slide presentation to explain the existing environment, the

proposed realignment and the range of effects. Each of the hydrogeology, hydrology, ecology and landscape experts presented information on their relevant technical areas for discussion. During the workshops, methodologies and techniques for realigning the tributary were discussed along with mitigation and management mechanisms for restoration of the new stream corridor and rehabilitation of the landscape and ecology.

Ngāti Tamaoho provided the project team with a cultural induction on 28 January 2026 to support a deeper understanding of Auckland's cultural landscape and its local context. The induction emphasised the importance of recognising historical narratives, cultural associations, and tikanga connected to different places and spaces across the region. Particular attention was given to waterbodies and the role of mana whenua as kaitiaki (guardians) of the land, reinforcing how these relationships should inform respectful, culturally responsive, and well-considered design outcomes.

Further to this, the Cultural Values Assessment⁷ prepared by Te Ākitai Waiohūa was reviewed as part of the assessment process. Refer to the **Cultural Values and Consultation Summary Report** prepared by Wikaira Consulting Limited for a summary of the iwi workshops and the deed of settlements relevant to the Project.

3.0 The Project

The Hunua Quarry development seeks to expand and deepen the existing Symonds Hill Pit enabling sustainable extraction of additional greywacke resource, and the continuation of quarrying within Winstone's existing site for up to 80 years. The proposed development initially focuses on the southern and northwestern ends of the quarry complex. The new extraction footprint will initially expand the existing Symonds Hill Pit to the south and east, followed by areas to the north and west. These development works will occur entirely within Winstone-owned land and integrate with existing quarry infrastructure. Refer to **Figures 18 - 20, Appendix 4.**

The quarry will utilise the existing access from Hunua Road, although a right turning lane is proposed to improve the safe operation of the access for turning trucks and other road users. This also reflects the increase in truck volumes accessing the Site as production on the Site increases.

The quarry development area will cover an area of approximately 108ha, with a maximum depth of – (minus) 50 metres RL, enabling quarrying beyond that in later years to access further resource. Quarry development will use benches ranging from 10m – 15m in height and 9 – 20m in width. The resource comprises Waipapa Group greywacke, with an estimated total volume exceeding 225 million tonnes. Over the life of the quarry, anticipated to be around 80 years, approximately 24 million m³ of overburden will be removed, supporting a peak production rate of 5.4 million tonnes per annum.

The Project will necessitate the realignment of a tributary of Mangapū Stream to allow for the pit expansion. Refer to **Figure 21, Appendix 4.** This will include clearance of indigenous and exotic vegetation, overburden stripping and earthworks, stream realignment, followed by native revegetation within the new stream corridor. Ecological offset planting will also occur within the offset sites, and this will also achieve landscape mitigation and compensation for the removal of

⁷ Te Ākitai Waiohūa (2024). *Cultural Values Assessment for Hunua Quarry Long Term Development*, prepared for Winstone Aggregates.

an area of the ONL. Additional ecological offset planting and compensation works will also be undertaken in locations beyond the Site.

The Project will also utilise the current site access, along with the existing processing facilities, staff facilities and bores.

In summary, the key aspects of the proposed quarry development include:

- Diversion and reclamation of approximately 1,200m length of a tributary to Mangapū Stream to enable the expansion of the extraction footprint. This includes the construction of a temporary 7m wide bridge to enable access for the construction of the 570m meandering stream realignment channel.
- Draining and modification of up to 21 identified natural inland wetlands.
- Providing additional overburden capacity within the Site (from Stage 7), primarily by backfilling the Symonds Hill Pit.
- Construction of new sediment retention ponds, haul road, drainage networks and Mangapū Stream Tributary diversion integrated with the existing quarry systems.
- Increasing average daily traffic movements during both the AM and PM peak hours when the quarry is operating at peak capacity:
 - AM peak hour – 161 truck movements corresponding to approximately 80 entry and 80 exit truck movements; and
 - PM peak hour – 135 truck movements corresponding to approximately 68 entry and 68 exit truck movements.
- Removal of 48.61ha of indigenous vegetation, associated with the stripping of overburden, including within an SEA and ONL.
- Constructing the western haul road, including two culverts, to provide a more efficient connection between the pit and the processing yard as part of Stage 2. The haul road will then be removed during Stage 7, and a new haul road will be constructed.
- Amending the consented groundwater takes and discharges to Mangapū Stream.
- Providing for some in-pit crushing to enable a greater volume and more efficient processing of aggregate.
- Providing for the placement of a greater volume of overburden within the Site.
- Implementing progressive rehabilitation (where practicable), ecological offsetting, landscape mitigation, compensation and stream enhancement measures throughout quarry development. The expansion necessitating the Mangapū Stream Tributary diversion is the first stage of the Project, and the ecological offsetting needed for this will occur in the early phases.
- Enable quarry development below RL-50m as part of the long-term development of the Symonds Hill Pit, recognising that this deeper resource would only be accessed once the earlier stages of the pit have been quarried. The final Life of Quarry Strategy will be confirmed prior to any excavation below RL-50m and will detail further investigations necessary to ensure that adverse environmental effects associated with later-stage extraction and/or rehabilitation are appropriately identified, assessed, and managed (including obtaining any regional consents required).

Winstone is seeking resource consent under the FTAA for both district and regional activities to enable the development of the Symonds Hill Pit. The land use consents (earthworks, vegetation clearance and the disposal of overburden) are being sought in perpetuity (unlimited duration), and a 35-year duration on all water take and use and all discharge permits. Winstone are also seeking a Wildlife Act Authority, an Archaeological Authority and a Complex Freshwater Fisheries Activity Authority.

3.1 Staging and Progression

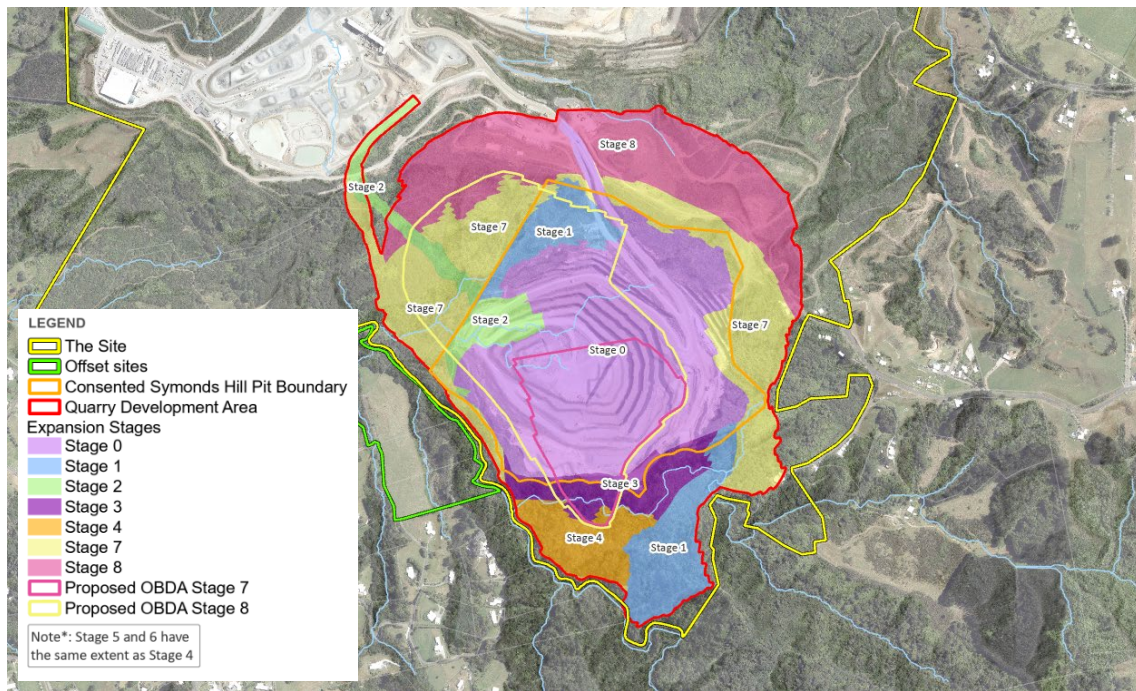


Image 4: Proposed quarry development stages.

The Project is planned to progress through eight indicative stages for a period of up to 80 years (subject to market demand), allowing continuous production while concurrently implementing landscape mitigation and rehabilitation. Refer to **Image 4** above and **Figures 18 - 21, Appendix 4**. The duration of each stage will vary depending on demand and operational conditions.

The anticipated timeframes for each stage have been outlined in **Table 1** below; however, these are indicative only, and no requirements or conditions are proposed to be tied to specific extraction volumes and time periods. Earthwork volumes, vegetation clearance, and offsetting or compensation obligations will be linked to the relevant stage. The conditions for each consent (including land use, vegetation clearance, overburden disposal, water takes, and discharges) will contain conditions that relate to enabling works (that will fall away once these works are complete) and those that relate to continued quarrying.

Table 1: Proposed Staging of the Quarry Development

Quarry Stage	Description of proposed staged quarry works	Indicative Timeframe
Stage 1	Involves enabling works, including the realignment of the Mangapū Stream Tributary, a process anticipated to take approximately four years and associated construction of a temporary bridge (to be removed at the end of Stage 1 works). Concurrently, an initial stripping campaign and vegetation clearance will be undertaken in the northwestern area of the quarry development area to prepare for future extraction activities. During this stage, existing consented quarrying operations will continue as usual, occurring simultaneously with the tributary realignment works.	Years 1 - 4

Stage 2	<p>Focuses on completing the enabling works, including realignment of the Mangapū Stream Tributary, ensuring the watercourse is fully established and stabilised, along with native revegetation of quarried benches and stream margins, and associated mitigation planting across the offset sites. The temporary bridge for the stream realignment will be removed.</p> <p>Following this, construction of the new 877m long western haul road will be undertaken to facilitate efficient access and material transport between the Site and the quarry development area. Additionally, the northwestern area will be progressively cut down to a level of 105 RL, preparing the ground for subsequent extraction activities.</p>	Year 5
Stage 3	Involves extending the quarry south from the existing pit crest toward the Mangapū Stream Tributary realignment while progressively cutting down to a level 120 RL.	Year 6
Stage 4	Involves extending the quarry to the west of the stream realignment and toward the southern boundary.	Years 7 – up to 80
Stage 5	Involves progressive extraction of the quarry to the southern boundary.	
Stage 6	Involves expanding the pit in an anticlockwise direction, extending extraction to the south and northwest while deepening the pit.	
Stage 7	Involves expanding and deepening the quarry to the west, north and east while also realigning the western haul road further to the west. Revegetation of southern benches at and above 90 RL will be undertaken where possible, and the southern side of the pit will be backfilled with overburden to a level of 20 RL. Where possible, the overburden will be hydroseeded.	
Stage 8	Involves expanding and deepening the quarry to the northwest and north in an anticlockwise direction. A portion of the northeastern ridgeline and hillslopes will be lowered in elevation by up to 15m. The western side of the pit will be backfilled with overburden to a level of 50 RL and progressively hydroseeded. Benches at and above 90 RL will be progressively revegetated in native vegetation.	

3.2 Key Landscape Considerations

The principal landscape matters requiring consideration in relation to the Project are outlined below and reflect the key components of the project that have the potential to alter landscape character and values, natural character, and visual amenity.

- a. **Mangapū Stream Tributary realignment:** Approximately 1,200m of the existing Mangapū Stream Tributary will be removed, and a new 570m meandering alignment will be constructed as part of Stage 1 to enable the Project. Construction of the new stream

alignment will require a temporary bridge within the ONL, which is anticipated to be in place for approximately five years to provide access to the construction area.

- b. **Indigenous vegetation clearance within the ONL and adjacent areas within SEAs:** Approximately **44.46** ha of indigenous vegetation will be progressively removed across the quarry development area over the life of the quarry. A detailed breakdown is provided in **Table 2** below, and further information is available in the Ecological Effects Assessment prepared by Boffa Miskell.

Table 2: Loss of vegetation at each stage of the Project									
Vegetation Types	Stages								
	1	2	3	4	5	6	7	8	Total (ha)
Veg 1: Tree-fermland with nīkau, emergent pūriri & broadleaf scrub	1.46	0.54	0.50	0.23			4.60	2.81	10.14
Veg 2: Kānuka forest with emergent broadleaves & podocarps	0.79	0.95	0.06	0.67			5.19	0.72	8.38
Veg 3: Tawa-taraire forest with mature kānuka	3.73		3.06	3.35			4.73	0.06	14.93
Veg 4: Native planting / weedy scrub mix	0.66	0.25					1.85	5.95	8.71
Veg 5: Kānuka / manuka scrub	0.58	0.07	0.15				0.38	0.86	2.04
Veg 6: Kauri, podocarp, broadleaf forest		0.02					0.24		0.26
Veg 7: Exotic scrub							0.15	4.0	4.15
Total (ha)	7.22	1.83	3.77	4.25			17.14	14.4	48.61

- c. **Landform modification within the ONL:** Several notable ridges and gully systems will be removed or altered within the Project footprint, notably within the ONL as part of Stage 1.
- d. **Western Haul Road construction:** A new western haul road will be constructed, requiring earthworks, culverts, and batter stabilisation as part of Stage 2. It will then be realigned westward as part of Stage 7 as this area is progressively quarried.
- e. **Overburden Disposal Areas:** Expansion of OBDA capacity is proposed to accommodate 24 million m³ of overburden over the life of the quarry. Rehabilitation of the Hunua Pit OBDA will involve landform contouring and native planting to restore landscape character. The Symonds Hill Pit OBDA will be progressively hydroseeded as areas become available.

3.3 Landscape Response

In response to the key landscape considerations listed above and the staged nature of the Project, a range of mitigation measures and rehabilitation strategies have been developed throughout the project shaping phase to minimise adverse effects (where possible) through appropriate mitigation measures. Refer to **Section 7.0** for further recommendations.

3.3.1 Mangapū Stream Tributary Realignment

In response to the realignment of the Mangapū Stream Tributary, the proposed stream channel will incorporate riparian planting, a naturalised channel form, and native vegetation on the quarried benches above, helping to maintain both ecological and landscape integrity. Refer to **Image 5** below. A **Mangapū Stream Tributary Realignment Management Plan** has been prepared, which outlines the proposed methodology for constructing the realigned tributary, including staging, and the timing and approach to native planting and establishment. Refer to **Appendix B12.11.7** of the Substantive Application.

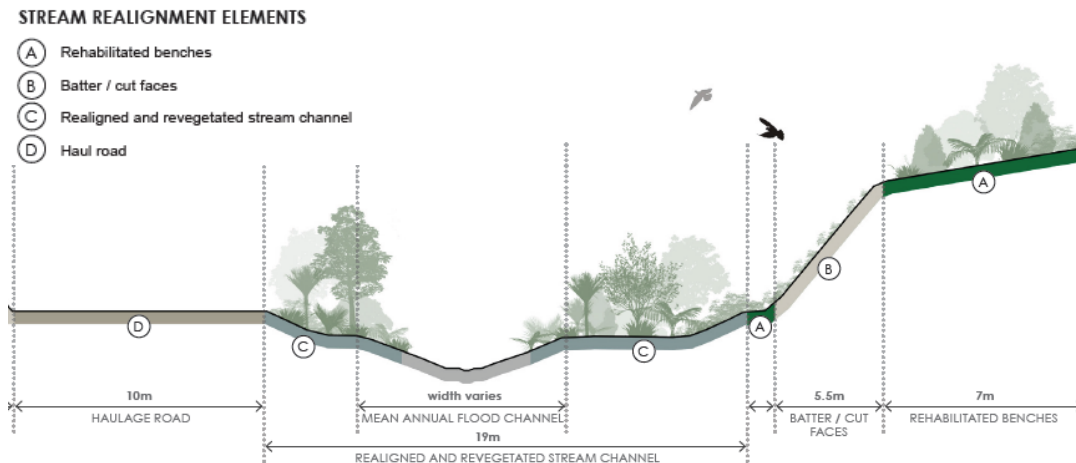


Image 5: Typical section of the realigned Mangapū Stream Tributary at completion of Stage 2.

3.3.2 Native Revegetation across the Offset Sites

In response to the approximately 6ha of indigenous vegetation that will be removed within the ONL as part of Stage 1, approximately **18.1ha** of landscape mitigation and ecology offset planting on the offset sites will be implemented in advance of any vegetation clearance. Refer to **Figure 22, Appendix 4** for the Landscape Mitigation Plan, which identifies the areas on the offset sites that will be revegetated with native species reflective of those currently present within the ONL and adjacent SEA. Refer to **Appendix 6** for detailed rehabilitation plans.

3.3.3 Progressive Rehabilitation of Symonds Hill Pit

In response to the Project, progressive rehabilitation of the exposed quarry faces is integral to mitigating landscape, natural character, and visual effects, while also restoring landscape values over the life of the quarry. Rehabilitation will occur in four phases aligned with the sequencing of quarry operations.

In summary, Phases 1 to 4 comprise the active rehabilitation programme for the quarry and involve the deliberate establishment of native vegetation over time. Refer to **Image 6** below. These phases focus on progressively rehabilitating upper quarry benches, haul road batters, riparian areas, and associated OBDA landforms as they become available.

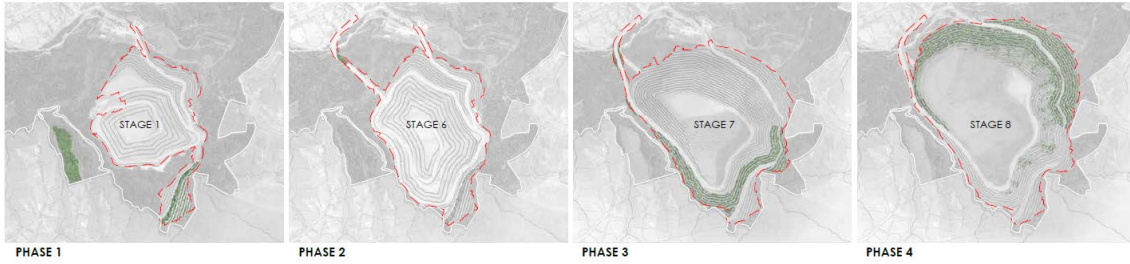


Image 6: Phases of rehabilitation.

a. **Phase 1** (Stages 1 and 2)

Phase 1 of the landscape rehabilitation focuses on early visual integration, landscape mitigation, and riparian restoration. This phase includes native revegetation of the upper quarry benches above the Mangapū Stream Tributary realignment to soften quarry landforms and improve visual integration with the surrounding landscape. Native planting is also undertaken on 118 Judge Richardson Drive and across the other offset sites to mitigate the loss of indigenous vegetation within the ONL. In parallel, riparian and native planting is to be established along the realigned Mangapū Stream Tributary to create a functioning riparian corridor, enhance natural character and ecological values, and stabilise stream margins, contributing to long-term landscape and natural character restoration outcomes.

b. **Phase 2** (Stage 6)

Phase 2 of the landscape rehabilitation continues the progressive restoration of quarry areas as they become available. This phase involves native revegetation along the realigned western haul road. Planting in these locations is intended to soften the appearance of quarry infrastructure, reduce the vegetation gap of the haul road, and extend native vegetation cover across disturbed landforms, supporting longer-term visual coherence with adjoining rural landscapes.

c. **Phase 3** (Stage 7)

Phase 3 marks the commencement of rehabilitation on quarry benches (aside from the slopes above Mangapū Stream Tributary) and the Hunua Pit OBDA. From this stage, native revegetation is initiated on the upper quarry benches, where practicable, on the southern slopes above 90 RL and the southeastern face of the Symonds Hill Pit OBDA will be hydroseeded (towards the end of Stage 7). Stage 7 also includes revegetation of the cut faces associated with the realigned western haul road. These works are intended to stabilise exposed landforms, soften the appearance of batter slopes, and begin the progressive reestablishment of native vegetation to improve long-term visual and landscape integration.

d. **Phase 4** (Stage 8)

Phase 4 of the rehabilitation programme involves more extensive bench and landform restoration as quarrying progresses. This phase includes native revegetation of the upper quarry benches from 90 RL and above, together with hydroseeding across the remainder of the Symonds Hill Pit OBDA. Rehabilitation planting will be progressively implemented on the benches in an anticlockwise direction to align with the sequencing of quarry operations, ensuring that disturbed areas are stabilised and revegetated as they become available. These works are intended to progressively soften quarry landforms, reestablish indigenous vegetation cover, and support long-term landscape and ecological integration.

e. **Passive rehabilitation**

Passive rehabilitation will be undertaken on the remaining quarry bench slopes below 90 RL. This approach will rely on natural regeneration or hydroseeding of native seeds, supported by nearby native planting that provides seed sources. Exotic and weedy species may also establish in these areas; however, these will be actively managed and removed. Over time, passive rehabilitation is expected to contribute to slope stabilisation and to the gradual integration of the lower bench slopes into the surrounding landscape.

Further detail is provided in **Appendix 6: Landscape Rehabilitation Strategy and Management Plan (LRSMP)**, along with the associated rehabilitation plans and graphics.

4.0 Existing Landscape

For the purposes of this assessment, the following definitions of Landscape and Natural Character have been adopted from *Te Tangi a te Manu*.

***Landscape** embodies the relationship between people and place. It is the character of an area, how the area is experienced and perceived, and the meanings associated with it.*⁸

Natural character has been interpreted as:

- *The naturalness or degree of modification of an area.*
- *An area's distinct combination of natural characteristics and qualities.*

The Guidelines⁹ adopt the interpretation that natural character is a type of character – the distinct combination of an area's natural characteristics and qualities, and that naturalness is an attribute of that natural character.

'Natural character is the distinct combination of an area's natural characteristics and qualities, including degree of naturalness.'

The following sections describe the existing landscape at a range of scales. The broader landscape context focuses first on the Landscape Management Area, Ararimu Greywacke Dominant Hill Country, as identified in the Auckland Regional Policy Statement Review¹⁰ within which the Hunua Quarry is located. This is followed by a description of the more localised landscape context surrounding the Hunua Quarry, before narrowing in on the Hunua Quarry (the Site) and the quarry development area.

4.1 Broader Landscape Context

The Hunua Quarry is located approximately 5km southeast of Papakura and 35km southeast of Auckland's CBD. Notable landscape features in the broader area include Manukau Harbour to the west and the Hunua Ranges to the east. Within the more immediate site surrounds lie the suburb of Papakura to the northwest, the settlement of Drury to the southwest, the large New Zealand Defence Force land to the north and smaller rural and rural residential properties

⁸ This definition focuses on the relationship between people and place (one of the two strands of meaning of 'landscape') and describing the three dimensions (physical, associative and perceptual) in ordinary terms.

⁹ *Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines*, page 205.

¹⁰ Boffa Miskell (2009) Auckland Regional Policy Statement Review: Landscape, pages 106 – 108.

around the Site. Refer to **Figures 1 - 6, Appendix 4**. The Site partly sits within an established quarry zone where the landscape has been progressively modified through ongoing extraction activities, forming a distinctive modified landform within the wider setting.

The landscapes which make up the broader Auckland Region were previously assessed as part of the Auckland Regional Policy Statement Review: Landscape in 2009¹¹. In this study, the Site is located in the Ararimu Greywacke Dominant Hill Country Landscape Management Area. Refer to **Figure 2, Appendix 4**, for the extent of the landscape types and management areas. A broad description of the landscape is summarised below.

The area is defined by a dissected western hill ridge system running north–south, with elevations typically above 100m and rising to 329m at Opaheke Summit. These hills feature steep and very steep gully systems draining both west and east. Broad inland valleys such as Hunua, Mangawheau, and Paparimu exhibit flat to rolling terrain, forming open elevated hill-country landscapes. Geology is mixed, with greywacke dominating the west, Waitemata strata in the northwest, and alluvial deposits in eastern valleys. Clay soils prevail in the western hills, while more productive granular soils occur in the eastern valleys.

Pre-settlement vegetation comprised Kauri/tairaire-kohekohe-tawa forest in the northwest, Rimu/tawa-kamahi forest on elevated ridges, and Kahikatea-pukatea-tawa forest in inland valleys. Today, inland valleys and southern ridges are largely pastoral, interspersed with small indigenous vegetation patches on steeper slopes and gullies. Production forestry is fragmented, occurring on elevated and steeper areas south of Hunua and Ararimu, often intermixed with indigenous forest remnants. Larger contiguous indigenous forest and shrubland areas (100–900ha) dominate the western hills, alongside small pockets of exotic forestry. Northern lower hills feature more shrubland and frequent production forestry patches.

Settlement patterns include suburban areas of Papakura and Drury with dispersed rural residential development along ridge-top roads and moderate slopes. Subdivision is common on pastoral slopes within vegetated gullies, particularly along Ponga Road and Drury Hills Road, as well as their adjoining side roads such as Coal Mine Road and Judge Richardson Drive. Rural settlement is concentrated at Hunua, with dispersed housing in pastoral production landscapes.

The landscape character reflects steep bush-covered hill country transitioning to pastoral valleys, rural residential areas, and working landscapes of farming and quarrying. Hydrology is shaped by streams draining west to Manukau Harbour and east to the Wairoa River, with headwaters often in indigenous cover but most valleys dominated by pastoral land.

Below are the key landscape management issues identified for the Ararimu Greywacke Dominant Hill Country in the Regional Landscape Study prepared in 2009.

Ararimu Greywacke Dominant Hill Country is characterised by productive working landscapes and areas of isolated indigenous vegetation. Landscape management issues relate to ongoing farm management, the management of open pastoral landscapes and the management of future settlement patterns and development.

- *Minimum lot rural residential subdivision on moderately sloping inland valley production valley land – loss of productive land capacity.*
- *Enhancement and protection of larger patches of indigenous forest and shrubland vegetation.*

¹¹ Ibid.

- *Strengthening and enhancement of natural landscape patterns throughout coarse grained production landscapes.*
- *Quarrying activities on western hill slopes.*
- *Riparian management of upper catchment valley areas.*

4.2 Local Landscape Context

The local landscape context surrounding the existing Hunua Quarry is characterised by established rural residential subdivisions, rural land uses, and extensive areas of indigenous vegetation, all of which contribute to a distinct rural landscape character and amenity.

Hunua Quarry itself is a long-established quarry located within a folded rural landscape characterised by rolling to steep hills (refer to **Figure 3**), regenerating native vegetation, and pastoral land uses (refer to **Figure 4**). The quarry occupies a substantial footprint and is recognised as one of Auckland’s most strategically important sources of aggregate. It forms a prominent and defining element within this wider rural landscape; its partially visible benches, access routes, and modified landforms emerge intermittently between folds of the terrain.

The immediate area surrounding the Site contains a mix of rural zones, including Mixed Rural, Rural Production, and Rural Countryside Living. The quarry is primarily located within the Special Purpose – Quarry Zone, with the quarry development area extending into the Mixed Rural Zone to the south-east and south of the existing Symonds Hill Pit (refer to **Figure 5**).

Large tracts of vegetated land surrounding the Site are identified as SEAs and an ONL overlay is located to the south and south-east, with a small portion extending into the southern area of the Site (refer to **Figure 6**).

To the north of the Site (across Hunua Road) lies extensive indigenous forest within Crown-owned land used by the New Zealand Defence Force. To the east, rural lifestyle properties are located along Middleton Road (refer to **Figure 7**). Beyond these properties, the landform falls away from the quarry into an inland valley accessed via Hunua Road and Jones Road, where intervisibility with the quarry is limited. The southern context is defined by steep ridge systems and incised gullies containing stream corridors located within the ONL.

To the south-west, beyond the Mangapū Stream, enclaves of rural lifestyle development have established across the folded foothills along Ponga Road. This includes properties along Judge Richardson Drive and associated private lanes, frequently situated along hill ridgelines. Several dwellings in this area have views toward the existing quarry operation, though these are often filtered or framed by mature vegetation, which helps retain a peri-rural outlook.

To the west of Hunua Quarry, between the quarry and State Highway 1, the landscape is transitioning from traditional rural uses and large rural lifestyle blocks to new residential development in Drury, with the established suburbs of Red Hills and Papakura located further to the northwest. In addition to these growing residential areas, industrial activities, comprising both light and heavy industry, are also present to the northwest of the quarry.

4.3 The Hunua Quarry (the Site)

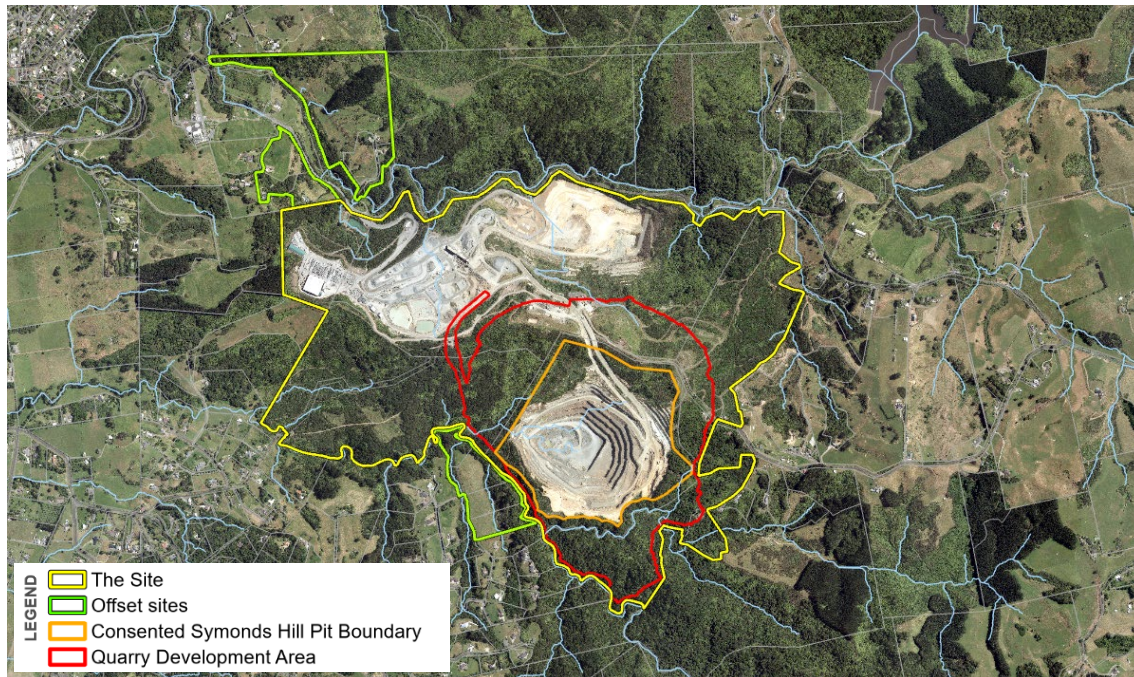


Image 7: The existing Hunua Quarry (the Site) and proposed quarry development area.

The existing Hunua Quarry is located at 489 Hunua Road, south of Waipokapū (Hays) Stream and Hunua Road. It is predominantly surrounded by established indigenous vegetation and hill ridge systems with a rural lifestyle subdivision located to the south-west. Refer to **Image 7** above. The Hunua Quarry is primarily located within the Special Purpose – Quarry Zone, with the quarry development area extending into the Mixed Rural Zone to the south-east and south of the existing Symonds Hill Pit. The Site also contains several areas identified as Significant Ecological Areas, and the southern extent has an ONL overlay. Refer to **Figures 5 - 6, Appendix 4.**

The Site includes the main Hunua Quarry and its operations. The offset sites include properties located north of Hunua Road near the entrance to the quarry, northwest of the Site (south of Hunua Road) and properties west of Symonds Hill Pit located on Judge Richardson Drive. Refer to **Figure 7, Appendix 4.**

Hunua Quarry operates as a vertically integrated aggregate facility that combines multiple functional areas within a single site. At its core is the Symonds Hill Pit, a deepening and expanding extraction zone characterised by stepped benches and exposed rock faces, creating a notable modification in the landscape. Supporting this is the processing area to the north, which includes a three-stage crushing and screening plant, extensive stockpiles, and load-out facilities, all defined by industrial structures and machinery and areas that have been progressively rehabilitated over time. A network of haul roads and internal accessways links the extraction zones with processing facilities and overburden disposal areas (OBDA) within the old Hunua Pit. The quarry also incorporates designated overburden and managed fill areas, with consent permitting the placement of approximately 2 million m³ of overburden and 3 million m³ of managed fill within Hunua Pit, up to RL 170m, alongside progressive rehabilitation measures. The previously quarried Hunua Pit now functions as the OBDA for the consented Symonds Hill Pit, and in later stages of the development, Symonds Hill Pit will also be backfilled with overburden.

The existing quarry operations incorporate comprehensive water management infrastructure, including sediment retention ponds, drainage channels, and water bores, integrated into its

stormwater and environmental management system. Clustered near the processing zone are administrative and maintenance facilities, such as offices, weighbridge, workshops, and service areas. Essential utilities, including an 11 kV power supply, fuel storage, and water pipelines, support continuous operations.

4.4 The Quarry Development Area

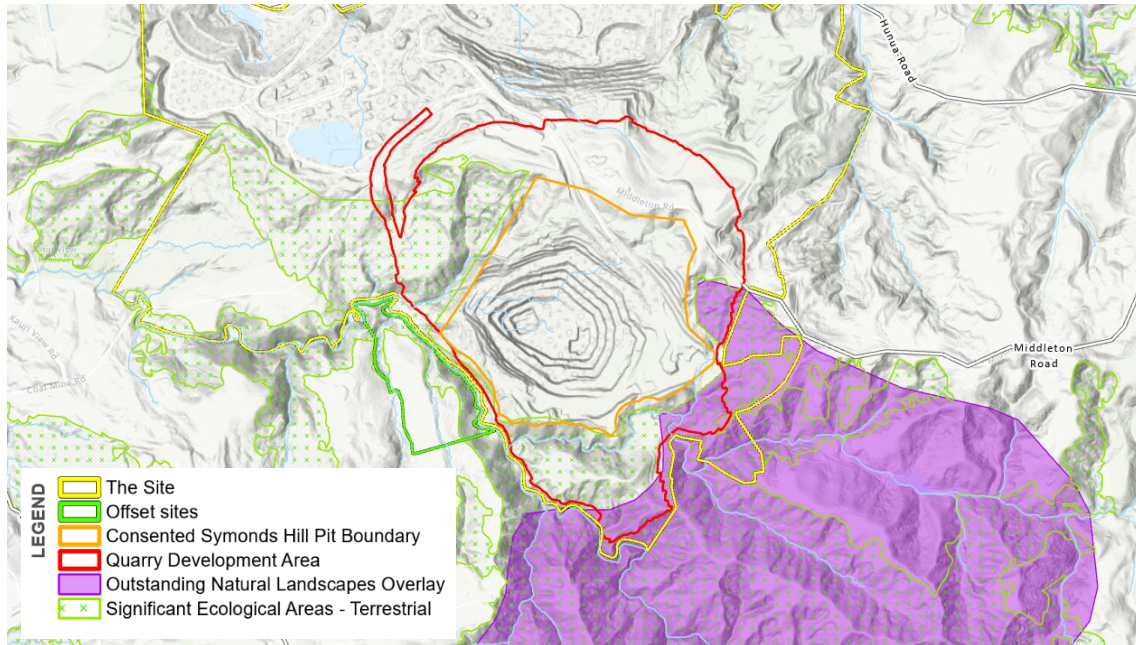


Image 8: The Quarry Development Area (outlined in red).

The quarry development area has a footprint of approximately 108ha, and centres around the consented Symonds Hill Pit (approximately 42ha in area outlined in orange above), which is an active extraction area where greywacke rock is quarried for use in construction, roading, and infrastructure projects (refer to **Image 8** above). Quarrying operations follow a staged process consisting of vegetation clearance and overburden removal and placement, which precede controlled blasting and excavation of the rock resource. Material is then transported via internal haul roads to the processing area for crushing, screening, and grading into a range of aggregate products prior to being transported for use.

Over the past 100 years, quarrying activities have significantly modified most of the Hunua Quarry and Symonds Hill natural landforms. Refer to **Figure 8, Appendix 4**. However, several intact and notable vegetated ridges and gullies remain in the southern extent of the quarry development area, where the terrain is relatively steep, ranging from 204 metres above sea level (masl) at its highest point to 105masl at the junction of the Mangapū Stream and its tributary. The highest point within the quarry development area reaches 235masl near the eastern boundary adjoining Middleton Road. A tributary of the Mangapū Stream traverses the southern portion of the quarry development area, winding through a deeply incised stream corridor, while the main arm of the Mangapū Stream runs along the western boundary and flows westward towards Drury and the upper reaches of the Pahurehure Inlet and Manukau Harbour.

The land cover of the quarry development area varies from an open quarry pit with exposed benched rock faces to extensive indigenous vegetation cover, which is recognised as a Significant Ecological Area. Vegetation cover varies across the quarry development area, transitioning from north to south. In the northern area, it is dominated by kauri, podocarp, and broadleaved forest, interspersed with tree ferns, mature kānuka, and early successional

broadleaf species. In the southern area, indigenous vegetation primarily comprises taraire, tawa, and podocarp forest.

As identified above, a small portion of the quarry development area (approximately 6ha) has an ONL overlay relating to an extensive sequence of mature and regenerating indigenous forest, combined with strongly articulated stream corridors that reinforce the natural qualities of this rolling to dissected hill country landscape. To show the nature of the existing Symonds Hill Pit and quarry development area, a series of Site Photographs were taken from within the quarry development area and are included in the Graphic Supplement as **Site Photographs 1 – 12, refer to Figures 8 - 14, Appendix 4.**

Although the quarry development area is relatively modified as a result of ongoing extractive activities, its wider context within a working rural landscape, together with its proximity to extensive indigenous forest, establishes a pronounced transition between the operational quarry environment and the surrounding natural landscape patterns to the south.

4.5 Landscape Values

The southern extent of the Site is subject to the Ponga Road (ID 60) ONL overlay. Of the overall 394ha Ponga Road ONL, 6ha or approximately 1.5% is located within the quarry development area, refer to **Image 9** below. It is the southern and south-eastern portions of the quarry development area that extend into the Ponga Road ONL, which relates to an extensive sequence of mature and regenerating indigenous forest, combined with strongly articulated stream corridors that reinforce the natural qualities of this rolling to dissected hill country landscape. Refer to **Figure 6, Appendix 4.**

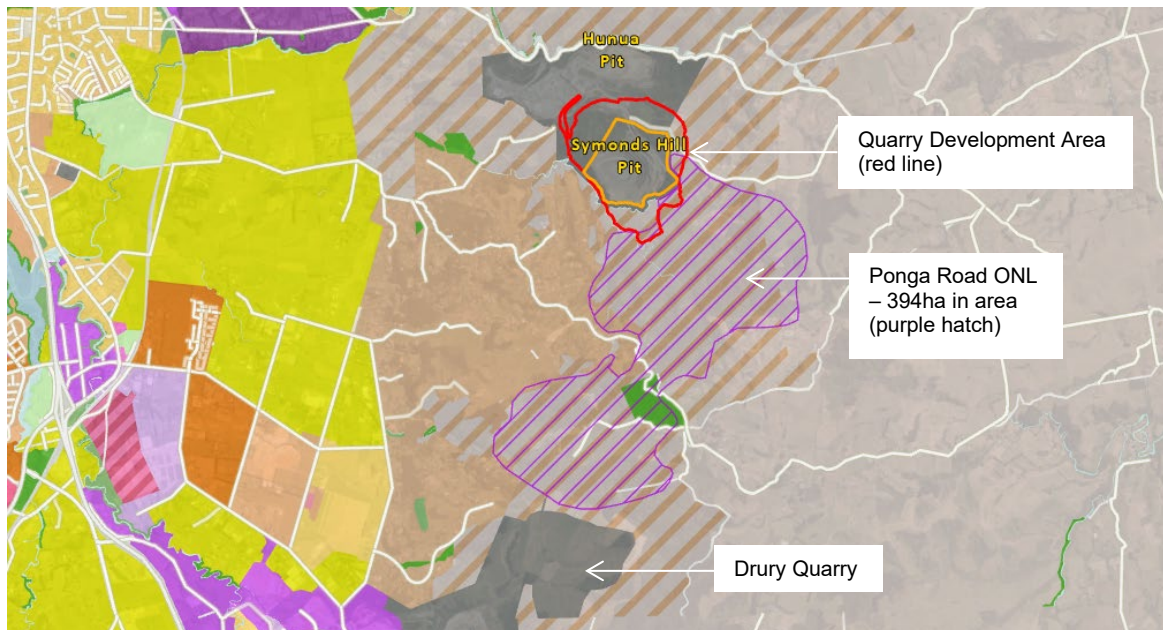


Image 9: Ponga Road ONL extent and AUP zoning.

The values that underpin the wider 394ha Ponga Road ONL (ID 60), as identified in the AUP¹², are outlined below.

¹² Schedule 7 Outstanding Natural Landscapes Overlay Schedule, AUP – Operative in Part.

Table 3: Ponga Road (ID 60) ONL Values

ONL Description	Landscape type, Nature and Description	Hill country Cultured nature/wild nature (hill country) Extensive sequence of mature and regenerating indigenous forest, combined with strongly articulated stream corridors that reinforce the natural qualities of this rolling to dissected hill country landscape.
	Elements, patterns, processes	Interplay of indigenous forest remnants and pasture, reinforcing topography.
Natural Science Factors	Geological Topographical	High Strong elevated relief as part of wider hill sequence.
	Ecological	High Extensive areas of indigenous forest, shrubland and stream corridors.
Aesthetic Values	Memorability	High Very marked naturalness values and strong interplay of underlying topography with areas of bush and more peripheral pockets of pasture.
	Naturalness	High Strong sense of naturalness evident in the forest and shrubland areas, together with the terrain
Expressiveness		High Very apparent greywacke hill landform overlain with shrubland/ forest/ stream corridor sequence.

At a more **local level and Site scale**, the following values relating to the ONL have been identified. Refer to **Figure 6, Appendix 4**, for a mapped extent of where the quarry development area and ONL overlap.

Table 4: Site Scale ONL Values

Physical	<ul style="list-style-type: none"> The Site exhibits strong, elevated greywacke hill country with a rolling to steep landform pattern, providing coherence through its ridge to gully sequences and steep faces. The extensive indigenous forest is recognised as a Significant Ecological Area (SEA_T_5323) consisting of mature taraire, tawa and podocarp forest. The strongly articulated stream corridors of the Mangapū Tributaries occupy gullies, reinforcing the natural grain of the hill country and supporting hydrological connectivity.
Perceptual	<ul style="list-style-type: none"> The Site's forested ridges, dissected gullies, and strong relief are highly legible and clearly expressed within the southern extent. High naturalness is evident by extensive taraire, tawa and podocarp forest, relatively unmodified stream corridors and less-accessed slopes. Views are experienced as layered, textural and deep greens of forest and shrubland canopies, providing visual unity and coherence and with vegetative patterns emphasising the underlying landform.
Associative	<ul style="list-style-type: none"> It is also recognised that the Otūwairoa Stream and its tributaries, including Waipokapū Stream, Mangapū Stream, and Waihoehoe Stream, and adjacent contiguous vegetation, are within statutory acknowledgement areas and hold particular importance and significance to iwi.

In addition to the cultural induction provided by Ngāti Tamaoho to inform an understanding of the local landscape from a Te Ao Māori perspective, Appendix 21 of the AUP outlines the relevant Statutory Acknowledgements, which are included below as they relate to the local landscape and area.

Otuwairoa (Slippery Creek) is particularly important to Ngāti Tamaoho because of its traditional use and its location. The stream is a confluence of many other important awa of the area including the Waipokapū (Hays Stream) and the Mangapū (Symonds Stream) carrying the mauri of these streams before it drains into Te Manukanuka o Hoturoa (Manukau Harbour). The outlet of the Otuwairoa is also significant because of the Opaheke kainga site along its northern bank.

Mangapū (Symonds Stream) drains from the foot-hills east of Drury and the Pahurehure Inlet. From here it flows west, eventually joining Otuwairoa (Slippery Creek). It then meets with Te Manukanuka o Hoturoa near the former Opaheke kainga. Mangapū once flowed through the vast Mangapikopiko wetlands which lay stretched across the Drury lowlands. This was an especially important place for Ngāti Tamaoho who drew many resources from it. Building materials such as raupo and flax could be obtained from its shallow waters as could many important medicinal plants. The use of Mangapikopiko and of Mangapū was a source of great mana to Ngāti Tamaoho who cherished them and their mauri.¹³

Refer to the **Cultural Values and Consultation Summary Report** prepared by Wikaira Consulting Limited for a summary of the iwi workshops and the deed of settlements relevant to the Project.

4.5.1 Visual Amenity Values

Within the broader hill-country setting, parts of the landscape display coherent landform patterns, extensive indigenous vegetation, and clear stream corridors that contribute to a rural character and sense of visual amenity.

Alongside these qualities, the long-standing Hunua Quarry is also a notable feature of the local landscape, contributing a more modified, extractive character in its immediate vicinity. Elements such as exposed quarried faces, the haul road, stockpiles, and historic landform changes add a working rural landscape dimension to local visual amenity values. As a result, the landscape context is a blend of natural and modified features, rather than a pristine environment.

¹³ AUP: Appendix 21 Treaty settlement legislation – Statutory acknowledgements under Ngāti Tamaoho Claims Settlement Act 2018.

4.6 Natural Character Condition

4.6.1 Natural Inland Wetlands

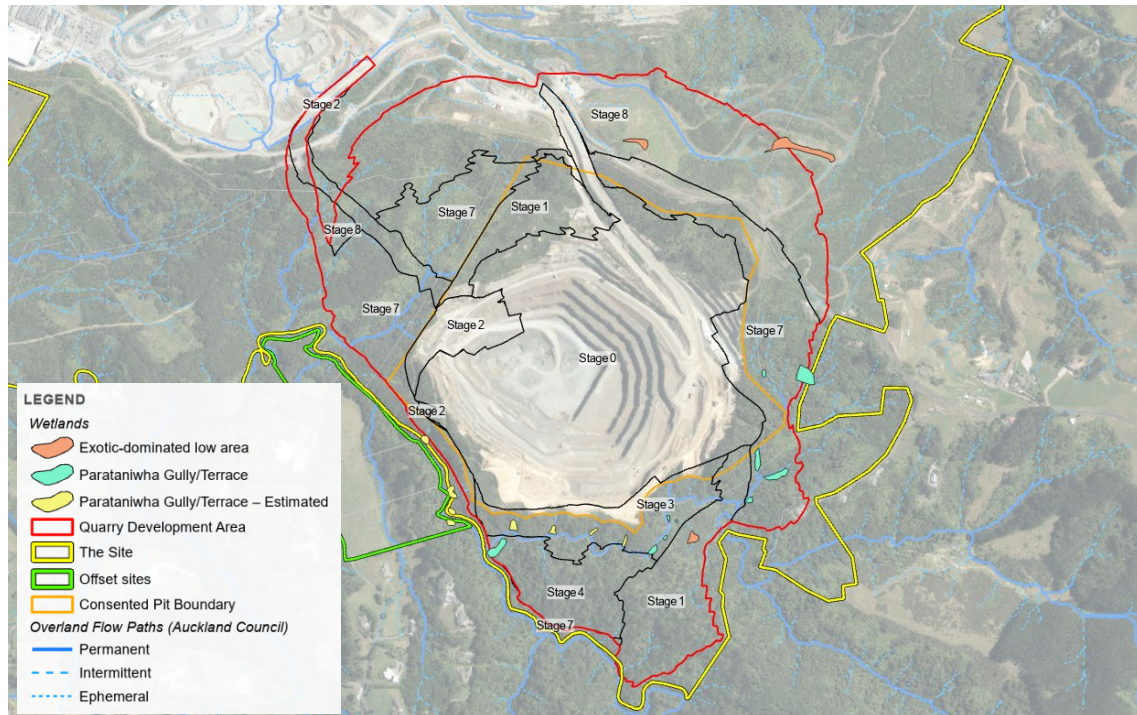


Image 10: Existing wetlands within the Quarry Development Area, BML.

As illustrated in **Image 10** above, several parataniwha gully/terrace wetlands and exotic-dominated low areas are present within and are adjacent to the quarry development area.

The BML ecology report¹⁴ states that the parataniwha gully/terrace wetlands are *'particularly focussed within a series of small gullies and stream terraces. These features are dominated by parataniwha (Elatostema rugosum), kiekie (Freycinetia banksii) and nīkau, with the occasional occurrence of pukatea and native Carex species. Soils were saturated and strongly hydric, with a compact, non-porous structure.'* These wetland features have an overall ecological value of 'high'.

The exotic-dominated low areas are *'found in recently disturbed/cleared areas with poor drainage soils, primarily dominated by hydric clay with some gravel found underneath. Species makeup of these areas is dominated by exotic and invasive species, namely creeping buttercup (Ranunculus repens), Yorkshire fog (Holcus lanatus), Glyceria maxima, with Pampas, Aristea and gorse common on margins. Native Juncus and Carex species are scattered throughout the areas.'*¹⁵

Based on the above, the parataniwha gully and terrace wetlands are assessed as having a **'high'** level of natural character, while the exotic-dominated low areas are assessed as having a **'low'** level of natural character.

¹⁴ Refer to the Ecological Effects Assessment, prepared by Boffa Miskell.

¹⁵ Ibid.

4.6.2 Mangapū Stream

Mangapū Stream runs along the western Site boundary of the existing quarry, and several of its tributaries flow into it from the south to south-east. The Mangapū Stream forms part of the Slippery Creek catchment (along with Slippery Creek, Waipokapū (Hays) Stream and Waihoihoi Stream). Refer to **Figure 15** for the catchment extent.

Below is an excerpt from the Ecological Effects Assessment regarding the Stream Habitat of the Mangapū Stream.

Mangapū Stream downstream of the Mangapū Stream tributary is a predominantly hard-bottomed stream dominated by cobbles, boulders and bedrock, with small amount of silt/sand present (RMA Ecology, 2020).

In the mid-reaches of the Mangapū Stream, the channel is some 1.5 – 5.5 m wide, with depths ranging from 0.41 - 0.49 m. Hydrological heterogeneity is high along the reach with a mix of riffles, runs and deep and shallow pools present. Riparian vegetation is well established with a well-developed canopy and abundant understory. This vegetation provides shade to approximately 75-85% of the water's surface, with some areas of open sunlight. The riparian community consists of abundant nikau and ponga and abundant smaller ferns along the stream margin. Wood debris and undercut banks are present within the reach.

The SEV scores within the Mangapū Stream are representative of a high-quality in-stream habitat with high ecological function.¹⁶

The natural character of the Mangapū Stream is influenced by a combination of its sinuous channel form and numerous tributaries, together with riparian indigenous vegetation. Sections of the stream adjacent to the quarry retain elements of naturalness, particularly where vegetated margins soften the modified context and reinforce the legibility of natural drainage patterns. As a result, the Mangapū Stream is considered to have **moderate-high** levels of natural character overall, with higher natural character evident in more vegetated and less modified reaches.

4.6.3 Mangapū Stream Tributary

Below are a series of character photographs of the Mangapū Stream Tributary within the quarry development area. Refer to **Figures 15 – 17, Appendix 4**, for the catchment extent of the tributary and additional character photographs.



Image 11: Character images of the Mangapū Stream Tributary.

¹⁶ Ecological Effects Assessment, prepared by Boffa Miskell.

The following key characteristics, as outlined in **Table 3** below, relating to the lower reach of the Mangapū Stream Tributary were identified during the site visit. Based on these observations, the tributary is assessed as having a natural character rating of **High to Very High**.

Table 5: Key Characteristics of the Mangapū Stream Tributary	
<ul style="list-style-type: none"> The lower reach of the Mangapū Stream Tributary displays a diverse range of natural features, including incised channel sections, waterfalls, and a sinuous, meandering path within a corridor that reflects natural fluvial processes rather than engineered modification. Hydrological heterogeneity is high along the reach with a mix of runs, riffles and deep and shallow pools present. Large boulders and bedrock are abundant, with cobbles and gravels common.¹⁷ The lower reach of the Mangapū Stream Tributary, its margins and wider landscape context exhibit a high degree of natural character, evidenced by the presence of mature indigenous vegetation, located within SEA_T_5323, (and limited exotic weed species) providing extensive and continuous canopy cover. This vegetation contributes to shading, bank stability, and habitat connectivity. Riparian vegetation is well established with a thick canopy and abundant understorey, providing shade to over 90% of the stream surface. The riparian community consists of abundant nikau, ponga and abundant parataniwha (<i>Elatostema rugosum</i>) along the stream banks. Bryophytes are abundant on large boulders and bedrock banks.¹⁸ The form and behaviour of the Mangapū Stream Tributary are strongly influenced by the surrounding landform, with geomorphology and surface topography guiding channel alignment, gradient, and flow dynamics. The tributary and Mangapū Stream are partly located within an ONL, which also reinforces its high natural character. 	
Modifications include minimal presence of weedy plant species, remnant post/wire fences, 4WD track and other small-scale foot tracks and a bridge crossing.	
Natural Character Rating	High to Very High

Refer to the **Ecological Effects Assessment** for further information regarding the condition of the indigenous vegetation across the wider Site, natural inland wetlands and SEAs.

4.7 Visual Catchment

To inform where the quarry development area may be visible from, a series of zones of theoretical visibility (ZTV) analysis were prepared for Stages 0 (consented), 1+ 2, 6, 7 and 8 of the quarry development area. These ZTVs are based on landform (ground) and the combination of landform and intervening vegetation (above ground), respectively. Refer to **Figures 25 - 26, Appendix 4**, for Visibility Comparisons (ground and above ground) across the stages. The Viewing Groups are mapped on **Figures 27 – 30** with representative **Viewpoints** contained on **Figures 31 – 43, Appendix 4**.

On 28 January 2026, Amanda Anthony and John Goodwin of BML attended a site visit with Simon Cocker (Auckland Council landscape peer reviewer) to understand the visibility of the quarry development area from publicly accessible locations surrounding the Site, and to review the selected viewpoints and visual simulation locations.

¹⁷ Ecological Effects Assessment, prepared by Boffa Miskell.

¹⁸ Ibid.

Below is a summary of the agreed visual catchment and viewing audiences of the Hunua Quarry (the Site) and the quarry development area. A detailed description of the audience groups, properties, their distance from the quarry development area and the reason for selection is included in **Appendix 3**.

Table 6: Summary of Viewing Audiences <i>Refer to Appendix 3 and Figures 25 – 43, Appendix 4</i>		
Visual Catchment	Summary of the Viewing Audiences	
	Public Locations <i>Refer to Section 6.3.1 for a detailed Visual Effects Assessment from public locations.</i>	Private Locations <i>Refer to Appendix 3 for a detailed visual analysis and Visual Effects Assessment from private locations.</i>
Northern	Users of Red Hill Road, Redmount Road, Hunua Road, Ardmore Quarry Road and Hays Creek Road	Crown-owned NZ Defence Force land Private dwellings located on Ardmore Quarry Road, Hays Creek Road, Hunua Road, Red Hill Road, Redmount Road and Gibbs Crescent
	<p><i>Refer to Viewpoints 1 – 2 and 23 – 24 in Appendix 4</i></p> <p>Publicly accessible views of the Hunua Quarry from Hunua Road are short-range and very brief, due to the lower viewing elevation of the road, the oblique viewing angle, and extensive roadside vegetation that blocks most sightlines. Only momentary glimpses of the lower processing area and the upper slopes of Hunua Pit are available where small gaps in vegetation occur, and the Symonds Hill Pit remains completely screened from this approach.</p> <p>Views from Ardmore Quarry Road and Hays Creek Road are fully screened by the extensive vegetation within adjacent NZ Defence land and by intervening topographical features, preventing visibility of the quarry development area and existing quarry operations.</p> <p>From the Red Hill suburb (Red Hill Road and Redmount Road), views are long distance, with only the more elevated upper slopes of the Hunua Pit being visible above intervening vegetation. Intermittent, filtered views of the processing area and stockpiles are possible only where these elements extend above the foreground vegetation. The Symonds Hill Pit is not visible from Red Hill.</p>	
Eastern	Users of Jones Road and Middleton Road	Private dwellings located on Jones Road and Middleton Road
	<p><i>Refer to Viewpoints 5 - 7 in Appendix 4</i></p> <p>Views of the Site from Jones Road are long-distance and highly filtered, as intervening landform and vegetation generally screen the eastern extent of the Site. Only small portions of the upper slopes and ridge become visible along short sections of the road where gaps in vegetation or terrain allow sightlines, typically at distances of 2–3km. The wider landscape is characterised by undulating pastoral fields with patches of forestry and indigenous vegetation along the gully slopes. Existing quarry activities are visually contained and not visible from Jones Road.</p>	

	<p>From Middleton Road, visibility varies from long-distance to relatively close-range depending on the viewer's position, with viewing distances between 300m and 720m. Like Jones Road, small portions of the upper slopes and eastern ridge are visible from more distant locations where landform and vegetation do not obstruct views. At closer locations, some of the lower slopes also become visible, although views remain partly screened by terrain and vegetation. Existing quarry activities are not visible, as they remain visually contained within the Site.</p>	
Southern	Users of Ponga Road, Sonja Drive and Gillespie Road	Private dwellings located on Ponga Road, Sonja Drive and Gillespie Road
	<p>Refer to Viewpoints 8 - 9 in Appendix 4</p> <p>From Ponga Road, the Symonds Hill Pit is partially visible, with intermittent long-distance glimpses of its upper quarried slopes occurring along short stretches of the road. Viewing distances are typically greater than 900m, and visibility is restricted to moments when roadside vegetation opens up and creates clear sightlines.</p> <p>From Sonja Drive and Gillespie Road, filtered, intermittent views of the upper slopes of Symonds Hill Pit and wider Site are available, though these are long-distance views heavily filtered by extensive foreground vegetation.</p>	
Western	Users of Judge Richardson Drive, Ponga Road, Coal Mine Road, Kauri View Road, Sutton Road and Great South Road.	Private dwellings located on Judge Richardson Drive, Ponga Road, Coal Mine Road, Kauri View Road, Drury Hills Road and Harry Dreadon Road.
	<p>Refer to Viewpoints 10 - 22 in Appendix 4</p> <p>The consented Symonds Hill Pit is more visually accessible from the west, with partial views becoming available from Judge Richardson Drive, Ponga Road, and nearby areas where gaps occur in roadside and private property vegetation. Although numerous mature trees and established plantings along the road corridor help filter and soften views, breaks in this vegetation allow visibility of the upper slopes of the Symonds Hill Pit, which appear at relatively close viewing distances of around 300m. At these distances, the quarry occupies a noticeably larger proportion of the view, making it more visually apparent within the local landscape.</p> <p>From Coal Mine Road and Kauri View Road, viewers experience long-distance views of over 1km, where the existing Symonds Hill Pit reads as a small, contained feature within a much broader backdrop of heavily vegetated hill slopes. At this scale and distance, the quarry presents as a subordinate element in the wider landscape and does not visually dominate.</p> <p>From Sutton Road and Great South Road, the upper slopes of the Symonds Hill Pit are visible but tend to blend into the mixed mosaic of surrounding land cover, which includes indigenous vegetation, production forestry, and pastoral land. At these viewing distances, the quarry is read within a complex and varied hillslope context, which contributes to the broader pattern of textures and colours in the landscape.</p>	

Refer to **Section 6.3.1** for a detailed assessment of visual effects from publicly accessible locations. Refer to **Figures 32 - 43** for representative viewpoints that illustrate the existing visibility of the Site from public vantage points.

Refer to **Appendix 3** for the visibility analysis and detailed Visual Effects Assessment from private locations, including the audience group, property locations, viewing distances, and the reason for their selection.

5.0 Statutory Provisions

A brief summary of the statutory context relevant to this assessment is outlined below. The full extent of the statutory planning context for this assessment, including the relevant objectives and policies, is outlined within **Appendix 5** of this assessment.

5.1 Fast Track Approvals Act 2024 (FTAA)

The purpose of this Act is to facilitate the delivery of infrastructure and development projects with significant regional or national benefits. The Hunua Quarry Development is listed in Schedule 2 of the FTAA.

As per Schedule 5 of the Fast Track Approvals Act, regarding approvals relating to the Resource Management Act 1991, matters to be covered in an assessment of environmental effects includes clause *7(a) any effect on the people in the neighbourhood and, if relevant, the wider community, including any social, economic, or cultural effects; (b) any physical effect on the locality, including landscape and visual effects; and (d) any effect on natural and physical resources that have aesthetic, recreational, scientific, historical, spiritual, or cultural value, or other special value, for present or future generations.*

5.2 The Resource Management Act 1991 (RMA)

The key sections identified with the RMA regarded as being relevant to this landscape effects assessment include:

- a. **Section 6(a)** – *the preservation of natural character of... wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate, subdivision use and development*
 - For this assessment, natural character has been considered with specific reference to RMA s6(a) as applied to lakes, rivers, wetlands and their margins. Natural character effects are assessed in relation to the Mangapū Stream and its tributary.
- b. **Section 6(b)** – *the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development*
 - The southern extent of the Site and Project extends into the Ponga Road ONL (ID 60).
- c. **Section 7(c)** – *the maintenance and enhancement of amenity values and Section 7(f) – maintenance and enhancement of the quality of the environment*
 - Beyond the Ponga Road ONL, the wider landscape context is characterised by established rural residential subdivision, rural land uses, extensive indigenous

vegetation cover and the long-standing Hunua Quarry, which contributes to a distinct working rural landscape character which can be differentiated from the adjoining ONL (refer to Section 4.5.1 above). In amenity terms, the RMA defines amenity values as those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes.

5.3 Auckland Unitary Plan – Operative in Part (AUP)

The relevant Statutory Context relating to the quarry development area, as set out in the Auckland Unitary Plan, is illustrated in **Figures 5 - 6, Appendix 4**, with objectives and policies set out in **Appendix 5**. The Auckland Unitary Plan recognises mineral extraction as an important activity, but one that has to be carefully managed. New quarries should generally avoid scheduled natural and physical resources (where practicable), and significant quarries are expected to sit in a Special Purpose – Quarry Zone so their effects can be managed. Proposals must show how they will avoid, remedy or mitigate significant adverse effects, including those on visual and landscape values. A majority of the Site is located within the Special Purpose – Quarry Zone, with a small portion extending into the Mixed Rural Zone to the east and south. Refer to the Assessment of Environmental Effects (AEE) for further information regarding all other relevant statutory provisions.

The Special Purpose – Quarry Zone specifically provides for significant mineral extraction sites, aiming to allow efficient extraction while avoiding, remedying or mitigating significant adverse effects, and ensuring quarries are rehabilitated, including through the use of cleanfill and managed fill. Quarry operators are expected to “internalise” their adverse effects as far as practicable.

The Quarry Buffer Area Overlay sits around significant quarries, providing protection from reverse sensitivity effects intended to stop new subdivision and sensitive activities from being established and compromising the quarry operation. Its focus is on avoiding, or otherwise remedying or mitigating, reverse sensitivity effects from new development near existing quarries.

The purpose of the Rural – Mixed Rural Zone is to provide for rural production, generally on smaller rural sites and non-residential activities of a scale compatible with smaller site sizes. Rural character and amenity values of the zone are to be maintained while anticipating a mix of rural production, non-residential and rural lifestyle activities. Rural areas are expected to remain predominantly “working” landscapes, with relatively few urban-type buildings and infrastructure.

Outstanding Natural Landscapes (ONLs) are subject to a higher level of protection. Only 6ha of the quarry development area extends into the eastern edge of the overall 394ha Ponga Road ONL (ID 60), which is described as an extensive sequence of mature and regenerating indigenous forest, combined with strongly articulated stream corridors that reinforce the natural qualities of this rolling to dissected hill country landscape. The AUP requires ONLs to be protected from inappropriate subdivision, use and development, with an emphasis on maintaining their natural landforms, vegetation patterns, high naturalness, physical and visual integrity. At the same time, it recognises that rural production activities can form part of ONL values, and it enables appropriate rural production and restoration or enhancement where this maintains or improves the values or appreciation of the ONL.

The quarry development area is also subject to a Significant Ecological Area overlay (SEA_T_5323) relating to a mature example of the ‘taraire, tawa, podocarp forest’ (WF9) ecosystem and several conservation covenants to the east and south. Refer to the Ecological Assessment prepared by Boffa Miskell for further details.

6.0 Assessment of Effects

Landscape, natural character 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. All these impacts are assessed to determine their effects on landscape character and quality, amenity and on public and private views.

The effects covered in this assessment include those that can occur in relation to changes to landscape attributes and values, character and visual amenity (i.e. viewing audiences and their outlook), in addition to natural character effects in relation to the waterbodies that occur within the Site.

In relation to this quarry development area and the methodology (**Appendix 2**), it is considered that the degree to which landscape and visual effects are generated by a development depends on a number of factors. These include:

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

Change in a landscape does not, of itself, necessarily constitute an adverse landscape or visual effect. Landscape is dynamic and is 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.

Particular effects considered relate to the following:

- Landscape effects (inclusive of landscape character and values, including on the ONL);
- Natural Character effects;
- Visual amenity effects from public and private locations (including residences); and
- Cumulative effects.

The principal elements of the Project that will give rise to landscape, natural character and visual effects are:

- Changes in the legibility of the landform resulting from expanded quarry activity and visible benching, modifying existing slopes.
- Changes to the landform and associated vegetation patterns of the ONL.
- Changes to the lower reaches of the tributary of the Mangapū Stream resulting from the stream realignment, including areas of riparian planting, ephemeral wetlands and terrestrial planting.
- Changes in outlook of existing quarrying activity and potential for additional or expanded views giving rise to adverse effects on visual amenity.

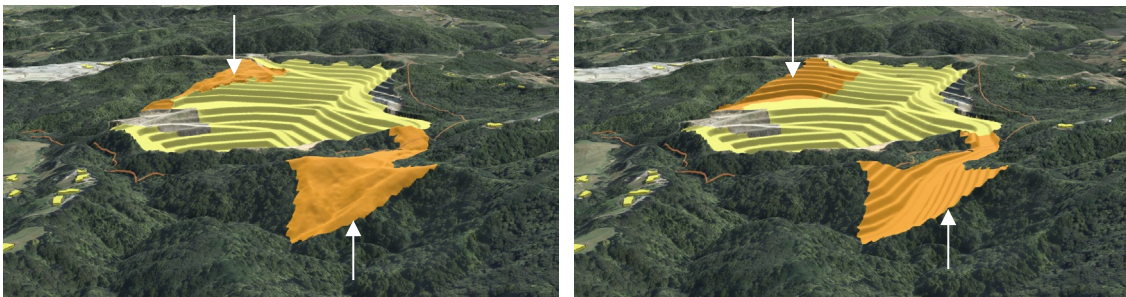
Landscape, natural character and visual effects have been assessed across all stages and the full lifetime of the project to reflect the evolving nature of quarry operations, earthworks, and rehabilitation activities. The assessment considers both the cumulative and transitional effects that will arise as extraction progresses, as well as the changing visibility and character of the Site over time. Mitigation, offset planting, landform shaping, and rehabilitation treatments will be implemented progressively in accordance with the staging of the works, enabling early establishment of native vegetation and incremental integration of modified landforms into the surrounding landscape. This staged approach ensures that landscape, natural character and visual effects are both understood and managed throughout the duration of the Project, rather than only at its final form.

6.1 Landscape Effects

6.1.1 Physical Landscape Effects

The quarry development area of the Symonds Hill Pit will result in material and long-term physical modification of landforms, land cover, drainage patterns, and loss of 44.46ha of indigenous vegetation across the quarry footprint, progressively reshaping the landscape over an approximate 80 year period. The initial stages of the Project focus on enabling works required to facilitate extraction in the future, while the later stages involve incremental stripping for extraction and processing.

Stage 1 requires the removal of approximately 1,200m of the existing Mangapū Stream tributary, which will be replaced with a 570m meandering realigned channel. This work involves major earthworks to excavate a new stream channel corridor through a ridge landform, the removal of existing riparian and terrestrial vegetation (7.22ha) around Mangapū Stream Tributary, and the establishment of a geotechnically sound and engineered stream corridor, floodplain benches, and a temporary bridge. These enabling works represent a significant physical alteration to the existing stream environment and intact vegetated topography. Refer to **Images 12a – b** below.



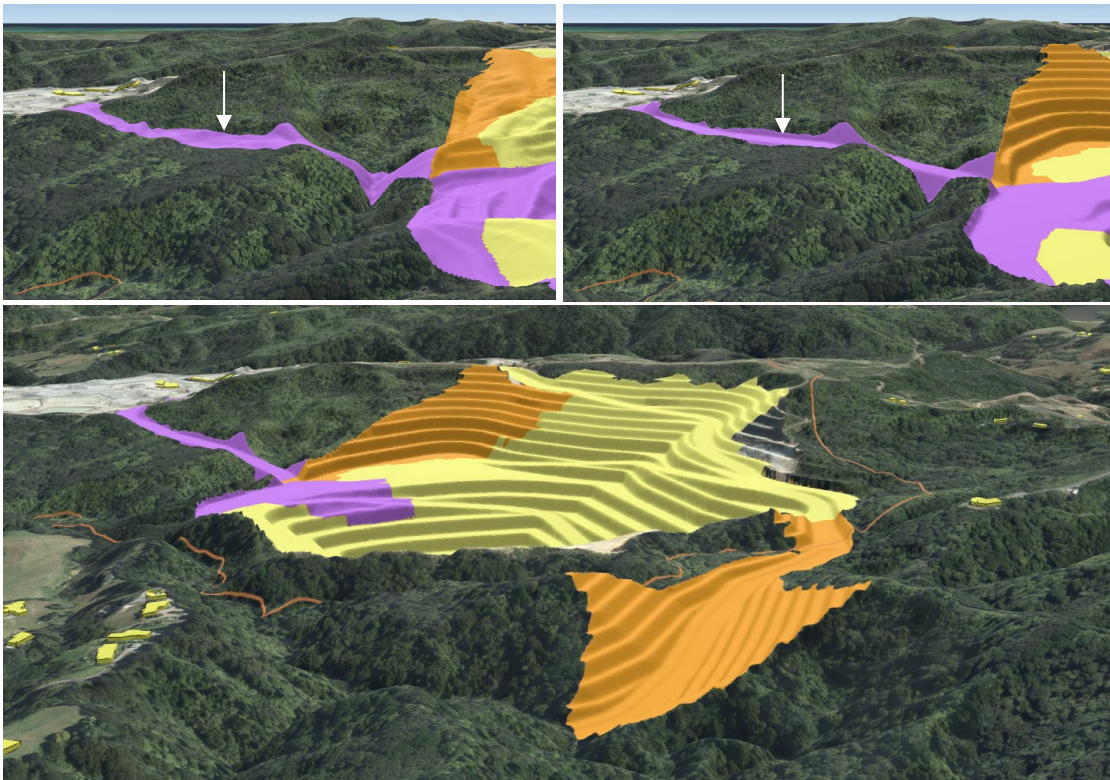
Images 12a - b: The left image illustrates the Stage 0 consented footprint (yellow) and the existing landform of the Stage 1 quarry development area footprint (orange). The right image illustrates the detailed realignment of the Mangapu Stream Tributary and additional extraction to the north (orange).

As part of Stage 1, approximately 6ha of the quarry development area footprint extends into the 394ha ONL during Stages 1 and 7, equating to approximately 1.5% of the overall ONL. Within these areas, the works will result in the loss of indigenous vegetation and the excavation into the ridge and lower hillslopes along the northern edge of this broader ONL landform sequence.

Concurrent with the stream works, initial overburden stripping and vegetation removal will occur within the northern part of the quarry development area. This area (northern Stage 1 footprint) of the quarry is within the consented footprint. Following Stage 1, which is anticipated to take approximately four years, the first phase of rehabilitation, incorporating riparian planting along the newly constructed stream corridor and bench revegetation with native plant species, will be incorporated along the new stream corridor and eastern quarried face.

Stage 2 introduces the western haul road, requiring several stream crossings and cuts through hill landforms to connect Symonds Hill Pit with the processing area of the quarry. To facilitate access to the western haul road from within Symonds Hill Pit, the northwestern area of the pit will be cut down to 105RL. Refer to **Images 13a – c** below.

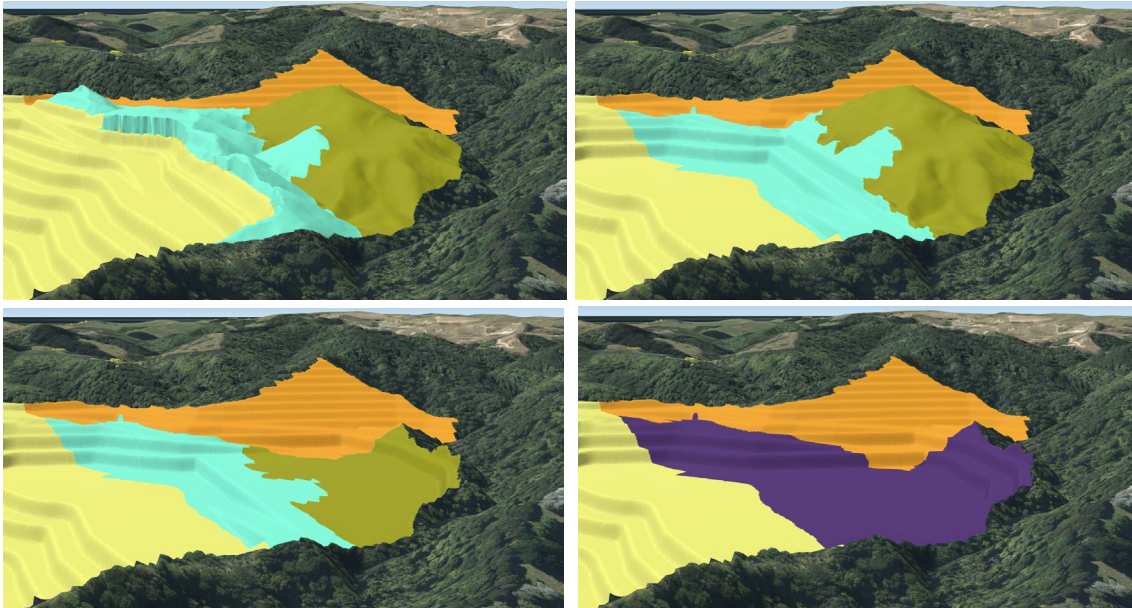
Approximately 1.83ha of vegetation (including low kanuka shrubland, tall kanuka forest, and mature podocarp-broadleaved forest) will be removed during Stage 2 to enable machinery to access the tributary and works area. Culverts will need to be constructed across one permanent stream and one intermittent stream.



Images 13a - c: The top left image illustrates the footprint of Stage 2 (purple) on the existing landform. The top right image illustrates the proposed cut/fill required to facilitate the western haul road (purple). The bottom image illustrates Stage 2 (purple) in relation to Stage 0 (yellow) and Stage 1 (orange).

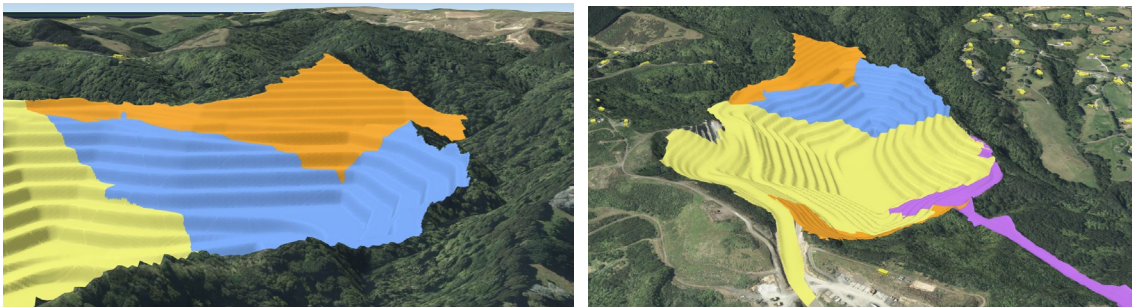
As the quarry moves into Stages 3 - 5, the physical extent of landform removal intensifies significantly and progresses southward toward the realigned tributary and downward into deeper greywacke resource. These stages involve the complete removal of the existing ridge

crest, hillslopes, existing Mangapū Stream Tributary corridor, and 8.02ha of indigenous vegetation as illustrated below in **Images 14a – d**.



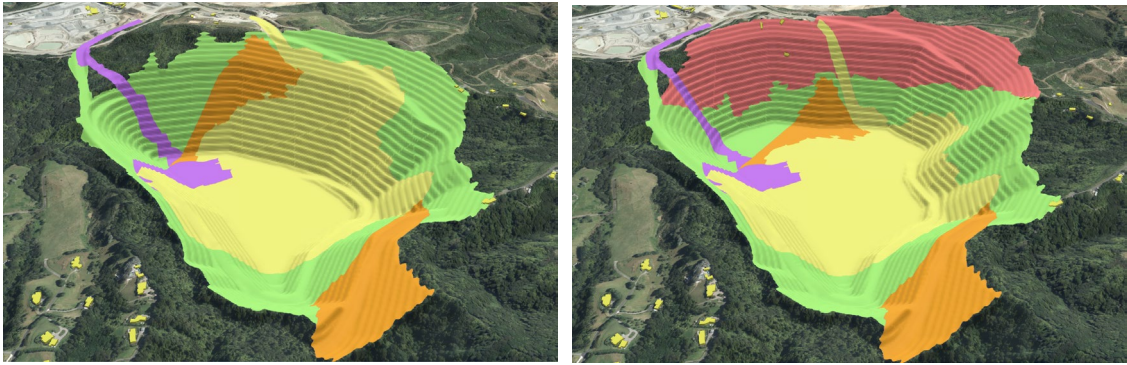
Images 14a – d: The top left image illustrates the footprints of Stage 3 (cyan) and Stage 4 (green) on the existing landform in relation to Stage 0 (yellow) and Stage 1 (orange). The top right image illustrates Stage 3 extraction (cyan). The bottom left image illustrates Stage 4 extraction (green). The bottom right image illustrates Stage 5 extraction (purple).

Stage 6 utilises the footprint of Stages 3 - 5 to expand downward to an approximate floor level of -50m RL as illustrated in **Images 15a – b** below. As extraction deepens in Stage 6, the vertical extent of landform removal increases, and the quarry pit transitions into a more enclosed basin.



Images 15a – b: The left image illustrates Stage 6 extraction (light blue) in relation to Stage 0 (yellow) and Stage 1 (orange). The right image illustrates the depth of Stage 6 extraction (light blue).

In the later stages (Stages 7 and 8), extraction expands into new areas while previously worked areas begin to undergo recontouring and backfilling. During Stage 7, the existing haul road will be removed and replaced with a newly constructed haul road located further to the west. This realignment will require additional earthworks, including slope cutting and batter formation. It will involve the removal of an existing tributary (including the removal of the two culverts constructed during Stage 2). As part of this stage, the western, northern, and eastern extents of the pit will also be expanded. Refer to **Images 16a – b** below.



Images 16a – b: The left image illustrates Stage 7 extraction (green) in relation to Stage 0 (yellow), Stage 1 (orange) and Stage 2 (purple). The right image illustrates Stage 8 extraction (red).

At the same time, parts of the southern and western sides of the pit will be progressively backfilled with overburden to intermediate levels of approximately 20m RL (Stage 7) and 50m RL (Stage 8), respectively. Refer to **Images 17a - b** below. This phase of rehabilitation introduces substantial new landforms that partially reconstruct valley-side slopes in areas where earlier excavation had removed entire ridges and hillslopes. Although these rebuilt landforms are engineered rather than naturally derived, they establish the long-term physical configuration of the post-extraction landscape. As rehabilitation of Stages 7 and 8 progresses, the reshaping and softening of benches will further refine these forms, resulting in a more naturalistic and visually integrated landform over time.

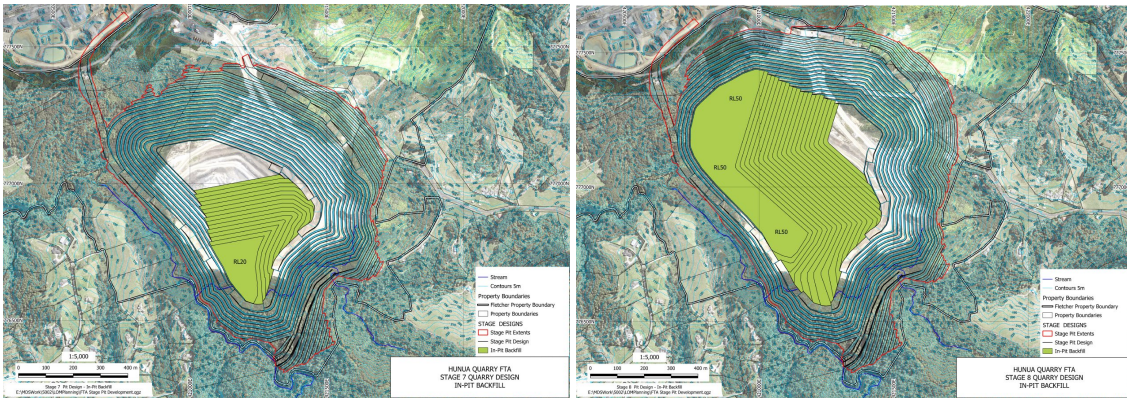


Image 17a - b: Proposed Stage 7 OBDA (left image) and Stage 8 OBDA (right image).

Over the life of the quarry, approximately 24 million m³ of overburden will be generated and must be placed within designated on-site OBDA's, including the Hunua OBDA. The placement of this material leads to the creation of substantial new landforms, with engineered slopes and controlled gradients.

Throughout the approximate 80 year sequence, the quarry development area will transition through cycles of excavation, overburden placement, tributary realignment, and recontoured landforms. Indigenous vegetation clearance (including within ONL areas) occurs progressively in tandem with earthworks, resulting in a long-term reduction of existing vegetative cover across the active footprint and the replacement of natural landcover with exposed substrate and engineered surfaces. Although revegetation of stream margins, benches, and rehabilitated overburden areas will be undertaken progressively across the quarry's life, the physical changes associated with the removal of ridges, deepening of the pit, and construction of a new, benched, and realigned tributary corridor represent permanent modification to the underlying terrain pattern.

By the completion of Stage 8, the landscape will comprise a combination of a deepened quarry basin, reconstructed slopes formed from overburden, a naturalised and permanently realigned tributary corridor, and extensive areas of native planting established to stabilise, soften, and re-

vegetate the recontoured benches and cut faces. Refer to **Figures 23 - 24**, which illustrate examples of progressively shaped and rehabilitated benches and overburden disposal areas at Belmont Quarry, operated by Winstone in Lower Hutt, Wellington.

Over the longer term, the progressive implementation and maturation of native planting at 118 Judge Richardson Drive and rehabilitation of benches, are expected to reduce the apparent scale and visibility of the quarry development area observed from beyond the Site. However, given that rehabilitation of the benches will not take place until Stage 7 (aside from the earlier Stage 1 works), it will be at least 35 years before rehabilitation of the quarry can begin due to the quarry pit being progressively expanded via benched and quarried surfaces to -50m RL.

Based on this, the physical landscape effects at the local level are considered to be **high** (adverse) during operation (before mitigation) and reduce to **moderate to moderate-high** (adverse) at completion after mitigation (after 10 years). These effects arise from extensive landform excavation associated with the deepening of the quarry pit to approximately -50m RL, the removal of ridges and hillslopes within the ONL, realignment of the Mangapū Stream Tributary and the loss of 44.46ha of indigenous vegetation (most of which is in areas of SEAs), including 6ha located within the ONL. Collectively, these changes represent a substantial reconfiguration of the existing hill country landscape, replacing natural, vegetated slopes with exposed quarry benches, engineered batters, and haul roads. This notable physical modification will remain within the Site.

At the broader scale of the hill country landscape, the physical changes occur in the context of the established and long standing Hunua Quarry operation, which will be progressively staged and supported with expanded areas of native revegetation facilitated through rehabilitation and native revegetation across the offset sites. At this broader scale, during operation (before mitigation), physical landscape effects are considered to be **low** (adverse), decreasing to **very low** (adverse) at completion (after mitigation).

Across the offset sites, opportunities for native revegetation have been identified, including 18.1ha of native revegetation, which will remain discernible and contribute to a more cohesive visual and physical outcome apparent at the broader landscape scale. Once established, and when combined with the physical effects of the Project, this will result in **low-moderate** (adverse) residual physical effects. Broader opportunities for backfilled landforms, including rehabilitating OBDA to support integration with the expanded physical quarry operation, will continue. Overall, when combined with progressive native regeneration and partial reinstatement of natural landcover patterns of exposed quarry faces and resultant OBDA during operation, this will ensure the physical effects of the expanded quarry operation will remain well integrated within the physical landscape in the longer term.

6.1.2 Landscape Character Effects

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 encompasses the unique contribution of physical, sensory and associative dimensions which contribute to the landscape's characteristics and values.

As described above, the Project necessitates substantial earthworks due to the nature of quarrying. The Symonds Hill Pit is already consented to a depth of -5RL with a footprint of approximately 42ha in area, whereas the proposed development seeks a 108ha footprint to a depth of -50RL. All overburden from the consented Symonds Hill Pit is currently disposed of in the Hunua Pit to the north, which will eventually achieve a landform of RL170 and be rehabilitated to closely replicate the landform that existed pre-extraction.

The quarry development area is located within the Ararimu Greywacke Dominant Hill Country landscape character area, which is defined by a north-south orientated dissected hill ridge system generally rising above 100m, with steep gully networks enclosing broad inland valleys with rolling pastoral terrain. While the area was formerly dominated by a range of indigenous forest types, it is now characterised by a mosaic of pastoral farming, fragmented production forestry, extensive indigenous vegetation across the western hills, dispersed rural residential settlement, and established working landscapes shaped by farming and quarrying, together with stream systems draining both west and east.

This wider rural landscape is characterised by the long standing Hunua Quarry, a mix of steep hill country, incised valleys, indigenous and exotic vegetation, rural production land uses, and pockets of regenerating scrub and plantation forestry. Land use is generally defined by large land parcels, low levels of built development, open pasture or forestry blocks, unsealed or lightly formed rural roads, extractive activity and expansive landform patterns shaped by natural processes.

Within this setting, the existing Hunua Quarry is already a prominent feature and forms a well-established component of the rural environment. Quarrying has operated at this location for over a century, and the existing established Symonds Hill Pit, overburden disposal areas (including the former Hunua Pit), haul roads, and processing facilities contribute a distinctly modified and utilitarian element within an otherwise rural landscape. While the quarry development area expands and extends further engineered landforms and exposed rock faces, its presence sits within a working rural context where productive land use, such as quarrying, farming, forestry, and utility infrastructure are already part of the mosaic. As a result, the quarry is understood as part of the broader rural landscape rather than an uncharacteristic feature within the rural environment.

The quarry development area of the Symonds Hill Pit would continue the established extractive character of the area, but at a greater scale and over a longer duration. Quarrying would progress incrementally rather than concurrently across the quarry development area, extending into previously undeveloped, vegetated hillslopes and ridges and considerably increasing the extent of active quarrying within the rural landscape. Although the expanded operations would remain contained within the quarry development area and remain in close association with current quarry infrastructure, the intensity of landform modification would notably increase, with deeper excavations, more extensive benching, and a materially larger quarry footprint than presently exists.

These changes will contrast with existing pastoral and vegetated qualities more typically associated with the surrounding rural hill country to the south. Hills that are currently covered in a mix of indigenous scrub, forest and riparian vegetation will be progressively stripped, resulting in bare slopes, quarry benches, engineered cut batters, haul roads, and widened pit extents. Vegetation removal, including areas within or adjacent to the ONL and SEA, will further emphasise a progressive shift from indigenous vegetation to exposed, engineered quarry surfaces within an expanded quarry footprint.

During the middle and later stages of the Project, these physical changes will be most pronounced. Previously vegetated hill faces will be replaced by stepped benches and rock cuttings, and the scale of visible modification will increase as the quarry expands both northward and southward. As extraction progresses over multiple decades, reinstatement of vegetated landscape patterns will occur over even longer timeframes within the progressive context of ongoing vegetation clearance and pit development.

Rehabilitation planting is planned throughout Stages 1, 6, 7 and 8; however, the ability to revegetate on the benches will not be widespread until later stages, particularly from around Stage 7 onward. Until this time, the character within the quarry development area will be

strongly influenced by exposed rock faces, engineered slopes, and operational quarry surfaces. The realignment of the Mangapū Stream Tributary also introduces new engineered elements into the landscape, although modified terracing will be designed to gradually revegetate over time as expanded quarrying activity continues.

The quarry development area will gradually reinforce the existing quarry's presence as a major activity but will also intensify the scale and extent of physical change to the existing landforms. Within the quarry development area footprint, the vegetated landform character will shift strongly toward a more highly modified, extractive landscape throughout most of the project duration. While this character is consistent with quarrying activity within an established quarry zone and visible in the surrounding landscape, the degree of landform alteration, removal of vegetated hillsides, deepening of excavation, and replacement of natural terrain in an ONL with benches and engineered cut batters will also represent a more substantial departure from the natural and pastoral qualities typical of the surrounding rural area (Mixed Rural Zone) over the life of the quarry.

In the long term, progressive rehabilitation, planting, and recontouring will help reintroduce a vegetative cover and soften engineered landforms, gradually reestablishing elements more sympathetic with the surrounding working rural character. However, until later stages of the Project and rehabilitation, the overriding character within the quarry development area will remain dominated by large-scale terraced landforms rather than vegetated, steep hillslopes. Based on this, the landscape character effects at the Site and immediate surrounds level are considered to be **moderate-high** (adverse) during operation (before mitigation), reducing to **moderate** (adverse) at completion after mitigation has become established.

At the broader landscape character scale of the Ararimu Greywacke Dominant Hill Country, the quarry development area would be read as consistent with the existing pattern of diverse and interspersed land uses and land covers that characterise the hill country slopes, particularly when viewed from western vantage points. Within this wider context, quarrying activity coincides with an established working rural landscape and rural lifestyle landholdings alongside pastoral farming, production forestry, amenity planting, indigenous vegetation, and infrastructure, resulting in a landscape that already exhibits a high degree of variability. While the quarry development area would increase the scale and prominence of extractive activity locally, its legibility at the broader landscape scale would be moderated by distance as well as intervening topography and vegetation, including progressive rehabilitation. Based on this, the landscape character effects at the broader landscape scale (Ararimu Greywacke Dominant Hill Country Landscape Management Area) are considered to be **low** (adverse) during operation (before mitigation), reducing to **very low** (adverse) at completion after mitigation has become established.

6.1.3 Effects on Landscape Values of the ONL

The Ponga Road ONL is defined by an extensive sequence of mature and regenerating indigenous forest, strongly articulated stream corridors, and a coherent greywacke hill-country landform with a distinct ridge. The interplay of indigenous vegetation, steep dissected terrain, and natural drainage patterns contributes to the ONL's very high naturalness, physical and visual integrity, and legibility as a unified, predominantly indigenous landform.

Within the Site ONL, the works will result in the loss of 6ha of indigenous vegetation and the excavation into the ridge and lower hillslopes along the northern edge of this broader ONL landform sequence. The reduction of vegetative cover in these locations will disrupt established areas of taraire, tawa and podocarp forest along a defined and modified edge of the ONL, creating areas of exposed substrate and engineered batters in place of natural vegetative patterns. As these areas form part of the intact indigenous cover within the ONL, their removal

directly affects a small part of one of the ONL's defining attributes, the indigenous vegetation pattern that expresses and reinforces the underlying hill country landform.

In addition, earthworks within the ONL extent will alter the physical integrity and legibility of these parts of the landforms, including the sequence that visually supports the more prominent, elevated ridge in this local context. While the wider ridges and other slopes that define the ONL's natural profile and skyline will remain, the removal of part of its margins and the setback of vegetated hill faces will locally reduce the clarity of how these landforms read as part of the wider hill sequence. In effect, the ONL's core landform values will remain intact, but the natural gradation from lower slopes to upper ridges will be interrupted in places by the expanded quarry margin. Notwithstanding these effects, the majority of the ONL's defining components, its strongly articulated stream corridors, elevated forested ridges, and extensive natural vegetation cover will remain intact at the broader scale.

Mitigation opportunities within the Site are limited, given the need for the land to be used for quarrying and other operational constraints. However, areas within the offset sites provide an opportunity to revegetate approximately 18.1ha of land in natives in response to the indigenous vegetation being lost within the ONL as a result of Stage 1 and subsequent stages. The offset sites are suitable for native revegetation using species consistent with the Ponga Road ONL/SEA vegetation types, enabling the re-establishment of similar forest and shrubland species to support long-term connectivity within the wider landscape and ecological habitats.

The proposed planting would mitigate the localised loss of ONL values by re-establishing a similar vegetation sequence of taraire, tawa and podocarp mix, to enable connectivity and landscape coherence while also contributing to ecological offsets. While the quarry development area would result in the irreversible loss of landform attributes within the ONL footprint, the proposed native planting would help replace the defining landscape values of the ONL. Over time, this vegetation would soften foreground views from neighbouring properties on Judge Richardson Drive and establish a cohesive, vegetated backdrop in longer distance views from the west.

With this mitigation measure, the long-term landscape pattern associated with the ONL margins can be partially reinstated and, over time, strengthened. While there is a direct physical loss of indigenous vegetation and localised reduction in landform legibility at the ONL interface, the core ONL values, continuous forested ridges, strongly defined hill-country terrain, natural drainage sequences, and pronounced naturalness, remain defining values of this landscape, which remain protected from significant adverse effects.

Notwithstanding this, the Project will result in localised adverse effects on ONL values where vegetation and notable landform components are removed. However, the primary attributes that underpin the wider Ponga Road ONL's outstanding values remain intact, and the proposed mitigation and rehabilitation planting provides the ability to support long-term landscape values, vegetation coherence and connectivity with the broader ONL/SEA.

Progressive rehabilitation of the quarry faces, particularly through landform reshaping and native revegetation, helps to reduce these effects by softening modified landforms and reinstating vegetation cover (over time). The offset sites also provide opportunities for further native planting, ecological enhancement, and connectivity as described above. When implemented cohesively across the offset sites, these measures collectively reduce effects on the ONL and contribute to long-term improvements in a green backdrop, landscape integrity, and visual coherence. Overall, the combination of quarry rehabilitation and broader mitigation planting establishes a more naturalised and unified landscape character that is consistent with the values of the ONL. Refer to **Figure 22** for the proposed mitigation planting locations.

Based on the above, the adverse effects on the landscape values of the Site ONL are assessed as **moderate** (adverse) during operation (before mitigation) and **low-moderate** (adverse) at completion (after mitigation).

At the broader hill country landscape scale, effects on the landscape values of the ONL are more contained, as the elevated forested ridges, upper slopes, and wider natural landform sequence remain largely unaffected. Based on this, the adverse effects on landscape values of the broader ONL are considered to be **low-moderate** (adverse) during operation (before mitigation), reducing to **low** (adverse) at completion (after mitigation).

Regarding RMA s6(b), *the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development*, the Project will result in **moderate** (adverse) effects on the Site ONL, particularly in the form of localised changes to extensive indigenous vegetation cover and connectivity, landform intactness, coherence, and the site-wide landscape pattern. At the broader landscape context scale, the elevated ridges, upper slopes, and wider ONL landform sequence will remain largely intact as the development will modify a small portion (6ha) of the larger ONL landscape (394ha). Given this and the ability to mitigate the loss of vegetation and connectivity with native planting across the offset sites and rehabilitation of the quarry benches, including overburden disposal areas, the Project will, in time, protect the characteristics, values and integrity that make the Ponga Road natural landscape “outstanding” as anticipated by s6(b). Taking the above into account, along with the proposed mitigation and the surrounding landscape context (including the existing Hunua Quarry and its immediate surrounds), the effects on the ONL are not considered inappropriate.

6.1.4 Summary of Landscape Effects

Overall, the Project will result in adverse landscape effects throughout Stages 1 – 8. These effects relate to extensive landform excavation, removal of ridges and hillslopes, realignment of the Mangapū Stream Tributary, and progressive loss of 44.46ha of indigenous vegetation across the active footprint, including areas within the ONL. These activities materially modify the natural hill country terrain, replacing vegetated slopes with exposed benches, cut faces, engineered batters, haul roads, and overburden landforms.

Over the long term, progressive rehabilitation, including indigenous riparian planting of Mangapū Stream Tributary, rehabilitation of benches and the Hunua Pit OBDA with native planting, as well as native revegetation across the offset sites, will gradually soften engineered landforms and re-establish natural vegetation patterns around the quarry margins as part of a broader cohesive vegetated backdrop and work to protect the defining values of the Ponga Road ONL. With successful establishment, these measures are expected to reduce the landscape effects over time. Refer to **Table 7** below for a summary of landscape effects.

Table 7: Landscape Effects Table			
Landscape Effects and scale		During Operation (before mitigation)	At completion (after mitigation)
Physical Effects	Local level	High (adverse)	Moderate to Moderate-High (adverse)
	Broader Landscape	Low (adverse)	Very Low (adverse)
	Local level	Moderate-High (adverse)	Moderate (adverse)

Landscape Character Effects	Broader Landscape	Low (adverse)	Very Low (adverse)
Effects on the Ponga Road ONL	Site ONL	Moderate (adverse)	Low-Moderate (adverse)
	Broader ONL	Low-Moderate (adverse)	Low (adverse)
*The local level represents the Site and its immediate surroundings, while the broader landscape considers the wider landscape context surrounding the Site (Landscape Management Area ¹⁹).			

6.2 Natural Character Effects

The preservation of the natural character of rivers and their margins, and protection from inappropriate use or development is a matter of national importance. This applies to Mangapū Stream and its tributaries, including any wetlands and their margins, which have been identified within the Site.

In terms of natural character, the highest degree occurs where there is the least amount of human-induced modification. Structures, such as culverts and modifications of the active bed and margins, including vegetation clearance, can adversely change and alter the natural character of an area. The significance of this effect is dictated by the size, location and values/character of the receiving environment.

The realignment works are confined to a tributary of Mangapū Stream, and within that tributary, they affect the lower reach. The potential effects have been considered on the lower reach of that tributary and the Mangapū Stream as a whole.

The lower reach of the tributary, where the realignment is proposed, currently exhibits **high to very high natural character**, reflecting the presence of primarily intact indigenous vegetation, several wetlands, a natural and diverse channel form, incised landforms, and the strongly expressed influence of surrounding geomorphology on watercourse behaviour. The tributary flows through mature indigenous forest, with continuous canopy cover, limited exotic species, and a naturally shaded, stable channel environment. Natural fluvial processes, such as meandering, riffles, pool sequences, and waterfalls, remain evident, and the tributary is partly located within an ONL, reinforcing its high degree of naturalness and limited human modification.

As outlined in Section 4.6.1, the parataniwha gully and terrace wetlands located along the Mangapū Stream and Tributary are assessed as having a **'high'** level of natural character, while the exotic-dominated low areas are assessed as having a **'low'** level of natural character.

Stage 1 requires the removal of approximately 1,200m of the existing Mangapū Stream tributary (including several parataniwha gully and terrace wetlands), which will be replaced with a 570m meandering realigned channel. The realignment works will require extensive earthworks, a temporary bridge crossing (five years), the excavation of a new engineered channel corridor, the removal of indigenous riparian and terrestrial vegetation, and the construction of a stable, benched alignment. These activities represent a considerable physical modification to a waterbody with currently high levels of naturalness. The active bed and margins will undergo a complete realignment, and the natural form, pattern, and dynamic processes of the existing

¹⁹ Refer to Figure 2, Appendix 4.

channel will be lost in the diverted section. The introduction of a bridge crossing and initially exposed earth surfaces will establish a more engineered character, replacing the natural channel morphology, shading, and geomorphic attributes that currently guide the tributary's alignment.

Following the realignment, the natural character of the new channel will initially be **low**, reflecting the engineered nature of the realigned reach and the removal of mature indigenous vegetation that contributes to the existing sense of naturalness. Over time, however, the natural character of the reach is expected to progressively improve as riparian vegetation establishes, bank stability is created, and ecological processes begin to establish within the constructed channel. As the streamflow normalises, geomorphic adjustments occur, and riparian and terrestrial native planting matures (expected over 10 - 20 years), the natural character is anticipated to increase to **low-moderate**. In the longer term, potentially 20 - 50 years, there is potential for the realigned tributary reach to achieve a **moderate** level of natural character, provided that the channel design supports natural processes, habitat diversity, plant establishment and high-quality ecological conditions.

In addition to the realignment of the tributary, several parataniwha gully and terrace wetlands will be lost as a result of the Project, while others along the Mangapū Stream will be retained, and some will be partially severed at the edge of the quarry development area.

At the scale of the wider Mangapū Stream system, the effects of the realignment are more limited, as the modification is confined to the junction with the realigned tributary and does not alter the primary channel or upstream headwaters. While the realignment represents a significant loss of natural character within the affected reach, its influence at the broader stream scale diminishes.

Overall, the natural character of the Mangapū Stream is influenced by a combination of its sinuous channel form and numerous tributaries, together with riparian indigenous vegetation. Sections of the stream adjacent to the quarry retain elements of naturalness, particularly where vegetated margins soften the modified context and reinforce the legibility of natural drainage patterns. As a result, the Mangapū Stream is considered to have **moderate-high** levels of natural character overall, with higher natural character evident in more vegetated and less modified reaches.

Based on the above, the immediate effects of the lower reach of the Mangapū Stream Tributary realignment (including the removal of the parataniwha gully/terrace wetlands) are assessed as **high** (significant) adverse at the tributary scale. This relates to the removal of approximately 1,200m of the existing Mangapū Stream tributary, which will be replaced with a 570m meandering realigned channel, including the loss of indigenous vegetation within an SEA and ONL. At this scale, adverse effects will gradually reduce as natural character is restored resulting in long-term **moderate** adverse effects, accounting for measures which ensure riparian vegetation and habitat quality will improve. The extent to which the natural character values are ultimately restored depends heavily on the success of the realignment design and management, including channel geometry, stream function, hydrological performance, and the long-term establishment of indigenous vegetation, which is proposed to be secured through conditions. Once rehabilitated, the level of natural character of the Mangapū Stream system is considered to remain **moderate-high** overall and result in **very low adverse** level effects.

Regarding RMA s6(a), *the preservation of the natural character of lakes and rivers and their margins, and their protection from inappropriate subdivision, use, and development*, the proposed removal of a 1,200m section of the lower reach of the Mangapū Stream Tributary and its replacement with an approximate 570m long new engineered, meandering channel will initially result in **high** (significant) adverse effects at the tributary scale, with a reduced level of effects at the wider Mangapū Stream and catchment scales.

While the level of modification required and the scale of disruption to the existing stream system represent a fundamental alteration of the natural environment along and surrounding the

tributary, the overall natural character of the stream system is expected to be progressively restored over time as the new channel stabilises and riparian vegetation establishes. The stream realignment is the primary mitigation measure and is intended to progressively reduce the 'high' adverse effects down to 'moderate-high' and eventually to 'moderate' over time.

The degree to which natural character can ultimately be restored is dependent and directly tied to the success of the realignment design, implementation and long-term management approach. Ensuring that both the conditions and the relevant management plans, including the “**Mangapū Stream Tributary Realignment Management Plan**”²⁰ provide for hydrological performance, channel geometry, riparian establishment and habitat creation, which is critical to achieving the intended restorative outcomes.

At the Site scale, the Project inevitably results in the loss of the existing natural character associated with the lower reach of the Mangapū Stream Tributary, due to the scale of modification required. However, if the realignment is implemented and managed carefully, there is potential to enhance natural character through the creation of a functioning, vegetated, meandering stream channel.

While the removal of 1,200m of the existing tributary will not preserve the natural character of the watercourse and its margins, the 570m meandering replacement channel will, in time, provide a level of natural character which can be considered to meet the intent of s6(a). Provided that the realignment design, its implementation, and the long-term management approach perform as intended, the proposed realignment of the tributary would not be inappropriate as a result of the proposed quarry development.

6.2.1 Summary of Natural Character Effects

Table 8 summarises the existing and post construction natural character condition of the Mangapū Stream and Mangapū Stream Tributary, as well as the corresponding level of effects associated with the Project.

Table 8: Summary of Natural Character Condition and Effects			
Waterbody	Existing Natural Character Condition	Post Construction Natural Character Condition	Natural Character Effects
Lower Reach of Mangapū Stream Tributary (the Site)	High - Very High	Low (initially) Low-moderate (10-20 years) Moderate (20-50 years)	High (adverse) (initially) Moderate-High (adverse) (10-20 years) Moderate (adverse) (20-50 years)
Mangapū Stream	Moderate-High	Moderate (initially) Moderate-High (10-20 years) Moderate-High (20-50 years)	Low-moderate (adverse) (initially) Low (adverse) (10-20 years) Very Low (adverse) (20-50 years)

²⁰ A **Mangapū Stream Tributary Realignment Management Plan** has been prepared, which outlines the proposed methodology for constructing the realigned tributary, including staging, and the timing and approach to native planting and establishment. Refer to Appendix B12.11.7.

6.3 Visual Effects

Visual amenity effects are influenced by several factors, including the nature of the Project and the characteristics and values of the surrounding landscape. Visual amenity effects are also dependent on the distance between the viewer and the quarry development area, the complexity of the intervening landscape and its landcover and the nature of the viewing audience. In short, visual effects are assessed as a type of landscape effect and therefore considered in terms of the consequences for landscape values as experienced in views.

To inform the assessment of the visual effects of the quarry development area, which is visible from the surrounding landscape, a 3-dimensional digital model of the quarry development area has been prepared alongside a series of visual simulations from a selection of representative publicly available viewpoints (**80 Judge Richardson Drive, 111 Middleton Road, 571 Ponga Road and East Street Playground**). From each of these viewpoints, a surveyed panorama photograph was obtained reflecting a 90-degree horizontal field. In accordance with current best practice²¹, the visual simulations have been prepared to show:

- i. the existing view;
- ii. the extent of the quarry development area (staging varies); and
- iii. the extent of landscape mitigation planting (after 10 years).

Whilst visual simulations are not “real life views”, they are a useful tool which can accurately portray in a realistic manner and in a realistic context, a proposed change or modification in the landscape. The location of visual simulations are illustrated on **Figure 44, Appendix 4**, and the anticipated changes and effects are summarised below for Middleton Road, Judge Richardson Drive, Ponga Road and East Street playground. Refer to **Figures 45 – 56, Appendix 4** for the Visual Simulations.

The visual effects assessment below includes an evaluation of potential changes to views from public locations, with a primary focus on road-based viewpoints. This assessment describes the existing visual environment and outlines how the quarry development area will be perceived within those views. The selected public viewpoints, along with their corresponding visual simulations, are provided in **Figures 25 – 56, Appendix 4**.

Further to this, a summary of visual effects on private viewing groups is also included. This section highlights the anticipated changes in views experienced from nearby dwellings and rural properties. A more detailed analysis and full visual effects assessment for these private locations is contained in **Appendix 3**.

6.3.1 Visual Effects from Public Locations

6.3.1.1 Hunua Road

Existing view: As illustrated in **Viewpoints 1 – 2**, the northern extent of the Hunua Quarry, which includes the stockpile/processing area and consented OBDA (Hunua Pit), are briefly viewed along Hunua Road when travelling eastward. These views are short to mid-range (485m – 535m) in distance and are experienced at oblique angles. Extensive vegetation borders Hunua Road providing limited visibility of the Site along the road length.

²¹ New Zealand Institute of Landscape Architects (2010) Best Practice Guide 10.2: Visual Simulations.

Proposed view: As the Symonds Hill Pit expands and further quarrying is undertaken throughout Stages 1 - 6, the OBDA (Hunua Pit) will increase in size and scale to eventually reflect the previous landform that once existed prior to the quarrying of the Hunua Pit. The growth of the consented OBDA is expected to take decades. During this period, the landform will gradually increase in size rather than happen suddenly, resulting in a noticeable change in the landscape/view.

From these viewing locations on Hunua Road, the quarry development area of the Symonds Hill Pit itself will not be visible until Stage 8. This is due to the existing, intervening landform in the foreground providing screening of the quarry development area to the south. As Stage 8 evolves, quarrying may be apparent. By this time, the Hunua Pit OBDA will be formed and finished (providing screening) with native planting underway as part of the quarry rehabilitation.

Given that the quarry is already a visible element in the landscape and is only seen along a short section of Hunua Road, the adverse visual effects of the quarry development area are considered to be **low**. As the planting on the OBDA grows and establishes over time, the adverse visual effects will reduce to **very low**.

6.3.1.2 Jones Road

Existing view: As illustrated in **Viewpoints 3 – 5**, glimpsed long-distance views (approximately 2km - 3km) of a small portion of the upper slopes and ridge of the eastern Site extent are available along short sections of Jones Road where no intervening landform or vegetation obstructs visibility. The wider landscape is covered in a mix of undulating pastoral fields, and patches of forestry and indigenous vegetation cover the gully slopes. The existing quarry activities are visually contained within the Site and not visible from Jones Road at present.

Proposed view: As the Symonds Hill Pit is expanded, the only noticeable or apparent change in the landscape would be during Stage 8, where the distant ridge will be lowered by up to 15m.

During this time, small areas of exposed earth may be visible depending on the viewing location, angle, and distance along the ridgeline. However, the Site forms only a small component of the wider view, and exposed earth is likely to go unnoticed within the rural landscape. Following completion of Stage 8, rehabilitation planting will be undertaken on the upper benches and other exposed areas along the eastern extent of the pit, eventually 're-greening' the ridge and skyline and creating a cohesive vegetated cover from these viewing locations.

Based on this, the adverse visual effects from users of Jones Road are considered to be **low**, reducing to **very low** once the planting establishes to re-create a green skyline.

6.3.1.3 Middleton Road

Existing view: As illustrated in **Viewpoints 6 – 7**, views from Middleton Road of the Site are relatively close range, with viewing distances varying from 300m to 720m. Similar to Jones Road, a small portion of the upper slopes and ridge at the eastern Site extent is visible along more distant viewing locations of Middleton Road, where no intervening landform or vegetation obstructs visibility. However, when located closer to the Site, more of the lower slopes are visible as illustrated in **Viewpoint 7**. The existing quarry activities are visually contained within the Site and not visible from Middleton Road at present.

Proposed view: Visual Simulation A is located near 111 Middleton Road and illustrates the quarry development area during Stages 7 and 8. During Stage 7, the reduction in the ridge height is partially discernible, though its visibility is limited by the 720m viewing distance and foreground vegetation on the Site boundary. At the completion of Stage 8, a more notable dip in the ridgeline and overall landform is apparent as exposed earth faces are visible and long-distance views towards Papakura are available. Rehabilitation of the benches and cut faces will progressively be undertaken by way of native planting throughout Stage 8. In time, the

proposed vegetation will establish and soften the exposed earth, recreating a continuous green ridge.

For closer range views, such as those similar to **Viewpoint 7**, partial views are available down into the gully where Stages 1 – 6 will take place. Visibility of cut faces and quarrying activities will be apparent from Stage 1 onward. This is due to the foreground landforms being progressively removed to make way for quarrying activities.

Overall, more distant views from Middleton Road will only see the later stages of the quarry whereas the closer the view, the earlier stages will become apparent, increasing as the quarry develops.

Based on this, the adverse visual effects are considered to be **low-moderate**. As the progressive rehabilitation takes place, to soften the edges of the benches and planting restores a green hillside, the adverse visual effects will reduce to **low**.

6.3.1.4 Ponga Road

Existing view: As illustrated in **Viewpoints 8 – 10**, intermittent glimpses of the upper slopes of the quarried Symonds Hill Pit are visible along short stretches of Ponga Road. The viewing distances are over 900m, with the quarry viewed among gaps in vegetation along the roadside. The newly excavated quarried faces tend to stand out more than the weathered faces amongst the vegetated green backdrop and skyline ridge. This illustrates the change in the appearance of the quarry faces over time as weathering takes place (prior to any rehabilitation taking place).

Proposed view: Visual Simulation C illustrates the existing view from 571 Ponga Road and on completion of Stage 8. From this viewing location, the defined ridge skyline will reduce in height for most of the view. Quarrying activities will deepen the pit and establish more linear lines where the benches have been formed. While the quarry already forms part of the view, it does expand and become more dominant on completion of Stage 8. Stage 7 will initially signal the quarry development area from this view due to its progression towards the north-east, whereas all previous stages push out to the south and west which are visually contained from this viewing location.

The transition in quarrying from Stage 7 to Stage 8 will be subtle and happen over approximately 15+ years, allowing for the rehabilitation of Stage 7 to get underway. However, it will not be until Stage 8 that rehabilitation establishes a green backdrop that will be apparent and appear to reconnect the extensive vegetated ridges together.

Based on the above and that the quarry is already a visible feature in the landscape, the adverse visual effects are considered to be **low-moderate** for users of Ponga Road. As the progressive rehabilitation takes place, to soften the edges of the benches and planting restores a green hillside, the adverse visual effects will reduce to **low** over time.

6.3.1.5 Judge Richardson Drive

Existing view: As illustrated in **Viewpoints 11 – 16**, numerous established and mature trees along the road corridor and vegetation within private properties help to filter views towards the quarry. However, where gaps occur in this vegetation, partial views of the upper slopes of the Symonds Hill Pit become available. At this relatively close viewing distance (approximately 300m), the quarry occupies a greater proportion of the view than the wider landscape.

Proposed view: Visual Simulation B illustrates the existing view near 80 Judge Richardson Drive and then as the quarry progresses from Stage 2, and 7 through to 8. Stages 1, and 3 – 6, will not be visible from these viewing locations due to the intervening landform and vegetation and progression of the quarry to the south and west, whereas Stages 2, 7 and 8 expand to the north and east, which is visible in the Visual Simulations. Stage 2 introduces the western haul road which is currently not apparent in this view due to the intervening vegetation and angle of the view. However, as Stages 7 and 8 progress, the expanse of the quarried faces become

more dominant and prominent in the view when open to partial views are available. While the quarry already forms part of the view and is part of the existing environment, the quarry development area is a dominant feature in the landscape in comparison to the bush clad slopes that are currently existing.

The transition in quarrying from Stage 7 to Stage 8 will be subtle and happen over 15+ years. However, it will not be until Stage 8 that rehabilitation establishes that a green backdrop that will be apparent and appear to recreate a vegetated backdrop.

At the commencement of Stage 1, approximately 3.7ha of indigenous vegetation will be established within the Judge Richardson Drive offset site. This revegetation will comprise species consistent with adjacent vegetation types within the SEA, and over time will strengthen connectivity between the two established vegetated edges. As the planting matures, it will assist in softening the visual effects associated with Stages 7 and 8, helping to integrate these quarry stages into the surrounding landscape framework.

Based on the above changes and understanding that the quarry is already a visible feature in the landscape, the adverse visual effects are considered to be **moderate** for users of Judge Richardson Drive. As the progressive rehabilitation takes place, to soften the edges of the benches and planting restores a green hillside, the adverse visual effects will reduce to **low-moderate** over time.

6.3.1.6 Other Nearby Local Roads (Coal Mine Road, Kauri View Road)

Existing views: As illustrated in **Viewpoints 17–19**, views of the existing Symonds Hill Pit are generally from distances of over 1 km, where the quarry currently reads as a relatively small and contained element within a much broader backdrop of vegetated hill slopes.

Proposed view: As the quarry expands as part of Stages 7 and 8, the active quarry face would extend progressively to the north and west, increasing its apparent scale within these views. This quarry development area would appear as a more discernible and contrasting landform element against the vegetated hillslope background, although its visual prominence would remain moderated by viewing distance, intervening landform, and the expansive extent of indigenous vegetation in the wider landscape. Over time, proposed rehabilitation and planting would assist in softening exposed faces and reducing visual contrast, helping the expanded quarry to remain visually absorbed within the surrounding hill country setting.

Based on the above changes and that the quarry is already a visible feature in the landscape, the adverse visual effects are considered to be **low-moderate** for users of nearby local roads. As the progressive rehabilitation takes place, to soften the edges of the benches and planting restores a green hillside, the adverse visual effects will reduce to **low** over time.

6.3.1.7 Distant Local Roads

Existing view: As illustrated in **Viewpoints 20–22**, the upper slopes of the Symonds Hill Pit are visible; however, they largely blend into the existing mixed mosaic of land cover patterns that characterise the surrounding hill landscape. At these viewing distances, the quarry is read within a complex pattern of indigenous vegetation, production forestry, and pastoral land, which reduces the visual coherence. As a result, the upper quarry slopes do not present as visually dominant features but rather contribute to the varied textures and colours of the broader hillslope context.

Proposed view: **Visual Simulation D** illustrates the existing view from East Street (adjacent to Great South Road) and on completion of Stage 8. From this viewing location, the distant ridgeline will reduce by up to 15m in height for a small portion of the view, and the vegetation cover will reduce across the ridgeline and upper slopes. Quarrying already forms a discernible component of the existing view; however, upon completion of Stage 8, the quarry will expand and become more apparent, primarily due to the lighter colour and texture of exposed overburden and cut faces. Over time, as exposed surfaces weather and rehabilitation

progresses, colour contrasts are expected to diminish, allowing the modified landform to recede visually and become more assimilated into the surrounding landscape context.

Based on the above and that the quarry is already a visible feature in the landscape, the adverse visual effects are considered to be **low** for users of distant local roads to the west. As the progressive rehabilitation takes place, to soften the edges of the benches and planting restores a green hillside, the adverse visual effects will reduce to **very low** over time.

6.3.2 Visual Effects from Private Locations

A more detailed visibility analysis and visual effects assessment is set out within **Appendix 3** for private locations. The 'Viewing Groups' were established based on the ZTV analysis, site visits, the dwellings' location relative to the quarry development area, classified by cardinal direction (north, east, south, and west of the Site) and by their proximity to the quarry footprint (within 500m, 1km, and beyond 1.5 km). In this assessment, 0 – 500m is defined as short range, 500m – 1km as medium range, and beyond 1.5km as long range viewing. The visual effects have been assessed across two different stages of the quarry's life cycle, during operation (before mitigation) and at completion after mitigation (after 10 years).

Refer to **Figures 25 - 30, Appendix 4**, for the mapped extent of the Visual Catchments and Viewing Groups. While individual dwellings were not visited, the assessment is based on the ZTV analysis, 3D modelling, 3D Google Maps, and observations from the Site looking toward neighbouring properties and from public road frontage of these properties (where possible).

This assessment assigned a degree of effect (very low to very high), based on the following: visibility and proximity to the Site (in particular to the nearest boundary of the Site); the apparent orientation of the house and the nature of the view, including any existing or proposed vegetation that might provide full or partial screening of views. The nature of the effect is also determined. Below is a summary of the visibility from the viewing groups.

6.3.2.1 Winstone Owned Properties

At the time of preparing this assessment, Winstone has either received a signed approval from, controls or owns the surrounding properties at 161 Middleton Road, 167 Middleton Road, 105 Judge Richardson Drive, 115 Judge Richardson Drive and 119 Judge Richardson Drive. Based on this, the properties listed above do not form part of the visual effects assessment.

6.3.2.2 Northern Viewing Groups (N1 – N4)

*Refer to **Appendix 3** for a detailed visual effects assessment with viewing distances and individual properties tabulated.*

The northern viewing groups have minimal visibility of the existing quarry operations at Hunua, except for the north-western areas consisting of the southern fringes of the Red Hill suburb. The undulating topography and hill country, coupled with extensive indigenous vegetation on the NZ Defence Force land, provide screening and intervening factors which limit views towards the Site.

a. **N1 (Northwest, lower elevation):**

The existing quarry, including the Symonds Hill Pit, is not visible due to substantial screening by landform and extensive vegetation. Given these constraints, the quarry development area is unlikely to become visible at any stage.

b. **N2 (Red Hill residential area):**

Residents currently experience partial or intermittent views of existing quarry operations, which form a minor component of a wider rural and vegetated outlook. While later quarry stages (Stages 7 and 8) may become more perceptible in the long

term, where sightlines allow, the quarry will continue to occupy a small proportion of the panoramic view. Rehabilitation planting will (in time) restore a cohesive green backdrop, reducing long-term visual effects.

- c. **N3 (NZ Defence Force land to the north):**
 Visibility of quarry operations is extremely limited, with any views being filtered by dense indigenous vegetation and the descending landform. The quarry is effectively screened throughout its life, and this will remain unchanged with the quarry development area (assuming the indigenous forest cover remains intact).
- d. **N4 (North-east):**
 Quarrying activities, including the Symonds Hill Pit, are not visible due to internal extraction, intervening topography, and extensive vegetation in the foreground. At completion of the quarry, the changes to the Site's eastern hillslopes and ridgeline will not be perceptible because of intervening landform and vegetation. Rehabilitation planting will further assist in blending the final landform into the surrounding hill country landscape.

In summary, the northern viewing groups will continue to experience a landscape dominated by vegetated hill slopes, with the quarry remaining either fully screened or a minor, recessive element within broader views, both during operation and following rehabilitation.

Table 8: Summary of Visual Effects from Northern Viewing Groups <i>Refer to Appendix 3 for a detailed visual effects assessment.</i>		
Viewing Group	During Operation (before mitigation)	At completion (after mitigation)
N1	Neutral	Neutral
N2	Low (adverse)	Very Low (adverse) to Neutral
N3	Very Low (adverse)	Neutral
N4	Very Low (adverse)	Neutral

6.3.2.3 Eastern Viewing Groups (E1 – E3)

Refer to Appendix 3 for a detailed visual effects assessment with viewing distances and individual properties tabulated.

Visibility from the eastern viewing groups ranges from partial views for the closest dwellings (E1) to no visibility for mid and long-distance viewers (E2 and E3). For most dwellings, effects remain low due to distance, landform screening, and existing vegetation intervening in the view.

- a. **E1 (within 500m):**
 The E1 Viewing Group experiences varying visibility of the quarry due to surrounding vegetation, landform, and dwelling elevations, with most of the existing quarry currently screened. The most noticeable change for these properties will occur during Stages 7 and 8, when the quarry lowers the skyline by about 15m and becomes more visually apparent. Rehabilitation planting will only become visible to this group after Stage 8, and as the vegetation establishes and forms a canopy, it will gradually soften and integrate the small areas of exposed quarry faces, helping to re-establish the green backdrop.
- b. **E2 (500m – 1km):**
 The E2 Viewing Group currently has no visibility of the existing quarry due to distance, intervening landform, and established vegetation. A noticeable change will occur only during Stage 8, when the upper slopes and ridge are lowered, exposing a modified

landform to a limited number of properties, specifically 96 and 111 Middleton Road. At this stage, the removal of previously vegetated knolls will create a low point in the ridgeline by up to 15m and introduce new long-distance views toward Papakura. Following these works, rehabilitation planting will be established on the upper eastern slopes of Stage 8 to recreate a green backdrop in the location of the former ridge and to progressively soften exposed faces as vegetation matures.

c. **E3 (over 1km):**

The E3 Viewing Group has no visibility of the existing quarry due to long viewing distances, intervening topography, and substantial vegetation cover. These same factors will continue to obscure sightlines to the quarry development area, making it unlikely that any part of the quarry development area will be visible from this group.

In summary, the eastern viewing groups experience a range of visibility, with only a small number of properties closest to the Site (E1) having partial views of existing quarrying and the most noticeable changes during Stages 7 - 8. Mid and long-distance groups (E2 and E3) currently have no visibility of the quarry, and only limited views will emerge for a few E2 properties during Stage 8, with rehabilitation planting progressively softening the final landform.

Table 9: Summary of Visual Effects from Eastern Viewing Groups <i>Refer to Appendix 3 for a detailed visual effects assessment.</i>		
Viewing Group	During Operation (before mitigation)	At completion (after mitigation)
E1	Low-Moderate (adverse)	Low (adverse)
E2	Low (adverse)	Very Low (adverse)
E3	Neutral	Neutral

6.3.2.4 Southern Viewing Groups (S1 – S3)

Refer to Appendix 3 for a detailed visual effects assessment with viewing distances and individual properties tabulated.

The southern viewing groups experience some of the most direct and open views of the Hunua Quarry, with elevated dwellings-oriented northwards toward the Site. For S1 and S2, partial views of the existing Symonds Hill Pit already occur, and all future quarry stages will remain visible as the pit deepens and expands. From these locations, the removal of ridges, formation of new benches, and deepening of the quarry will progressively broaden the outlook.

Rehabilitation planting will not be noticeable until the completion of Stage 8, when vegetation on the upper benches begins to soften and re-green the modified landform.

a. **S1 (Elevated ridges closest to the existing quarry)**

Dwellings in S1 already have partial visibility of the existing Symonds Hill Pit due to their elevated position overlooking the Site. As the quarry expands, all stages will be visible, with the outlook gradually shifting from partial views of upper slopes to a broader view of new benches, a deepened pit, and reduced skyline ridges. Rehabilitation will only become visible at Stage 8, when planting on the highest benches begins to soften the terraced landform.

b. **S2 (Elevated dwellings north of Ponga Road)**

Like S1, S2 properties sit at a higher elevation than the quarry and already experience filtered views of existing operations. The quarry development area will remain visible across all stages due to the downward viewing angle and mid-range proximity. As the quarry develops, the panorama will expand to include more benches and lowered

ridges. Rehabilitation effects will only become apparent after Stage 8 as vegetation establishes on the upper benches.

c. **S3 (More distant southern dwellings, >1 km)**

Visibility within S3 is mixed, with some elevated dwellings having partial, intermittent views of the quarry through breaks in topography and vegetation, while lower lying properties have no visibility. Although early stages may be partially perceptible, the most notable changes will occur during Stages 7 and 8, when higher-elevation quarrying becomes visible. Rehabilitation completed at Stage 8 will provide the first noticeable softening of exposed benches.

The southern viewing groups will continue to experience open views of quarry operations, particularly from elevated locations in S1 and S2, where all stages of quarry development will remain visible. While S3 views are more limited, later stages of the quarry development area will become noticeable for some elevated dwellings. Following Stage 8, rehabilitation planting will gradually soften the terraced landform and reintegrate the quarry into the broader landscape over time.

Table 10: Summary of Visual Effects from Southern Viewing Groups <i>Refer to Appendix 3 for a detailed visual effects assessment.</i>		
Viewing Group	During Operation (before mitigation)	At completion (after mitigation)
S1	Moderate-High (adverse) ²² to Moderate (adverse) or lower with existing intervening vegetation/elements	Moderate (adverse) to Low-Moderate (adverse) or lower with existing intervening vegetation/elements
S2	Moderate-High (adverse) ²³ to Moderate (adverse) or lower with existing intervening vegetation/elements	Moderate (adverse) to Low-Moderate (adverse) or lower with existing intervening vegetation/elements
S3	Low (adverse)	Very Low (adverse)

6.3.2.5 Western Viewing Groups (W1 – W3)

Refer to Appendix 3 for a detailed visual effects assessment with viewing distances and individual properties tabulated.

The western viewing groups experience extensive visibility of the existing quarry due to their proximity, elevated positions, and clear orientation toward the Symonds Hill Pit. While extensive indigenous vegetation currently softens and partially screens quarry faces, westward and northward, the quarry development area will progressively increase visibility as larger benches, exposed overburden, and broader quarry faces become apparent. The most pronounced changes will occur during Stages 7 and 8, when the quarry reaches its highest elevations and widest extent. Rehabilitation planting will not become visually meaningful for western viewers until these later stages, when reshaped benches begin to green and soften the terraced landform.

a. **W1 (Closest western dwellings, varied elevations)**

Dwellings within W1 currently have partial views of the upper eastern slopes of the Symonds Hill Pit, with vegetation filtering and softening its appearance. As the quarry expands westwards and northwards, exposed benches and rock faces will widen and become more visually prominent, especially where fresh overburden creates highly contrasting surfaces. Progressive vegetation removal and landform modification will

²² Refers to 610 Ponga Road and 802 Ponga Road.

²³ Refers to 736 Ponga Road.

open increasingly direct sightlines into active extraction areas. Stages 7 and 8 will generate the most substantial visual change, with broader, higher quarry faces becoming a dominant feature. Rehabilitation effects will not become noticeable until these same later stages, when planting on reshaped benches begins to soften the terraced landform.

b. **W2 (Elevated western dwellings slightly further from the Site)**

The W2 group experiences similar visibility to W1 despite being further away, as elevation and orientation maintain clear views toward the quarry. At present, the quarry reads as a background landscape element, softened by intervening indigenous vegetation. As the quarry development area progresses, benching and exposed rock faces will become increasingly legible, with fresh overburden initially heightening the contrast. Stages 7 and 8 will again create the most notable shift, with the quarry presenting a broader and more expansive feature across the mid-range view. Rehabilitation planting will only become visually apparent when these upper benches are reshaped and planted in Stages 7 - 8, gradually reducing visual contrast as vegetation matures.

c. **W3 (More distant western dwellings, >1 km)**

Within W3, visibility varies, elevated properties along Kauri View Drive and Coal Mine Road have partial views of the quarry, while lower dwellings along Ponga Road and Harry Dreadon Road experience limited or no visibility due to topography and vegetation. From this distance, the quarry appears as an expansive mid-distance feature, with changes unfolding more gradually across the view. Westward and northward the quarry development area will widen and intensify the visibility of benches and rock faces, particularly when fresh overburden is exposed. Stages 7 and 8 will be the most visible and expansive change, deepening and broadening the quarry face across the skyline. Rehabilitation will progressively soften the stepped landform as plantings establish, though full visual integration will take many years.

In summary, the western viewing groups will experience increasing visibility of the quarry over time, with W1 and W2 most affected due to proximity and elevation, and W3 experiencing broader, mid-distance views. The largest changes to the western outlook will occur in Stages 7 and 8, when quarry faces reach their greatest height and width. Rehabilitation planting will help soften and regreen these areas, though meaningful visual mitigation will only become apparent in the later stages and will establish progressively over many years.

Table 11: Summary of Visual Effects from Western Viewing Groups

Refer to Appendix 3 for a detailed visual effects assessment.

Viewing Group	During Operation (before mitigation)	At completion (after mitigation)
W1	Moderate-High (adverse) ²⁴ to Moderate (adverse) or lower with existing intervening vegetation/elements	Moderate (adverse) to Low-Moderate (adverse) or lower with existing intervening vegetation/elements
W2	Moderate-High (adverse) ²⁵ to Moderate (adverse) or lower with existing intervening vegetation/elements	Moderate (adverse) to Low-Moderate (adverse) or lower with existing intervening vegetation/elements

²⁴ Refer to 608 Ponga Road, 52 Judge Richardson Drive, 68 Judge Richardson Drive, 73 Judge Richardson Drive, 74 Judge Richardson Drive, 80 Judge Richardson Drive and 175 Judge Richardson Drive.

²⁵ Refers to 19 Judge Richardson Drive, 27 Judge Richardson Drive, 534 Ponga Road, 604 Ponga Road, 620 Ponga Road, 624 Ponga Road, 634 Ponga Road, 640 Ponga Road, 650 Ponga Road, 690 Ponga Road, 696 Ponga Road, and 700 Ponga Road.

W3	Low-Moderate (adverse)	Low (adverse)
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6.3.3 Summary of Visual Effects

Overall, the quarry development area will result in a range of visual effects that vary by location, distance, elevation, and orientation to the Site.

6.3.3.1 Summary of Visual Effects from Public Locations

Table 12 below collates a summary of the visual effects from public locations. For most public roads and distant viewing locations, the quarry is either not visible or forms a small, contained element within a broader vegetated landscape, particularly once rehabilitation planting is established. Closer roads and elevated viewing locations, including parts of Middleton Road, Ponga Road, Judge Richardson Drive, and southern and western private dwellings, will experience more noticeable changes, especially during Stages 7 and 8 when quarry faces widen, ridges are lowered, and exposed benches become visible. However, these changes will occur gradually over time, and the quarry is already a long-established landscape feature in many of these views.

Table 12: Summary of Visual Effects from Public Locations		
Public Location	During Operation (before mitigation)	At completion (after mitigation)
Hunua Road	Low (adverse)	Very Low (adverse)
Jones Road	Low (adverse)	Very Low (adverse)
Middleton Road	Low-moderate (adverse)	Low (adverse)
Ponga Road	Low-moderate (adverse)	Low (adverse)
Judge Richardson Drive	Moderate (adverse)	Low-moderate (adverse)
Other Nearby Local Roads (Coal Mine Road, Kauri View Road)	Low-moderate (adverse)	Low (adverse)
Distant Local Roads	Low (adverse)	Very Low (adverse)

6.3.3.2 Summary of Visual Effects from Private Locations

Table 13 below collates a summary of the visual effects from private locations within each of the viewing groups. Overall, mitigation options within the Site are limited in their ability to address the visual effects experienced from private properties of the quarry development area. For this reason, an off-site planting mitigation measure (Augier type approach) is recommended to provide more effective screening where appropriate and feasible for those who will experience visual effects of **moderate-high** (adverse) as indicated in orange below.

In parallel, progressive rehabilitation will soften exposed landforms and re-establish green backdrops, reducing visual contrast and enabling the modified landform to gradually reintegrate into the surrounding hill country. Together, these measures will help ensure that visual effects

diminish over time as planting matures and rehabilitated areas become more visually cohesive with the wider landscape.

Table 13: Summary of Visual Effects from Private Locations
Refer to Appendix 3 for a detailed visual effects assessment.

Viewing Group	During Operation (before mitigation)	At completion (after mitigation)
N1	Neutral	Neutral
N2	Low (adverse)	Very Low (adverse) to Neutral
N3	Very Low (adverse)	Neutral
N4	Very Low (adverse)	Neutral
E1	Low-Moderate (adverse)	Low (adverse)
E2	Low (adverse)	Very Low (adverse)
E3	N/A	N/A
S1	Moderate-High (adverse) to Moderate (adverse) or lower	Moderate (adverse) to Low-Moderate (adverse) or lower
S2	Moderate-High (adverse) to Moderate (adverse) or lower	Moderate (adverse) to Low-Moderate (adverse) or lower
S3	Low (adverse)	Very Low (adverse)
W1	Moderate-High (adverse) to Moderate (adverse) or lower	Moderate (adverse) to Low-Moderate (adverse) or lower
W2	Moderate-High (adverse) to Moderate (adverse) or lower	Moderate (adverse) to Low-Moderate (adverse) or lower
W3	Low-Moderate (adverse)	Low (adverse)

6.4 Cumulative Effects

The assessment of cumulative landscape effects considers whether the combined presence and operation of the Hunua Quarry (including the Symonds Hill Pit) and the Drury Quarry would, when viewed together or over time, result in a greater or qualitatively different effect on landscape character and visual amenity than each quarry considered individually. In this context, both quarries are located within the broader southern Auckland rural landscape and are relatively close in geographic proximity (approximately 4kms); however, their landscape and visual effects occur within different landscapes.

Although the Hunua and Drury Quarries are part of the same wider rural setting, they are separated by intervening hill ridges, dissected topography, and extensive areas of indigenous vegetation. These landform and vegetation patterns effectively prevent simultaneous visibility of both quarries from any single public or private viewpoint within the surrounding district. As a result, the quarries are not experienced together within the same view, nor do they cumulatively alter skyline profiles or landscape patterns when observed from common vantage points.

At the broader landscape character scale, both quarry operations sit within landscapes that already express a strong working rural character, incorporating pastoral farming, forestry, infrastructure, and extractive activities. While quarrying contributes to this character, it does so in a contained manner, with each quarry reading as a localised modification rather than as part

of a continuous connected landscape. The absence of visual connectivity between the two quarries means that their effects do not compound in a perceptual sense but instead remain individually legible and spatially discrete.

Overall, while the Hunua Quarry and Drury Quarry are relatively close in geographic proximity, the combination of spatial separation, intervening indigenous vegetation, and landscape containment ensures that they do not give rise to more than low cumulative landscape effects. Each quarry is experienced as a discrete and isolated feature within its immediate landscape context, and collectively they do not fundamentally alter the character, coherence, or legibility of the wider rural hill country landscape.

6.5 Response to AUP Statutory Provisions

The quarry development area is primarily located within the Special Purpose – Quarry Zone and part of the adjoining Mixed Rural Zone, which anticipates a working rural environment and a mix of rural production activities alongside rural residential living. From a landscape perspective, the Mixed Rural Zone provisions place emphasis on maintaining rural character and amenity while recognising the dynamic nature of rural production activities. In this context, the wider receiving environment is not a pristine natural setting; it is a mosaic of pastoral land, production forestry, indigenous vegetation remnants and established extractive activity, with rural roads and dispersed rural residential development. In this specific context, quarrying is an existing and legible component of the “working landscape” character and anticipated within the Special Purpose – Quarry zone, subject to a robust consideration of potential adverse effects.

The key landscape issue under H19 of the Unitary Plan (relating to the Mixed Rural Zone) is not whether quarrying is present (it is), but whether the scale, intensity and location of the expanded activity remains within a predominantly “working rural” landscape. The quarry development area increases the scale and duration of landform modification locally; however, the landscape effects are largely managed through staging, containment within landform and vegetated elements, and progressive rehabilitation, which collectively reduce the perception of the quarry reading as an uncontained or sprawling element across the hill country. Where the quarry development area interfaces with the Mixed Rural Zone, the re-establishment of native vegetation through the rehabilitation phases assists in maintaining rural amenity by reducing visual contrast, softening edges, and retaining a coherent pattern of vegetated hill slopes that is characteristic of the receiving landscape.

In relation to reverse sensitivity (a key theme in the Mixed Rural Zone provisions), the landscape assessment acknowledges that rural residential viewers experience variable amenity expectations in a working rural setting. The quarry development area is likely to increase local adverse visual effects for a limited number of properties and road users; however, these effects occur within an environment where rural production and quarrying are already evident. Accordingly, the Project remains consistent with the Mixed Rural Zone’s landscape intent, whereby this retains the working rural character of the area, minimises dispersing quarry effects beyond the established quarry context, and applies mitigation that responds to the existing landscape character.

The quarry development area extends into part of the Ponga Road ONL, which is valued for its rolling-to-dissected hill country form, extensive indigenous forest and regenerating indigenous vegetation, and the strongly articulated stream corridors that reinforce natural landscape qualities. From a landscape perspective, the D10 AUP provisions focus on protecting ONL values by maintaining visual coherence, visual and physical integrity, vegetation patterns, and high levels of naturalness, while also recognising that existing rural production activities can form part of ONL values in working landscapes.

The Project gives rise to adverse localised effects on ONL values within the quarry development area footprint due to landform modifications (cut faces/benches replacing natural hill slope

profiles), 6ha of indigenous vegetation clearance, and a medium to long-term increase in visual contrast from exposed overburden and engineered surfaces.

However, the landscape assessment also considers the matters embedded in D10, including the existing modified context, the scale and location of the works relative to the wider ONL extent, and the extent to which effects are contained and managed over time. In this case, the quarry development area occurs adjacent to existing quarry infrastructure and within a landscape from which there is already visibility of extractive activity. While this does not negate ONL sensitivity to change, it is relevant to how the quarry development area is perceived: the Project represents an incremental extension of an established modification rather than the introduction of a new, isolated disturbance within an otherwise intact ONL.

Importantly, the proposed mitigation planting across the offset sites is directly related to the ONL's key attributes and defining values in terms of the response to reestablish extensive native vegetation cover. While planting cannot replace the original landform values lost within the quarry footprint, it does meaningfully contribute to maintaining the visual coherence of the green canopy backdrop and provides connectivity to the wider SEA.

From a landscape perspective, the quarry development area is generally consistent with the intent of H19 in that it occurs within, and remains legible as part of, a working rural landscape, and its amenity effects are addressed through containment, staging and mitigation. In relation to D10, the quarry development area results in localised adverse effects on ONL values where landform and vegetation are directly modified; however, these effects are spatially contained, occur adjacent to an existing quarry modification, and are mitigated through a rehabilitation and revegetation programme designed to restore vegetated patterns and soften visual effects over time. Overall, the Project is not considered inappropriate at the broader landscape scale because the adverse effects have been adequately managed. Provided that mitigation and progressive rehabilitation are implemented as proposed, these measures will continue to maintain the visual coherence and physical integrity of the ONL.

7.0 Recommendations

The following recommendations outline the proposed mitigation and rehabilitation measures intended to address the landscape, natural character, and visual effects identified in this assessment. These measures encompass both off-site and on-site responses, including native mitigation planting, landscape rehabilitation, and the realigned Mangapū Stream Tributary corridor enhancement.

The following measures form part of the mitigation approach and are intended to reduce the scale and significance of potential effects. Collectively, these measures provide a considerable and long-term enhancement to landscape values, natural character, and visual amenity, and represent an appropriate mitigation response to the effects of the Project.

7.1 Mangapū Stream Tributary realignment

In response to the Mangapū Stream Tributary realignment, the realigned stream channel shall incorporate riparian planting, a naturalised channel form, and native revegetation on the quarried benches above to enhance natural character, improve habitat diversity, and support long-term stream function. A **Mangapū Stream Tributary Realignment Management Plan** has been prepared, outlining the methodology for constructing the realigned tributary, including staging, as well as the timing and approach to native planting and establishment. Refer to **Appendix B12.11.7** of the Substantive Application.

7.2 Native Revegetation and Landscape Rehabilitation

It is recommended that a comprehensive programme of native revegetation and rehabilitation be implemented across the Site and offset sites to mitigate effects on ONL values, natural character, and visual amenity.

a. Native Revegetation across the offset sites:

- All proposed areas of native revegetation across the offset sites as delineated on **Figure 22, Appendix 4** shall be implemented prior to the start of Stage 1 of the Project. This is to create a broader and more contiguous pattern of native landcover that will, over time, strengthen ecological linkages, improve landscape connectivity, and mitigate the loss of native vegetation of the quarry development area.
- All plants shall be eco-sourced from the Hunua Ecological District and reflect the species that would naturally occur there, using native species to emulate, as far as practicable, the vegetation types and stature being lost within the ONL and SEA_T_5323.

b. Landscape Rehabilitation Strategy and Management Plan:

- As detailed in the LRSMP, progressive rehabilitation of exposed quarry faces and OBDA areas shall be undertaken in accordance with each phase of rehabilitation, or earlier where feasible (refer to **Appendix 6**).
- This approach will help soften landform modification, reduce visual effects, and reintegrate quarry slopes into the surrounding landscape. Progressive rehabilitation of quarry faces, together with riparian planting along the Mangapū Stream Tributary, is integral to mitigating landscape, natural character and visual effects and to restoring ecological values throughout the life of the quarry.

7.3 Off-site Mitigation Planting

A voluntary condition has been developed to address **moderate-high** (adverse) visual effects on identified private properties within **Viewing Groups (S1, S2, W1 and W2)**. Under this approach, the Applicant would offer to undertake off-site mitigation planting to affected landowners at the time the consent is granted to mitigate the adverse visual effects. Where landowners elect to participate, a suitably qualified NZILA Registered Landscape Architect would visit the property to confirm the adverse visual effects and work with the landowner to identify appropriate mitigation planting measures within their property. Planting would then be implemented by Winstone and maintained by the landowner. This measure provides a responsive and collaborative method to reduce residual visual effects on nearby residents.

8.0 Conclusion

The Project represents a continuation of the long-established Hunua Quarry located within a rural working landscape. While it will introduce notable and long-term changes to landform, vegetation patterns, and the Mangapū Stream Tributary, these effects are largely contained within the Site and its immediate surrounds.

Localised adverse effects on the Ponga Road ONL will occur, but the majority of the ONL's defining values, including its elevated ridges, extensive indigenous forest, and strongly articulated landform, remain intact. Proposed native revegetation and rehabilitation measures will progressively restore vegetative patterns and soften engineered landforms, contributing to longterm landscape coherence, visual integrity and ecological connectivity.

Natural character effects on the Mangapū Stream Tributary will initially be high due to the realignment of a highly natural stream system. However, through careful channel design, riparian planting, and long-term management, the realigned tributary is expected to regain moderate levels of natural character over time while maintaining overall catchment-scale naturalness.

Visual effects vary by location and viewer sensitivity. Elevated properties to the south and west will experience the most direct visibility, while public viewing locations and more distant dwellings experience reduced visual effects. Off-site mitigation planting and progressive on-site rehabilitation provide meaningful pathways to reduce these effects across the life of the quarry.

A comprehensive programme of native revegetation across the offset sites and rehabilitation within the Symonds Hill Pit will play a central role in greening the landscape over time. These measures will progressively re-establish vegetative patterns, soften engineered landforms, and enhance ecological connectivity across the wider landscape. Overall, the proposed landscape mitigation and rehabilitation programmes will gradually reduce longterm landscape, natural character, and visual effects.

9.0 References

- Boffa Miskell (2009). *Auckland Regional Policy Statement Review: Landscape*. Report Prepared by Boffa Miskell Ltd for Auckland Regional Council. Report No. A08211_004.
- Te Ākitai Waiohua (2024). *Cultural Values Assessment for Hunua Quarry Long Term Development*. Report prepared by Te Ākitai Waiohua for Winstone Aggregates.
- Tonkin & Taylor Ltd (2010). *Hunua Quarry: Symonds Hill extraction pit: Vegetation Management Plan*. Report prepared by Tonkin & Taylor for Winstone Aggregates.

Appendix 1: CVs

Appendix 2: Method Statement

22 November 2023

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 minor²⁶ or if an adverse effect on the environment is no more than minor²⁷. For non-complying activities (noting this is not relevant for Fast Track applications), 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 circumstances²⁸ (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 significant²⁹.



²⁶ RMA, Section 95E

²⁷ RMA, Section 95E

²⁸ Seven-point level of effect scale. Source: Te tangi a te Manu, Pg. 151

²⁹ 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 3: Visibility and Visual Effects Table

Appendix 4: Graphic Supplement

Appendix 5: Statutory Context

Auckland Unitary Plan (AUP)

Within the AUP, mineral extraction from land is set out in Chapter E28, under which policy E28.3 is relevant:

E28.3 Policies

- (1) *Avoid where practicable undertaking new mineral extraction activities in areas where there are natural and physical resources that have been scheduled in the Plan in relation to natural heritage, Mana Whenua, natural resources, coastal, historic heritage and special character.*
- (3) *Provide for existing and new mineral extraction activities of a significant size and scale by their inclusion in and management by a Special Purpose – Quarry Zone.*
- (4) *Avoid, remedy or mitigate as far as practicable significant adverse effects associated with mineral extraction activities.*
- (5) *Require proposals for new mineral extraction activities in rural areas to provide adequate information on the establishment and operation of the activity and demonstrate:*
 - ...
 - (v) *mitigate significant adverse effects on visual and landscape values; and*
 - ...

H28 - Special Purpose Quarry Zone

The Special Purpose – Quarry Zone provides for significant mineral extraction activities to ensure that mineral extraction can continue in a manner that minimises adverse effects. The following objectives and policies are relevant to this LEA:

H28.2 Objectives

- (1) *Mineral extraction activities and appropriate compatible activities are carried out efficiently at significant mineral extraction sites.*
- (2) *The significant adverse effects associated with mineral extraction are avoided, remedied or mitigated.*
- (3) *The rehabilitation of quarries is assisted by cleanfills and managed fill.*

H28.3 Policies

- (7) *Require quarry operators to internalise the adverse effects associated with new or enlarged mineral extraction activities as far as practicable while recognising the need to allow for the efficient ongoing extraction of mineral resources.*

D27 - Quarry Buffer Area Overlay

The Quarry Buffer Area Overlay is located around significant mineral extraction activities. The intent of the overlay is to avoid reverse sensitivity effects on quarry operations that can result from subdivision, use and development occurring in close proximity to mineral extraction activities.

D27.2. Objective

- (1) *Reverse sensitivity effects that result from subdivision, use or development occurring near significant mineral extraction activities are avoided where practicable, and otherwise remedied or mitigated.*

H19 Rural – Mixed Rural Zone

To support ongoing mineral extraction, the quarry development area and associated overburden areas are primarily located within the Special Purpose – Quarry Zone, with a small portion located in the adjacent Mixed Rural Zone and subject to the Quarry Buffer Area Overlay.

The following objectives and policies are relevant to all underlying rural zones:

H19.2.3 Objectives – rural character, amenity and biodiversity values

- (1) *The character, amenity values and biodiversity values of rural areas are maintained or enhanced while accommodating the localised character of different parts of these areas and the dynamic nature of rural production activities.*
- (2) *Areas of significant indigenous biodiversity are protected and enhanced.*

H19.2.4 Policies – rural character, amenity and biodiversity values

- (1) *Manage the effects of rural activities to achieve a character, scale, intensity and location that is in keeping with rural character, amenity and biodiversity values, including recognising the following characteristics:*
 - (a) *a predominantly working rural environment;*
 - (b) *fewer buildings of an urban scale, nature and design, other than dwellings and their accessory buildings and buildings accessory to farming; and*
 - (c) *a general absence of infrastructure which is of an urban type and scale.*
- (2) *Recognise the following are typical features of the Rural – Rural Production Zone, Rural – Mixed Rural Zone and Rural – Rural Coastal Zone and will generally not give rise to issues of reverse sensitivity in these zones:*
 - ...
 - (b) *noise, odour, dust, traffic and visual effects associated with use of the land for farming, horticulture, forestry, mineral extraction and cleanfills;*
 - (c) *the presence of existing mineral extraction activities on sites zoned as Special Purpose – Quarry Zone;*
 - ...

H19.2.6. Policies – rural industries, rural commercial services and non-residential activities.

- (1) *Enable rural industries and rural commercial services only where they have a direct connection with the resources, amenities, characteristics and communities of rural areas.*
- (2) *Manage rural industries, rural commercial services and other non-residential activities to: avoid creating reverse sensitivity effects; contain and manage adverse effects on-site; and avoid, remedy or mitigate adverse effects on traffic movement and the road network.*
- (3) *Enable cleanfills and managed fills where they can assist the rehabilitation of quarries.*
- (4) *Restrict cleanfills and managed fills in the Rural – Rural Conservation Zone and Rural – Countryside Living Zone. Where cleanfills are established in other rural zones:*
 - (a) *they should not adversely affect or inhibit the use of surrounding land for productive purposes or for carrying out any permitted, restricted discretionary or discretionary activity; and*
 - (b) *their completed state should be in keeping with the appearance, form and location of existing rural character and amenity values.*

H19.4 Mixed Rural Zone

The more specific purpose of the Rural – Rural Mixed Zone is to provide for rural production, generally on smaller rural sites and non-residential activities of a scale compatible with smaller site sizes.

These areas often have a history of horticulture, viticulture, intensive farming and equine-related activities. These activities have in turn supported the establishment of produce sales or retail services such as cafés, restaurants, tourist and visitor-related facilities.

Sites in this zone provide flexibility to accommodate a range of rural production activities and associated non-residential activities while still ensuring good amenity levels for residents who use their land for rural lifestyle purposes.

The following objectives and policies apply to the Rural – Mixed Rural Zone.

H19.4.2 Objectives

- (1) *The existing subdivision pattern is used by a range of rural production activities and non-residential activities that support them.*
- (2) *The continuation of rural production and associated non-residential activities in the zone is not adversely affected by inappropriate rural lifestyle activity.*
- (3) *Rural character and amenity values of the zone are maintained while anticipating a mix of rural production, non-residential and rural lifestyle activities.*

H19.4.3 Policies

- (1) *Enable rural production, rural industries and rural commercial services that are compatible with the existing subdivision pattern and recognise that these activities are significant elements of, and primary contributors to, rural character and amenity values.*
- (2) *Manage reverse sensitivity effects by:*
 - (a) *limiting the size, scale and type of non-rural production activities;*
 - (b) *retaining the larger site sizes within this zone;*
 - (c) *limiting further subdivision for new rural lifestyle sites; and*
 - (d) *acknowledging a level of amenity that reflects the presence of:*
 - i. *rural production and processing activities that generate rural odours, noise from stock and the use of machinery, and the movement of commercial vehicles on the local road network; and*
 - ii. *non-residential activities which may generate noise, light and traffic levels greater than those normally found in areas set aside for rural lifestyle activities.*

D10 – Outstanding Natural Features and Landscapes

The proposed expanded quarry extends into the Ponga Road (ID 60) Outstanding Natural Landscape, within the south-eastern and southern parts of the Site. Within **Schedule 7: Outstanding Natural Landscapes Overlay** of the AUP, the Ponga Road ONL is described as *Hill country Cultured nature/wild nature (hill country) Extensive sequence of mature and regenerating native forest, combined with strongly articulated stream corridors that reinforce the natural qualities of this rolling to dissected hill country landscape.*

The following objectives and policies are relevant to protecting the ONL:

D10.2. Objectives

- (1) *Auckland's outstanding natural features and outstanding natural landscapes are protected from inappropriate subdivision, use, and development.*
- (2) *The ancestral relationships of Mana Whenua with outstanding natural features and outstanding natural landscapes are recognised and provided for.*
- (3) *Where practicable the restoration and enhancement of outstanding natural features and outstanding natural landscapes, including in the Waitākere Ranges Heritage Area and the Hauraki Gulf /Te Moana-nui o Toi/Tīkapa Moana, is promoted.*
- (4) *Existing rural production activities are recognised as part of landscape values including in outstanding natural features and outstanding natural landscapes.*

D10.3. Policies

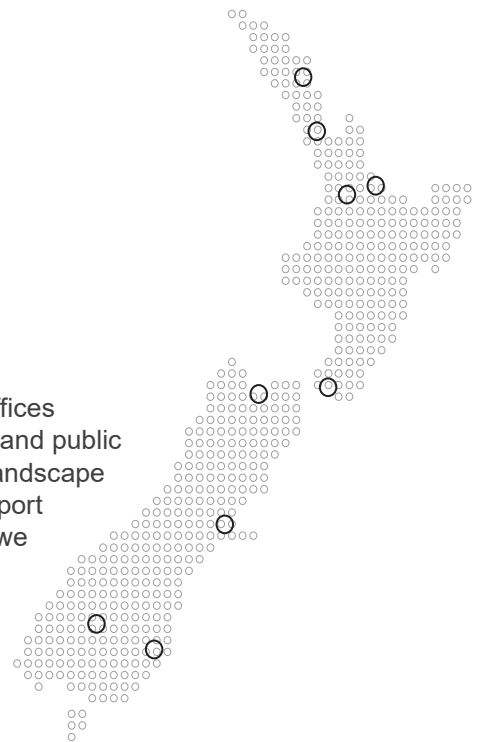
- (1) *Protect the physical and visual integrity of outstanding natural landscapes by:*
 - (a) *avoiding the adverse effects of inappropriate subdivision, use and development on the natural characteristics and qualities that contribute to the values of the outstanding natural landscape;*

- (b) *maintaining the visual coherence and integrity of the outstanding natural landscape;*
 - (c) *maintaining natural landforms, natural processes and vegetation areas and patterns;*
 - (d) *maintaining the visual or physical qualities that make the landscape iconic or rare; and*
 - (e) *maintaining high levels of naturalness in outstanding natural landscapes that are also identified as outstanding natural character or high natural character areas.*
- (2) *Protect the physical and visual integrity of outstanding natural landscapes while taking into account the following matters:*
- (a) *the extent of anthropogenic changes to the natural elements, patterns, processes or characteristics and qualities;*
 - (b) *the presence or absence of structures, buildings or infrastructure; the temporary or permanent nature of any adverse effects;*
 - (c) *the physical and visual integrity and the natural processes of the location; the physical, visual and experiential values that contribute significantly to the natural landscape's values;*
 - (d) *the location, scale and design of any proposed development; and*
 - (e) *the functional or operational need of any proposed infrastructure to be located in the outstanding natural landscape area.*
- ...
- (5) *Enable use and development that maintains or enhances the values or appreciation of an outstanding natural landscape or outstanding natural feature.*
 - (6) *Provide for appropriate rural production activities and related production structures as part of working rural and coastal landscapes in outstanding natural landscape and outstanding natural feature areas.*
 - (7) *Encourage the restoration and enhancement of outstanding natural landscapes and outstanding natural features where practical, and where this is consistent with the values of the feature or area.*

Appendix 6: Landscape Rehabilitation Strategy and Management Plan (LRSMP)

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