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Visual Effects Assessment

prepared for

OCEAN RIDGE DEVELOPMENT

Ocean Ridge Subdivision
Proposed Plan Change

July 2025

Visual Effects Assessment

Ocean Ridge Subdivision, Outline Development Plan, Ingles Drive, Kaikōura

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Prepared by:	Anne Wilkins, Principal Landscape Architect

Novo Group Ltd

Level 1, 279 Montreal Street
PO Box 365, Christchurch 8140
P: (03) 365 5570
E: info@novogroup.co.nz
W: www.novogroup.co.nz

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Qualifications and Experience

My name is Anne Eleanor Wilkins, and I am the Principal Landscape Architect at Novo Group in Christchurch. I have over 18 years' of experience as a Landscape Architect, I hold a Bachelor of Landscape Architecture with Honours (BLA Hons) from Lincoln University and am a fully Registered member of the New Zealand Institute of Landscape Architects (NZILA Registered). During my career, I have undertaken a wide scope of landscape developments, including large scale infrastructure projects, coastal developments, master planning, mitigation planting plans, parks and reserves design, school developments, urban and streetscape projects, and commercial and residential designs. While my expertise spans across the full landscape architecture spectrum, I specialize in landscape planning with knowledge of the RMA requirements for landscape and visual assessments, providing design advice and assessment for a variety of complex projects, from Plan Changes and masterplans, to electricity, solar panel, transport projects, and rural subdivisions. I prepare visual assessments, landscape character studies, amenity assessments, photo montaging, and expert evidence and advice for hearings and submissions. I have undertaken extensive urban design assessments for a range of urban, commercial, residential, civil and Plan Change projects across New Zealand. I am on a number of Landscape Assessment and Review Panels across the country, guided by my practiced knowledge of *Te Tangi a te Manu* to promote sustainable environmental management for protecting and enhancing our environments in Aotearoa. I have contributed publications to LA Aotearoa, am a member of the Visual Representation Guidelines Group NZ, a contributing member for Registration Mentoring, and I have established and managed landscape teams in professional practice.

Code of Conduct

I confirm that I have read the 'Code of Conduct' contained in the Environment Court Practice Note 2014. My assessment has been prepared in compliance with that Code. This assessment is within my area of expertise and will state where and if I am relying upon the specified evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Anne Wilkins Novo Group Limited

Principal Landscape Architect

D: 03 925 8917 | **M:** 027 337 3479| **O:** 03 365 5570

E: anne@novogroup.co.nz | **W:** www.novogroup.co.nz

Introduction

1. A Plan Change (**PC**) and associated Outline Development Plan (**ODP**) is proposed for the Ocean Ridge Comprehensive Living Zone in Kaikōura, which, in summary, increases the overall residential yield by 150 residential dwellings and extends the existing mixed-use area. The purpose of this report is to assess the landscape and visual effects (**LVA**) of the proposed changes on the receiving environment.

Methodology

2. **Information:** The assessment includes references from extensive documentation, including the existing Outline Development Plan 1 and 2 – Ocean Ridge Comprehensive Living Zone, the Proposed **ODP** and Masterplan documents prepared by Novo Group (the '**Urban Design Framework'** Document), and the associated Plan Change (**PC**) documentation and subsequent information by RMG (Applicant planner). A Graphic Attachment to describe underlying features and elements of the LVA has been prepared and provided to be read in conjunction with the following **(Appendix 1).** I have been involved in the master planning, design, conceptual development, landscape reporting and development of Ocean Ridge since early 2024.

3. **Methodology:** The full methodology for the **LVA** and the associated information, and ZTV Maps, has been provided in **Appendix 2**.

Structure

4. Given the expected development, and in the context of the expected residential development at Ocean Ridge, the following **LVA** has been broadly separated into three main areas for assessment having tangible visual changes, being The Hub, The Farm and Greenlane.

5. The following **LVA** report outlines:

    - Overview of Proposal and the Mitigation Measures that have been applied to the ODP and throughout the course of the master planning process.
    - Statutory Framework Review.
    - Landscape and Visual Effects Assessment.
    - Summary of Changes and Effects.

Proposal Details

6. For a full assessment refer to the **Planning Assessment AEE** by **RMG** however the proposal, for the purposes of the landscape and visual matters[1], can be summarised as the following.

7. The total residential yield currently for Ocean Ridge is **336 units**. The proposal will enable an **additional 150 dwellings** for a total residential yield of **486 units across the site** i.e. the effects assessment is based upon the densification of the Ocean Ridge residential areas to allow for:

- Increasing the density of the existing residential expectation, across the entire Ocean Ridge site, by a maximum 'cap' of 150 dwellings / units.
- Extension and expansion of the Hub area (the existing 'Mixed-Use' area) from approximately 1.54ha to 5.64ha in the same location and extending south, while allowing for more activity and residential use in a comprehensive multi-use area arrangement.
- Development of the Farm (the existing Open Space / Grazing area) to include an area of residential dwellings (a maximum yield of 60 dwellings).
- The development of hillside areas in the Open Space / Native Vegetation area to larger rural style 'Country Living' lifestyle block areas.
- Development of the Greenlane area to allow for additional residential outcomes expected under the existing arrangement (a maximum yield of 220 dwellings).
- Increase the height limits in some targeted areas in appropriate locations in the Hub to 11 and 15 metres and the Farm (establishing residential use to 8 metre height to align with the rest of Ocean Ridge).
- Establishment of design controls, allotment controls and landscaping requirements to support the densification and extension outlined above.

8. Landscaping across the entire Ocean Ridge site to uphold the principles of the existing character to include the:

[1] For the full review of the proposal please refer to the

- Retention of all existing native planting restoration works across the entire Ocean Ridge (and a more comprehensive plan moving forward to ensure appropriate protection, management and maintenance).

- Creation of open space areas and reserves and active landscape linkages including pathways, green open spaces and planting bands to provide spaces and connections between residential areas. These areas include the provision for proposed reserve stormwater areas to maintain the green-blue networks across the site.

- Establishment of future Wetland and Wetland Bank Planting, Riparian Planting, and Dryland Planting across the entire site to ensure future biophysical development (refer to Ecologist information) and visual mitigation is enabled.

- The retention of all existing walking tracks and the extension of walkway links through the Farm area to the wider recreational / Kowhai River and coastal walkway.

9. Road connections[2] to allow for:

- The retention of the Greenlane main road link[3].

- the creation of one new main road link through the Hub area (exiting on to the State Highway)

- One new main road link for the Farm area (no exit road supported by minor cul-de-sacs) and associated footpaths, pedestrian links and carparking areas.

Mitigation Measures

10. Significant work and consideration to include impactful mitigation measures have been built into the Plan Change process, with a focus on the remediation of any potential visual effects as a foreground focus.

11. The proposed Outline Development Plan (**ODP**) is the result of a comprehensive and methodical master-planning design-led process, conducted over 18 months (2024–2025). The masterplan prioritised, amongst other urban design components, the optimal spatial distribution of the additional 150 dwellings, ensuring integration with the site's existing character and environmental context. Each sub-area was individually assessed and designed in response to specific landscape, topographical, and visual amenity values.

[2] A Traffic Assessment has been provided for in the main RMG Application documentation.
[3] Already present in the existing ODP

Open space areas that have been appropriately located and dispersed to allow for 'breathing space' and breaks between buildings, while allowing for the densification of the residential areas.

12. Areas of the existing Ocean Ridge layout have been considerately treated, retained or adjusted to ensure continuity with the established comprehensive development framework. The proposal reinforces the current planning strategy, maintaining a balanced mix of residential, mixed-use areas, open space, planting, and community amenities, consistent with best-practice master-planning principles. Critically, the masterplan development focused on weaving in aspects of landscape and visual amenity values throughout the design process, to pre-emptively protect and mitigate from the potential for adverse effects. Existing and proposed planting and growth providing screening and softening acts to lessen the visual effects.

13. The Ocean Ridge development has already accounted for varying levels and forms of residential use. Because residential use is a clearly anticipated and established component of the landscape, the introduction of additional dwellings is unlikely to result in significant adverse effects on the area's landscape character. The presence of residential elements within the landscape is an expected feature, minimizing any potential disruption to the visual coherence and overall aesthetic quality of the region.

14. Additionally, specific mitigation measures (MM) have been applied to separate parts of the site in the form of site-specific applications and design controls. **Figure One** below outlines the mitigation measures applied at each of the three areas relevant to landscape and visual matters. These have been shaped in consideration of **Appendix 1 – Landscape, Amenity and Energy Efficiency Guidelines (KDP).**

Mitigation Measures (MM)	**Application Area and Notes**
Planting[4] and Landscaping **(MM-1)** Bands of native planting, riparian planting and / or green spaces in open reserve areas.	*The Hub:* • Planting bands along the southern boundary of the Hub to screen and soften buildings. A large landscape setback of built forms facing the State Highway. • Inclusion of open 'landscape linkages'. • Reserve and open green spaces. • Street trees and landscaping minimum required in carparking areas.

[4] Refer to the Morphum Planting Plan for details.

Mitigation Measures (MM)	Application Area and Notes
Ecological and biophysical enhancement and allowance for planting and feasible future maintenance.	• Approximately 2700m² of proposed 'Riparian Planting' north of Ludley Drive in the adjoining area. • No solid paling fences and no fencing to be along the southern area adjoining the Kekeno Park reserve area. *Greenlane:* • Upwards of 12.3ha[5] of proposed 'Dryland Planting' and 'Wetland / Wetland Bank Planting' to allow for open spaces, green corridors and biophysical improvements adjacent to existing residential areas. • The area of 'Dryland Planting' adjacent to the 'Greenlane Zone A' (see the Mitigation Measures Diagram in the **Graphic Attachment**) to be planted prior to any building works occurring within this area. • A 2-metre-wide landscape strip 'Visual Integration Planting' along the Greenlane rail / rural corridor boundary that adds upwards of 2745m² of planting to the area. • The inclusion of a significant 'Reserve Area' to allow for open space and public amenities as shown on the ODP plan. *The Farm:* • Upwards of 1.76ha of Wetland / Wetland Bank Planting and Riparian Planting within the Farm area. • The inclusion of a significant 'Reserve Area' to allow for open space and public amenities.
Building Design Control **(MM-2)** Ensuring building controls are applied to the forms to protect and mitigate visual amenity values as / where required.	*The Hub:* • Have a design centred approach that supports the 5-point Objectives in the '*Ocean Ridge Masterplan*[6]*'* document to ensure high-quality design outcomes. • Any terraced housing included in the Hub to allow sufficient outdoor living for each unit and consider MDRS standards to inform plan controls. • Screening of utilities to avoid back of house areas. • Materials and colours encouraged to be complimentary to the surrounding coastal character and avoid any large blank facades. • Have applied building setbacks from Fidel Lane and from the proposed new link road. *The Farm:*

[5] Approximately and pending discussion with Council regarding recreational reserve and electricity distribution line areas (see Morphum Plan).
[6] Novo Group Masterplan Framework Document.

Mitigation Measures (MM)	Application Area and Notes
	• LRV rating to be 18% for all roofs of any established dwelling (as per DEV-2-S9). All proposed dwellings are generally of consistent recessive colours and earthy tones and have a LRV rating of 37% applied to all dwellings (exterior walls. • The building coverage on any site to be limited to 40% to allow for sufficient open space around each built form. • Minimum allotment sizes of 500m² and 3000m² to be applied to integrate with the Crest area to the east and incorporate wider open space values. *Greenlane:* • The identified 'Zone A' to allow for sufficient breaks between built forms and avoid continuous building line facades. • The identified 'Zone A' buildings be limited to a mono-pitch roof as per landform *Ap 1 (1)(a) KDP Guidelines*. *Other:* • 'Country living' lots will have a maximum building footprint and curtilage areas (in alignment with the existing Area D(i) and minimum site size allotments).
Height and Size Limits **(MM-3)** Control the limits of building heights in certain areas to minimise skyline breach.	• A 11-metre height limit at the Hub to allow for comprehensive bulk and form and a mixed-use approach (residential and commercial mix across levels of the building), with a small area to the north that has been appropriately chosen and designed through the master-planning stages to allow for an area of 15m. • An 8-metre (two-story) height limit on the Farm to decrease the potential for views from surrounding public areas to the south. • An 8-metre (two-story) height limit at Greenlane (as is existing in the current ODP).
Roading and Earthworks (MM-4) The creation of sensibly located roads and required cuts to minimise visual impact	• General lighting requirements as per *Ap 1 (3) KDP Guidelines*[7]. • The applied Greenlane main road has been designed to be highly similar to the existing ODP plan anticipated layout and designed to minimise earthworks and cuts across the landscape. • The Farm access road has been designed in response to the existing geography and topography, as well as the existing riparian margin and planting. • The Hub extends the existing road and adds a turn-out area at a logical location that does not interrupt further visual amenity.

[7] Appendix 1 – Landscape, Amenity, and Energy Efficient Guidelines, Kaikoura District Plan

Mitigation Measures (MM)	Application Area and Notes
Lighting (MM-5) Placement of lighting to ensure minimal impact on open night skies or recreational areas	• No lighting on the exterior faces along the building frontages of the Hub i.e. all lighting facing the internal street link. • General lighting requirements as per the LIGHT Chapter rules.

Figure 1: Specific Mitigation Measures (refer to Appendix 1 Mitigation Plan).

The Receiving Environment

15. The receiving environment is comprised of the physical, associative and perceptual attributes of the site and surrounding areas. In this case the receiving environment to be considered also includes the built form existing and anticipated under the existing **ODP**.

Wider Landscape Context

16. Ocean Ridge sits within a highly dynamic environment surrounded by Kaikōura's identifying features, with gently rolling and flat rural plains immediately adjacent, a sweeping stony beach 200m to the south, the Seaward Kaikōura Ranges to the north and east and the braided Kōwhai River to the immediate west.

17. The **KDP** describes the surrounding environment as "*the landscapes along this part of the coast are dominated by the coast and lowland floodplains formed from the Kowhai River with adjacent rolling hills, truncated by limestone bluffs in some locations. The impressive seaward Kaikōura range forms the wider backdrop. The Ocean Ridge Development Area forms part of the rural gateway to Kaikōura and parts of the zone, in particular the main ridge, are visible from the surrounding area*.[8]"

Site Context

18. The Ocean Ridge development is located off SH1 (accessed by Ocean Ridge Boulevard), approximately 3km southwest of the Kaikōura town centre and the wider Kaikōura Peninsula. The Kaikōura Golf Club is adjacent to the south and west. The site sits entirely within the Ocean Ridge Comprehensive Living (ORCL) zone and is surrounded by Rural Zone under the Kaikōura District Plan. There are reserves to the south and east. The

[8] DEV2-PR1 of DEV2-Ocean Ridge Development Area in the KDP

Kowhai River Significant Landscape winds from the mountains to the sea to the west of the site.

19. Existing vegetation is primarily comprised of exotic grassland and indigenous planting that has occurred since the development began in 2006. The planting can be broadly divided into dryland forest and wetland/riparian types. There are pockets of mature native vegetation that pre-date the planting. Along the eastern boundary there are several groups of large macrocarpa and willow trees, contributing to the rural nature of the site. Large areas of open space are located throughout.

20. Built form primarily consists of one- and two-story residential dwellings. They are clustered at a low-medium density in the centre south of the site, and at a low density in the Highgate and east of Highgate areas. A few rural residential farmhouses are dotted around the periphery of the site.

21. State Highway One (SH1), part of the Alpine Pacific Touring Route runs along the south of the site, with the Inland Kaikōura Road (SH70) turn off immediately west of the Kowhai River. A network of secondary rural roads (Red Swamp Road, Ludstone Road and Green Lane) are located towards the north and northeast providing public access to farms and rural residential properties on the Kaikōura Flats, and recreational activities in the seaward ranges. The Main Trunk Railway hugs the western boundary of the site, used for freight and the Coastal Pacific Train journey. The Kaikōura Trail (a recreational bike track) follows the Kowhai River and coastline south of Ocean Ridge. Several walking tracks exist within the site.

Landscape Values

22. The attributes stemming from the landscape form values[9] used as a basis on which to assess the visual effects of the proposed **Plan Change (PC)**. They are closely related and intertwined but for the purpose of identifying values have been separately identified below.

Physical Attributes

23. The physical attributes have been outlined in the receiving environment sections above, but to describe the Ocean Ridge receiving environment in general they are:

- **Geomorphology/topography/hydrology** - Rolling hills emerging from flat river plains, created by braided rivers such as the Kowhai River which winds its way

[9] Some values are mentioned in DEV2-PR1 and DEV-A1 of DEV2 KDP.

from the mountains to the coast just west of Ocean Ridge. The Seaward Kaikoura Ranges backdrop the flat plains and the rugged coastline runs along their edge.

- **Climate/weather patterns** – Kaikōura has a mild-maritime climate, often sunny or with sea haze often contributing to the coastal atmosphere. The Kaikōura Ranges are snow-capped during winter and shoulder season cold snaps. Sea states range from tranquil to rough and wild. All of which are experienced at/from Ocean Ridge.

- **Vegetation patterns** – The dominant land cover in and surrounding Ocean Ridge is rural grazed pastures, the mown grass of the Kaikōura Golf Club and open space reserves. These are interspersed with small patches and individual exotic trees. The Kowhai River is lined with exotic and indigenous vegetation, creating a green corridor from the mountains to the sea. Within Ocean Ridge Boundaries there is a significant amount of indigenous restoration planting. On the high points, ridges and spurs this is of a dryland forest type. In gullies, stream edges and low-lying areas it is of a wetland/riparian nature.

- **Land use/cadastral patterns** – Surrounding land use is primarily flat rural land, sectioned into paddocks with irregular shape and size, with large lot sizes. Ocean Ridge is a large cluster of residential dwellings associated with a rise in topography, the first/last area of this nature seen when arriving to/leaving Kaikōura to the south. Within its boundaries lot sizes are dramatically smaller than those surrounding.

- **Built form** - Dominance of open space and native restoration planting over buildings. There is aesthetic coherence between the existing houses at Ocean Ridge, particularly in size, the style of pitched roofs and colour due to existing building controls.

Perceptual Attributes

24. Stemming from peoples experience and interaction with the physical attributes above, perceptual/sensory attributes are:

- **Geomorphic legibility** - The geomorphic processes are highly legible, and the vegetation patterns emphasise them. Ocean Ridge is within/can see them all.

- **Scenic views** – Unique, transient views out over farmland to the mountains, the Kaikōura and over the South Pacific Ocean are a key reason people visit and

reside in Kaikōura. From Ocean Ridge, in particular the dwellings on hillsides experience these views.

- **Memorability** - Seaward Kaikōura Ranges forming a memorable backdrop for visitors and locals, which can be seen from most places within Ocean Ridge and its surrounds. They also clearly depict seasonality, showing the first signs of dusting snow or melt, to being snowcapped in winter, and bare rock in summer.

- **Coastal atmosphere** – Due to its proximity to the coast, Ocean Ridge has view of and is influenced by coastal weather and everchanging sea states. Ranging from tranquil blue sparkling seas, low sea mists and fogs to wild stormy seas. The ocean smell, views and lights contribute to an everchanging views and atmospheres at Ocean Ridge.

- **Sky views/dark sky** – Stunning sunrises and sunsets enhanced by the proximity of the seaward Kaikōura's and the ocean a transient element in Kaikōura enjoyed by visitors and locals. The dark sky is also a feature of Kaikōura, with the surrounding area becoming the Kaikōura International Dark Sky Sanctuary in September 2024, to help people enjoy the night sky. Ocean Ridge sits within the proposed community area of the sanctuary.

Associative Attributes

- **Character** - The physical attributes outlined in the section above conglomerate to form a "small coastal village" character that is unique to Kaikōura. This character is key reason people visit and live there. Whilst Ocean Ridge is its own entity, it forms part of the wider living community and therefore does and should also reflect this character.

- **Sense of identity/place** – The closeness to the coast and mountains, views, legibility of the landscape, dark sky and ability to gather wild foods nearby allows people to form a close connection with where they live.

Policy Framework

Resource Management Act

25. The Resource Management Act 1991 Part II that are relevant to the assessment of landscape and amenity effects of development are found in **Section 5** (purpose), **Section 6** (matters of national importance), and **Section 7** (other matters).

26. The regional and district level statutory documents take full account of the relevant parts of the RMA. The provisions for landscape and visual assessment are; *avoiding or mitigating adverse effects of activities on the environment (s5c), 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 (s6a), and the maintenance of amenity values (s7c)*[10].

Regional Policy Statements[11]

27. The key matters within the Canterbury Regional Policy Statement (CRPS) 2013, relevant to landscape and visual matters, are contained within Chapter 5 regarding land-use and infrastructure, Chapter 9 regarding ecosystems and biodiversity and Chapter 12 regarding landscape (noting the area is not within an Outstanding Natural Landscape ONL, a significant amenity landscape or otherwise and is not considered a natural character environment under the current ODP).

28. The key policy within the New Zealand Coastal Policy Statement (NZCRPS) 2010, relevant to landscape and visual matters, is as contained within Policy 4 discussing integration, Policy 7 outlining strategic planning, Policy 11 regarding biodiversity, Policy 18, 19 and 20 regarding access, and Policy 25 regarding subdivision and development. Policies regarding natural character are not considered relevant given the Ocean Ridge area is already highly developed under the current ODP.

Kaikōura District Plan

29. The key framework is within the Kaikōura District Plan (Updated Version 2024). Relevant sections are from Part 2 – District Wide Matters include Urban Form and Development (**UFD**), Ecosystems and Indigenous Biodiversity (**ECO**), Subdivision and Light, and Part 3 – Area Specific Matters for the Ocean Ridge Development Area (**DEV2**). Natural Features and Landscapes (**NFL**), The Objectives and Policies relating to Outstanding and Significant Natural landscapes, are not assessed against as such landscapes are not impacted by the proposal, being that the land is not considered as natural under the existing **ODP**.

30. The following assessment in **Figure Two** below addresses the policies of relevance to landscape and visual matters.

[10] As identified by Sections 5,6, and 7 of the RMA.
[11] It is understood that the NPS on urban development capacity is not relevant as KDC is neither a Tier 1, 2 or 3 Authority.

Policy / Matter	Description
UFD-O1	***Effects of urban growth*** *To provide for urban growth where any adverse effects on natural and physical resources are mitigated, avoided, or remedied.*
Assessment	Urban growth is anticipated within the site under the existing ODP. The proposed plan change will provide for further urban growth by increasing the density of Ocean Ridge's urban environment within existing site boundaries. The Farm is not included for residential under the existing ODP, so this proposal will result in an increase in developed footprint. Existing rural use of the proposed Farm area is isolated from surrounding rural land use by the main trunk railway and residential areas. Managing urban growth within existing site boundaries will avoid any adverse effects on natural and physical resources.
UFD-03	***Pattern of use between commercial and non-commercial activities*** *To provide for a pattern of land use that promotes a close relationship between areas having different characteristics while recognising the distinction between commercial and non-commercial activities.*
Assessment	Each sub-area (eg. Greenlane, The Farm) is defined by a distinct character created by a cumulation of topography, outlook and vegetation. The multi-use commercial area has defined boundary of SH1 to the south, low-density off-site rural living to the east and existing vegetation to the north, distinguishing it from adjacent non-commercial activities to the west. Differing building heights (11m and 15m in the multiuse area compared to 8m in residential areas), also provide distinction between commercial and non-commercial areas.
UFD-P6	***Discourage unplanned growth*** *To discourage unplanned urban growth between the coastal settlements to protect the amenity of coastal areas as viewed from the State Highway.*
Assessment	Changes to the ODP are adding parameters to planned growth within the boundaries of an existing coastal settlement. Whilst proposed changes to the multi-use area and portions of Greenlane will be evident from the State Highway, they are on the inland side of the road thus protecting coastal views. A planted buffer along the southern boundary of the multi-use area will also soften the appearance of built form.
UFD-P14	***Encourage development in line with Kaikōura's character*** *To encourage developers and tourist operators to undertake activities in a manner which recognises and enhances Kaikōura's "small coastal village" character.*
Assessment	Allowance has been made for tourism opportunities to be developed within the mixed-use area, including visitor accommodation. Building heights are to be limited to 11 metres, with a small portion in the northwestern corner limited to 15 metres in height. Other design controls include building setbacks and requirements for materials and

Policy / Matter	Description
	colours to be complimentary to surrounding coastal character and avoid any large blank facades. These measures have been considered through a thorough and detailed masterplan process to ensure that the character of the development reflects the coastal village character, despite the increase in height.
UFD-P16	***Building design and tourist facilities*** *To promote and encourage building design and tourist facilities which reflect and incorporate elements of a small coastal village.*
Assessment	The proposal aligns with this policy. See UFD-P14 above.
UFD-P17	***Design guidelines*** *To encourage development to proceed in accordance with the design guidelines in Appendix 1.*
Assessment	See below assessment (following this table).
ECO-P1	***Re-establish indigenous vegetation*** *To encourage the preservation, protection, maintenance and enhancement of the coastal environment, wetlands, lakes, rivers, streams, and their margins in the first instance, through management practices which allow for the re-establishment of indigenous vegetation where it has been depleted.*
Assessment	A thorough Alternative Native Planting Restoration Management Plan has been prepared by Morphum Environmental which outlines management practices for the re-establishment of wetland and wetland bank planting in three large areas in the western extent of the site, riparian planting in four smaller areas in the southern extent of the site. In total this equates to ~74,830m^2 of new wetland/riparian planting.
ECO-P2	***Retain existing vegetation*** *To retain existing vegetation within wetlands, and lakes, rivers and streams and their margins.*
Assessment	The retention of all existing wetland and riparian vegetation is proposed. This equates to ~63,300m^2 of existing riparian/wetland planting.
ECO-P3	***Manage effects of development*** *To avoid, remedy or mitigate any adverse effects of earthworks, vegetation clearance or new structures on Kaikōura's coastal environment, wetlands, lakes and rivers, and their margins.*
Assessment	No vegetation clearance is proposed. Earthworks and structures are not proposed in proximity to any wetlands or rivers. The proposal will have positive effects on the wetlands and streams within Ocean Ridges boundaries due to retention and planting of

Policy / Matter	Description
	indigenous species as discussed in ECO-P1 and ECO-P2 above.
ECO-P4	***Enhance riparian margins*** *To maintain and where possible, enhance the natural functioning of riparian margins including enhancing water quality, habitats for plants and animals, landscape and amenity values, bank stability and erosion control.*
Assessment	Significant and in-depth indigenous riparian and wetland restoration is proposed, with ~6.0 ha wetland planting and ~1.5 ha riparian planting. This will also enhance the amenity value of Ocean Ridge by increasing biodiversity and enhancing green spaces. See the Ocean Ridge Alternative Native Planting Restoration Management Plan[12] for further detail on all ECO policies discussed.
SUB-P3	***Require lots to be of a suitable size and shape*** 1. *To require all allotments created as a result of subdivision to be of a size and shape which is suitable for a range of sustainable land uses, except where special sites are required as provided for in SUB-I4.* 2. *To ensure that subdivisions in the General Rural Zone are of a sufficient shape and size in order to maintain and enhance rural amenity values.* *To ensure that all allotments outside the Building Platform Location Areas in the Kaikōura Peninsula Tourism Development Area are of a sufficient size which is suitable for a range of sustainable rural land uses and are of a sufficient size to maintain the natural and open space character of the Kaikōura Peninsula.*
Assessment	Each sub-area has been assigned minimum allotment sizes to ensure the densities resulting from the proposed plan change provide a range of sustainable land uses that are suitable for each location and its surrounds. The minimum sizes are as follows: Greenlane (350m^2), The Farm and The Crest (500-3000m^2), Country Living (1ha) and the Multi-Use Area (no minimum). The site is in the Ocean Ridge Comprehensive Living Zone (ORCL) and not within the Kaikōura Peninsula Tourism Development Area.
SUB-P6	***Policies to subdivision design and amenity*** 1. *At the time of subdivision, to encourage the retention of existing vegetation where possible and to consider alternative methods of run-off control, such as bunding and mechanical silt traps, in order to improve amenity, reduce erosion and reduce the amount of run-off.* 2. *To encourage subdivision design and construction which results in the creation of pleasant environments.* 3. *To encourage developers to take advantage of the benefits of solar energy wherever possible.*

[12] Ocean Ridge Alternative Native Planting Restoration Management Plan (Morphum Environmental, 2025).

Policy / Matter	Description
	4. To enable subdivision of allotments for residential and other uses in the Ocean Ridge Development Area provided that: *a. The number and location of residential and other allotments are strictly controlled through rules and an Outline Development Plan for the Zone, in order to avoid any inappropriate development which would significantly diminish the conservation, amenity, and landscape values associated with this area; and,* *b. Requirements are put in place to ensure the establishment and maintenance of native restoration plantings and the maintenance of open space areas so that the development is in sympathy with the amenity and landscape values of the area; and,* *c. Provision is made for cycle tracks, pedestrian walkways and parks and reserves within the zone; and* *d. The location of curtilage and building areas and vehicular access are to be selected so as to reduce the volume or extent of earthworks.*
Assessment	No vegetation removal is proposed, and additional dryland planting is proposed on steep slopes to enhance amenity and reduce erosion and run off. Proposed wetland plantings will also assist in filtering any run-off. The masterplan (and resulting ODP) has been thoughtfully designed to create a pleasant environment for current and future residents by considering landscape values specific to each sub-area, and the interaction of these values between each sub-area. The plan change enables a site layout, and orientation, for good solar gain to all existing and future neighbourhoods. The proposal includes an Outline Development Plan and associated rules and development requirements to control the number and location of residential and other allotments. The ODP includes sub areas defined by different landscape values that control the number of allotments by introducing a minimum lot size which ranges from 350m^2 to 1ha (see subdivision density plan for further detail) depending on location. Medium density housing typologies are also enabled, subject to future land use consent processes. The ODP will ensure potential development is appropriately suited to topography, landscape values and pleasant outlooks for existing and future residents. Maximum yield values are also included in proposed rules to ensure capacity is not exceeded. The proposed plan change includes a detailed Alternative Native Planting Management Plan that provides requirements to ensure proposed and existing native plantings are established and maintained for long term sustainable amenity provision and enhancement of the site's landscape and ecological values. Stormwater reserves will be vested with the KDC as local purpose reserves. For more detail see the Restoration Management Plan[13]. Provision is made to link existing walking and biking tracks to new roads within the Ocean Ridge Comprehensive Living Zone to enhance the existing network of walking

[13] Ocean Ridge Alternative Native Planting Restoration Management Plan (Morphum Environmental, 2025).

Policy / Matter	Description
	tracks within the site. Specifically connecting the Kōwhai River Trail via The Farm and walks in the eastern extent connecting to the Greenlane Sub-Area across farmland.
LIGHT-P1	***Manage light effects on residential amenity*** *To ensure light spill does not adversely affect the amenity enjoyed on residential sites.*
Assessment	The dark sky & lighting provisions will apply as per the operative plan and Appendix 1 (Landscape, Amenity and Energy Efficiency Guidelines) of the KDP.
DEV2-P1	***Development occurs according to the Outline Development Plan*** *To enable the development of residential and low-density residential housing in areas identified in an outline development plan, so as to ensure the design elements of development are incorporated in order to maintain or enhance the quality of this environment.*
Assessment	The proposed Outline Development Plan enables a combination of residential and low-density residential housing identified through a selection of sub-areas.
DEV2-P2	***Control buildings to limit effects*** *To limit each residential area to a specified number of houses and to control location, height and coverage of buildings on individual allotments within the various areas so as to ensure the local environment is of a quality that would be expected by subsequent owners and the wider community, and to avoid adverse effects on neighbours such as shading.*
Assessment	Each sub-area has a maximum yield limit, minimum allotment size and maximum building height in place to ensure each area remains sympathetic to the surrounding environment and avoids adverse effects on surrounding and subsequent residents.
DEV2-P3	***Recognise native restoration planting*** *To recognise the positive contribution that the establishment of native restoration plantings and open space would make to the development and the surrounding environment.*
Assessment	The positive contribution of native restoration planting is recognised and embraced. An existing 26.7ha of restoration planting has already occurred on site along with 10.1ha of pre-existing planting. A further 19.3ha of indigenous planting is proposed under the proposed ODP. See the Ocean Ridge Alternative Native Planting Restoration Management Plan[14] for further detail.
DEV2-P4	***Require additional building controls and planting requirements***

[14] Ocean Ridge Alternative Native Planting Restoration Management Plan (Morphum Environmental, 2025).

Policy / Matter	Description
	To provide additional building bulk, location and design controls, and planting requirements, on the more prominent ridge so as to mitigate the visual impact of development.
Assessment	The plan change does not propose to change the additional building controls applying to the most prominent ridge (Ingles Drive within the Highgate area). The next most prominent landform is the rounded knoll (Zone A) within the Greenlane sub-area. The proposed ODP does not differ to the existing ODP in this specific area. This prominent landform is bordered by existing dryland planting to the north, east and south. An additional 17,667m^2 of dryland will encircle the knoll to the west and north. Sufficient breaks between built forms will be allowed for to avoid continuous built facades, and buildings will be limited to a mono-pitch roof as per *Ap. 1 (1) (b) KDP Guidelines*.
DEV2-P5	***Native restoration planting is maintained*** *To ensure defined areas of native restoration plantings and open space areas are maintained and those areas are subsequently free of residential and other development, which would otherwise compromise natural, landscape and amenity values.*
Assessment	Defined native restoration planting and open space areas are proposed. In the past maintenance and ownership of the approximately 36.8ha (and increasing) of planting has been a matter of question. Alongside the proposed ODP changes vegetation maintenance details are included, pertaining to vest (have vested) stormwater and control areas with KDC, large lots with owner responsibility of planting within that lot and residential lot native planting to be owned and managed by the lot owner. See the Ocean Ridge Alternative Native Planting Restoration Management Plan[15] for further detail.
DEV2-P8	***Ensure earthworks are appropriately managed*** *To ensure earthworks associated with the development of the area, and the associated rehabilitation of disturbed ground, are carried out in manner that avoids or mitigates adverse visual effects.*
Assessment	Existing earthworks rules will apply to Ocean Ridge as they are now…

Figure 2: Statutory Assessment

Kaikōura District Plan - Design Guidelines[16]

31. The masterplan process took the Landscape, Amenity and Energy Efficiency Guidelines into account and the plan change is generally well aligned with them. These have been

[15] Ocean Ridge Alternative Native Planting Restoration Management Plan (Morphum Environmental, 2025).
[16] Appendix 1 – Landscape, Amenity and Energy Efficiency Guidelines (Kaikōura District Plan).

applied to each area outlined in the proposed **ODP**. A general summary of each category is below.

32. **Buildings and Structures –** Minimum allotment sizes have regard to the landform and informs the siting of buildings. In general, proposed areas for development are situated on the flat or around the base of Ocean Ridge's main hill, therefore having landform with associated vegetation as the backdrop. One exception is Zone A in Greenlane, which is more prominent but does not deviate from residential anticipations under the existing **ODP**. Structures are not designed at the PC level but building controls are established. Residential areas have a maximum building height of 8m and multi-use areas 11m -15m maximum. A range of site coverage and setback rules exist. The Farm sub-area the roofs are to have a 18% LRV limit, and the proposed dwellings are to be limited to recessive colours and materials that complement the landscape (as per *Ap 1 (1) (d) KDP Guidelines*[17]) and LRV ratings to be below 37%. Zone A of Greenlane is restricted to mono-pitch roofing. Energy efficiency is not considered at the plan change stage.

33. **Fences, Power Lines, etc –**A set back is included from existing electricity distribution lines. Specific fencing controls are applied at the hub, where utilities will be screened from visual areas at the State Highway if and as required depending on the development. All other fencing is guided by *Ap 1 (2).*

34. **Tracks and Roads –** Proposed roads will be extensions or upgrades of existing roads. The beginning of The Farm road utilises the existing gravel farm track including crossing of the wetland area it then continues across the flat area in response to the existing geography and topography. The main Greenlane road (Ocean Ridge Drive extension) remains very similar to the existing **ODP** plan which follows natural topography to minimise earthworks and noticeable cut heights in the landscape. The Hub is an extension/network that incorporates existing roads, limiting interruption to visual amenity but increasing functionality.

35. **Tree planting –** Substantial tree planting is proposed, with carefully considered amendments made to the original restoration plan. It primarily includes wetland, riparian and dryland planting located in suitable areas. The planting conforms to the natural landform, and as an organic extension to existing vegetation. It will provide multi-faceted outcomes including amenity and screening, whilst being strategically located to protect important viewshafts. Additionally, roads and carparking areas will maintain the high-quality streetscape environments that is already evident at Ocean Ridge.

[17] Appendix 1 – Landscape, Amenity and Energy Efficiency Guidelines (Kaikōura District Plan).

36. **Signs –** No additional major subdivision signage is proposed. Any additional minor signage will align with existing low, horizontal, unobtrusive signage in Ocean Ridge. Any roading signage will be in accordance with standard road signs.

Visual Effects Assessment

37. Visibility does not make a visual effect. It is whether the visual change can be integrated into the receiving environment to an appropriate level to ensure that the visual amenity and the fabric of that environment is maintained. Visual effects are a subset of landscape effects[18], meaning they are only limited to the consequences of change on landscape values as experienced in views.

Visual values are inherently linked to landscape values. The nature of a view depends on how it is perceived and the extent to which it is valued or not. It includes how the landscape in the view is understood, interpreted, and what is associated with it. Visual effects arise from changes to such landscape values[19].

38. Several key features significantly impact the visual effects assessment:

- The existing **ODP** and associated subdivision and land use rules present an appropriate baseline on which to assess the potential visual impacts. Varying levels of residential form are already anticipated at Ocean Ridge. An expectation of residential use being anticipated within the landscape significantly decreases the potential for landscape or character effects.

- The unique characteristics of Ocean Ridge being formed by variable topography creates significant screening and limitations to open viewing opportunities (see ZTV maps in **Appendix 1**). This is paired with additional indirect screening and view protection created by the surrounding large areas of unoccupied / minimally occupied rural land. Also surrounding the site is substantial offsite mitigation vegetation (which, while cannot be relied upon, forms a part of the immediate existing foregrounds and surrounding character).

- Wider and site-specific mitigation measures have been proposed, as guided by DEV-2 of the Kaikōura District Plan (**KDP**) and the Appendix 1 Guidelines. These have been applied and built into each area holistically for assessment (as itemised in **Figure Two** above).

[18] Te Tangi a te Manu
[19] Te Tangi a te Manu 6.09

Viewing Catchment

39. The viewing catchment for the **ODP** is illustrated in the Zone of Theoretical Visibility (**ZTV**) maps in **Appendix 1**. Viewpoints were selected based on the ZTV mapping and on-site observations. It is important to note that the ZTV maps are generated from Digital Elevation Models (DEMs), which do not account for vegetation or built structures. These additional screening elements were identified through a combination of desktop analysis and site visits. The ZTV methodology is detailed in **Appendix 2**. Overall, the visibility analysis shows that views toward the site are generally limited. Much of the surrounding area is screened due to the distinctive topography of Ocean Ridge, particularly a large hummocky hill at the centre of the site that naturally divides and obscures views. In addition, the surrounding landscape consists of undulating hills of varying heights, further restricting long-range visibility.

40. The viewpoint assessments are grouped into three key areas: The Hub, The Farm, and the Greenlane residential areas. Each section begins with a background and a framework outlining the likely visual changes anticipated in that area. Overall, the viewing catchment for these areas is limited. Due to the site's topography, slope, and offset, and surrounding land uses, most views, aside from a few rural residential dwellings beyond Ocean Ridge, are distant. The primary viewing audiences are transient in nature, including users of the State Highway, Golf Course, walking tracks, and those within Ocean Ridge itself. From the east, views are generally limited to The Hub and parts of Greenlane. To the south, views are mostly restricted to brief glimpses from the State Highway, with the remainder dominated by ocean and beach views. From the north, the catchment includes a wider rural area beyond Greenlane, with visibility largely limited to large rural lots and a small number of rural residential properties within approximately 2 km. Specific viewpoints have been assessed at each location to evaluate the potential visual impact from relevant viewing positions.

The 'Hub'

41. **Receiving Environment:** The proposed site for The Hub is roughly triangular, located in the southeast corner of Ocean Ridge boundaries. It is currently flat grassed land, with the northern most areas gently sloping upwards at the base of the hill beyond. The area has been subject to subdivision, and the operative plan anticipates built form on each of these lots (albeit low density residential uses). Open green space and the Fairways Luxury Accommodation buildings are established. Wetland/riparian restoration planting winds through the site with other small patches of existing vegetation dotted throughout. The SH1

traverses the southern edge of the site. Photos of the existing receiving environment are contained in **Appendix 1**.

42. **Background: Overall,** the area is intended to support a mixed-use character. Under the current ODP, development would include green open spaces, retaining Kekeno Park and allowing for active landscape linkages, alongside the existing Fairways Accommodation and a designated mixed-use zone. The remaining land would be developed for low-density residential housing. However, through the master-planning process, it was determined that low-density residential use in this location is neither the most suitable nor reflective of the site's character. These lots are spatially disconnected from the cohesive design pattern of Ocean Ridge, which typically clusters detached dwellings along key road corridors. As a result, a more appropriate design outcome is to extend the mixed-use area. This would allow the space to evolve for both residential and commercial purposes, while supporting high-quality landscaping and the integration of green open spaces.

43. **Visibility Summary:** The **ZTV** Maps (Appendix 1), noting that these are a 'worst-case' scenario as they don't include any vegetation existing or proposed i.e. maps depict topographical data only, shows a propensity for views being predominantly and concentrated to the immediate surrounding area and further to the west. Northern views are largely confined to low density residential dwellings on the hill above The Hub. Southern views are limited to users of State Highway One and the adjacent bike trail. Views from the west may be evident, but these views would be across the built-up area of the rest of the site and would be largely interrupted by extensive onsite and offsite vegetation and buildings. Additionally, a mixed-use commercial development is already anticipated here and is for an extension to this area only.

44. **Effects Framework:** The framework for the assessment is as follows in **Figure Three**.

Reference Viewpoints	Summary of Visual Change (see Viewpoint Assessment)	Mitigation Measures Applied (Refer to Figure 2[20])
VPA-VPG	The muti-use area is currently 15,416m² and will be extended upon to the south to be 56,353m². The height limit will be increased from 8m to 11m and 15m in a small portion (i.e. increase in built form by 3 -5 metres).	• MM-1 - 2700m² of riparian planting north off Ludley Drive. Open landscape linkages. Reserve areas and landscape buffer areas. • MM-2 – Built-controls including materials, setbacks and screening. • MM-3 – Height controls in

[20] And the Mitigation Map in Appendix 1 Graphic Attachment

Reference Viewpoints	Summary of Visual Change (see Viewpoint Assessment)	Mitigation Measures Applied (Refer to Figure 2[20])
	Multi-use / mixed use and residential use visually anticipated at the site. **Key visual change:** 3-5 metre height increase and densification (mixed-use and residential already anticipated).	appropriately considered areas. • MM-4 - Additional road exit to allow for flow. High quality streetscapes. • MM-5 – lighting controls.

Figure 3: Visual Change Summary anticipated at the Hub

Viewpoint A – 166 / 166A State Highway 1 and Viewpoint B – 7 and 7A Ludley Drive

45. A single-storey dwelling is located at 166 SH1, approximately 60–70 metres from the boundary of the proposed mixed-use area. The property is partially screened to the south by existing pine trees (off-site mitigation), while the western aspect remains mostly open. Two additional low-density residential dwellings are situated on a hill to the north, approximately 200–350 metres away and at higher elevations—7 Ludley Drive at around 25 metres and 7A Ludley Drive further upslope at approximately 40 metres. The undulating topography between these properties and the proposed development interrupts direct sightlines in the foreground. Under the existing ODP, two-storey residential dwellings could be located to the west and south of 166 SH1. The proposed ODP expands this developable area to include a larger flat section adjoining the property's west and south boundaries. Views to the east, north of Ludley Drive, would remain generally similar in character—defined as a mixed-use area—but with built forms potentially 3–5 metres taller. To mitigate visual effects, approximately 2,700 m² of riparian planting is proposed, softening the adjacent hillside and improving visual integration. The area subject to a potential 15-metre height limit (identified as Zone B in the Mitigation Map, Appendix 1) is set back from the property and will be subject to building setbacks and design controls to ensure compatibility with the existing landscape. While the southern outlook will shift from a low-density residential character to a more built-up environment, the inclusion of active landscape linkages will provide open space and maintain key viewshafts. The proposed height increase—from 8 metres to a maximum of 11 metres—will be visible but mitigated by design controls that regulate bulk and scale. Importantly, built development is already anticipated in this location. However, the scale and character of anticipated buildings will include changes from low density residential to commercial / community activities with the capability for larger building footprints. This will be alleviated by the range of design strategies to ensure the additional bulk will be acceptably and suitably mitigated. As a result, the degree of visual change is moderate, and not perceived as a disruption to an otherwise undeveloped environment.

Viewpoint C –representative of existing residents located in the cluster of dwellings in the roughly oval area created by Ocean Ridge Blvd and Greenburn Way.

46. Under the existing ODP, a mixed-use area is already anticipated in close proximity to the dwellings to the east, with the nearest point approximately 65 metres away. The proposed ODP extends this mixed-use area further south and increases the maximum building height—from 8 metres to 11 metres in the southern portion and up to 15 metres in the northern portion—representing a height increase of 3 to 5 metres. Although this change will enable taller built forms, these structures will be set against the backdrop of surrounding hills, reducing their visual prominence. In addition, a combination of design controls and landscaping will be applied to soften and screen the development. While a mixed-use area is already anticipated in this location, the enhanced design and mitigation strategies proposed as part of the Plan Change will ensure that any new buildings are as visually recessive and well-integrated into the landscape as possible.

Viewpoint D – SH1 travelling south and Viewpoint E – SH1 travelling north

47. State Highway 1 runs parallel and adjacent to the proposed mixed-use area, with vehicles typically travelling at speeds of 100 km/h. The development will be located on the inland side of the highway and will not obstruct coastal views. Instead, it will be set against a backdrop of rolling rural hills. Topography screens the development from view until the eastern boundary, near the accessway to 166 SH1. Due to the proposed height increases, glimpses of the development may be visible; however, full views will only occur when vehicles are directly adjacent to the site. This visibility will be further reduced by existing vegetation and proposed landscaping, including plantings within Kekeno Reserve and other offset green spaces. For northbound drivers entering Kaikōura, similar conditions apply. While elements of the development may be visible, the location, natural topography, and landscape mitigation will soften the visual impact. Additionally, because viewers are travelling at speed and only encounter the site for a brief duration, the overall visual effect will be limited and transient in nature. The proposed extension of the mixed-use area is also consistent with what is already anticipated in this location.

Viewpoint D & E – Kaikōura Trail travelling south

48. The view from this location is similar to that experienced at Viewpoints D and E, but from a slightly greater distance (approximately 50 metres further away). Unlike SH1 users, trail users—such as walkers and cyclists—travel at much slower speeds and are likely to experience the view for a longer duration. However, the undulating topography of the trail and existing vegetation within Kekeno Reserve will screen the lower portions of any future buildings. The upper parts of buildings may be visible, but they will be seen in the context

of the existing Ocean Ridge development and surrounding vegetation. Additionally, built form is already anticipated in this area under the current planning framework, so the proposed changes are consistent with expected development patterns.

Viewpoint F – South Bay wharf and Viewpoint G – Kaikōura Lookout

49. Views from the Kaikōura Lookout can be considered semi-transient, as visitors typically remain for short periods and often lack prior familiarity with the landscape. The lookout is located approximately 3.5 km east of the site and sits about 80 metres higher in elevation than the Hub area.

50. Users of the South Bay Wharf—including tourists, local fishers, charter operators, and workers—experience views from a distance of around 2.6 km to the southwest. This viewpoint also represents the residential audience in South Bay.

51. While the increased height and density of the mixed-use area may be visible from these vantage points, the significant distance acts as a strong mitigating factor. Multi-layered topography, intervening vegetation, and existing built development in the foreground further reduce the visual prominence of the site. Coastal atmospheric conditions such as haze often limit visibility, and the hillside vegetation surrounding Ocean Ridge has, over time, helped integrate the development into the broader landscape. The mixed-use area sits at the base of a layered and visually complex terrain. With appropriate building controls and proposed vegetation, any new development will appear visually recessive. Moreover, built form is already anticipated at this location, and visibility alone does not constitute an adverse effect. In summary, the visual impact of the proposed height and density increases will be minimal from both the Kaikōura Lookout and South Bay Wharf due to distance, screening, and the context of existing development.

The ‘Farm’

52. **Receiving Environment:** The proposed site is within the western point of the Ocean Ridge boundaries. It is predominately flat grazed paddocks. A gravel road dissects the Farm area, to the north of this road is a wetland area beyond which the topography becomes more variable. Built form consist of a hay shed and a large service shed and yard. The Kaikōura Golf Club shares the southwestern boundary. Photos of the existing receiving environment are contained in **Appendix 1**.

53. **Background**: If the existing ODP remained in place, the Farm area would largely continue as it is today—an open space primarily used for grazing, with pockets of wetland and riparian native planting under restoration. This area was not originally identified for

residential development. However, the small, isolated nature of this rural grazing area is inconsistent with the surrounding land uses. It is bordered by residential development of varying densities, recreational spaces such as the Golf Course and walking tracks, and reserve areas along riparian and wetland margins. As a result, the Farm currently functions as a contained rural pocket with active edges, lacking the scale or setting necessary for meaningful rural use. It no longer fits logically within the evolving mixed residential and recreational character of the wider Ocean Ridge site. The design process identified an opportunity to introduce high-quality residential lots within this space, ranging from approximately 500 m² to greater than 3,000 m². These larger lots would preserve open space values while introducing appropriately scaled lifestyle blocks. Although the Plan Change technically enables up to 60 new dwellings in this area, the actual yield is expected to be significantly lower, once lot sizes and landscape integration are accounted for[21].

54. **Visibility Summary:** The **ZTV** Maps (Appendix 1), noting that these are a 'worst-case' scenario as they don't include any vegetation existing or proposed i.e. maps depict topographical data only, show visibility is largely confined to the south and west, with a small area on the Highgate ridgeline may be evident but with planned and existing vegetation is unlikely. Visibility beyond the Kowhai River is non-existent due to dense vegetation either side of the river. Southern visibility is limited to the Golf Club and interspersed with off-site vegetation.

55. **Effects Framework**: The framework for the assessment is as follows in **Figure Four.**

Reference Viewpoints	Summary of Visual Change (see Viewpoint Assessment)	Mitigation Measures Applied (Refer to Figure 2[22])
VPA-VPG	An additional maximum of 60 dwellings *(noting this a cap amount only and could be much less i.e. is a 'worst-case' scenario)* as enabled under the Plan Change. Open space grazing anticipated character. **Key visual change:** The addition of residential dwellings where currently open space rural land.	• MM-1 - Upwards of 1.76ha of Wetland / Wetland Bank Planting and Riparian Planting within the Farm area. The inclusion of a significant 'Reserve Area' to allow for open space and public amenities. • MM-2 - LRV rating to be 18% for all roofs and an LRV rating of 37% for walls. Building coverage limited to 40%. Minimum allotment sizes of 500m² and 3000m² to be applied.

Figure 4: Visual Change Summary anticipated at the Farm

[21] Derived from the masterplan process only and not applicable to the PC. The maximum amount of 60 dwellings is a cap applied to the area only i.e. the worst-case scenario.
[22] And the Mitigation Map in Appendix 1 Graphic Attachment

Viewpoint H – Representative of existing Ocean Ridge residents located on Clemett Court and west side of Greenburn Way

56. A cluster of residential dwellings at 1, 3, and 5 Clemett Court currently enjoy open, rural views from their main living areas under the existing ODP. These views will change with the addition of new residential and low-density residential development approximately 100 metres away. New dwellings will be limited to a maximum height of 8 metres. Due to the higher elevation of the existing properties, views of the seaward Kaikōura Ranges will still be visible in the background. Indigenous restoration planting along the western riparian margin will help filter and soften views in the foreground. The overall outlook will shift from predominantly open space to a mixed residential character, balanced with large open space reserves and wetland and riparian planting. The new low-density lots have been carefully arranged in a pattern that reflects the existing lifestyle blocks and housing found in the Ocean Ridge 'Crest' area and surrounding neighbourhood. Overall, the proposed dwellings enabled by the Plan Change can be visually absorbed into the area through the planned mitigation measures. This development represents a suitable extension of the existing residential environment as defined by the current ODP.

Viewpoint I – Representative of dwellings on the west side of Ingles Drive

57. The view from the southwest end of Ingles Drive will change from rural to residential in character. At an elevation at least 50 metres above the Farm, the new development will be visible but will fit within the context of the surrounding Ocean Ridge environment, reflecting a design that is appropriate and well-integrated. Significant mitigation is incorporated, including large lifestyle blocks with a minimum size of 3,000 m² dominating the southern and northern areas. A narrower band of smaller (minimum 500 m²) lots runs through the mid-section, extending naturally from the Crest area to maintain landscape consistency. The new dwellings will match the style and density of existing residential areas, creating a coherent and seamless extension once established. This layout, with larger allotments, preserves substantial open space within the Farm, protecting key viewpoints from the upper parts of Ocean Ridge. Additional mitigation measures, including building controls on roof reflectivity (LRV limits) and site coverage, will further ensure the development is visually absorbed into the landscape.

Viewpoint J – SH1 travelling north and Viewpoint K – SH1 travelling south

58. For northbound travellers on SH1, views are transient and experienced at high speed (100 km/h). The site is viewed parallel to the road and largely filtered by existing scattered vegetation associated with the Kaikōura Golf Club and Ocean Ridge plantings. Existing vegetation fully screens the site until past the Kowhai River. The Farm area lies

approximately 250 metres inland from SH1 at its closest point, at a similar elevation to road users, and is visually separated by development bands in the foreground, including Ocean Ridge's built areas and the Golf Course. Being on the inland side of the road, the site does not obstruct coastal views from this perspective. For southbound travelers, the Farm may be glimpsed from the eastern edge of Ocean Ridge. However, given the distance, angle, elevation, and the fleeting nature of these views at speed, any visual change to the viewer is expected to be minimal.

Viewpoint N/A – Main trunk railway/Coastal Pacific Train

59. The main trunk railway, used by the Coastal Pacific tourist train, runs along the Farm boundary for approximately 500 metres, offering intermittent open views of the site. Train passengers form a transient audience moving at moderate speed, many of whom will see the area for the first or only time without prior knowledge of the development. Although the proposal changes the character from rural to residential, this will be experienced only briefly. Landscaping and building controls, combined with the existing residential backdrop, will help integrate the Farm into the wider site. From this viewpoint, the residential use will appear appropriately located—contained within adjacent residential areas and framed by the golf club and transport corridor to the south.

Viewpoint L – Kaikōura Trail users

60. Views from the bike trail are fleeting and glimpsed through existing vegetation. At the trail's elevation, only peripheral dwellings will be visible, not the broader development. Except at the westernmost point of Ocean Ridge—where the trail comes within 20 metres of the site boundary—a buffer of open space, including the Golf Course and rural land, separates the trail from the proposed changes, reducing the prominence of built form. Overall, the area will read as a natural extension of the existing residential development at Ocean Ridge.

Viewpoint M – Kaikōura Golf Club

61. Under the existing ODP, only the eastern edge of the Golf Course borders residential dwellings. Currently, golf course users enjoy views of open grazing land to the north. The proposed ODP change will reduce this sense of open space, as the northern boundary will now include residential development. However, open space values will be retained through the well-considered allotment distribution and limits alongside the extensive mitigation measures, landscaping and reserve spaces to allow for open space areas.

‘Greenlane’

62. **Receiving Environment:** Greenlane is the largest area, adjacent to the western boundary stretching from the middle of Ocean Ridge to the northern point. Topography is variable, rising into rolling hills to the east. The high point is a rounded knoll at approximately 60-70m asl. Ocean Ridge Drive stops at the southern end of Greenlane area. Vegetation is primarily grazed pasture interspersed with patches of native and exotic scrubby vegetation. A band of native dryland restoration planting wraps around the south and eastern point. The Main Trunk Railway runs along the length of the northwestern boundary. There is no existing built form. Photos of the existing receiving environment can be seen in the Greenlane section in **Appendix 1**.

63. **Background:** Although Greenlane has not yet been developed, the existing ODP anticipates large areas of residential development here, generally following a broader, coordinated pattern. The area has been planned in collaboration with ecologists, infrastructure experts, transport engineers, and others to ensure sensitive and feasible design. Given its size, topography, and relative separation from coastal and township views, Greenlane is considered the most suitable area for increased housing density. While the Plan Change allows for up to 123 additional dwellings—bringing the maximum yield to 220—actual numbers may be lower, as the total maximum additional dwellings across the entire site is capped at 150 relative to the operative ODP. The LVA adopts this maximum figure as a worst-case scenario and incorporates a range of mitigation measures to ensure the area is sensitively managed and visual impacts are minimized.

64. **Visibility Summary:** The **ZTV** Maps (Appendix 1), noting that these are a ‘worst-case’ scenario as they don’t include any vegetation existing or proposed i.e. maps depict topographical data only, show visibility is confined to the rural northwest sector. Visibility beyond the Kowhai River is nil due to dense river corridor vegetation. There will be visibility of Greenlane when in proximity particularly from adjacent rural residential dwellings and rural roads, but this decreases with distance and culmination of rural vegetation (e.g. hedgerows).

65. **Effects Framework:** The framework for the assessment is as follows in **Figure Five.**

Reference Viewpoints	Summary of Visual Change (see Viewpoint Assessment)	Mitigation Measures Applied (Refer to Figure 2[23])
VPN-VPS	An additional maximum of 123 dwellings *(noting this a cap amount only of 220 total across the area and could be much less i.e. is a 'worst-case' scenario)* as enabled under the Plan Change. Residential use visually anticipated at the site. Planting across the hillside adapted to open country style living with the potential for vegetation cover. **Key visual change:** Densification with the potential addition of more dwellings.	• MM-1 - Upwards of 12.3ha[24] of proposed 'Dryland Planting'. A 2-metre-wide landscape strip 'Visual Integration Planting'. 'Reserve Area' and green open spaces incorporated overall. • MM-2 – 'Zone A' to allow for breaks between built forms (avoid continuous building line facades) and buildings to be limited to mono-pitch roofs. • MM-3 – Height controls applied that match the existing **ODP** (no change). • MM-4 - Additional road as per the existing **ODP**. High quality streetscapes and considered road location to minimise visual impacts.

Figure 5: Visual Change Summary anticipated at Greenlane

Viewpoint N – 87 & 95 Green Lane

66. The two rural-residential dwellings nearest to Ocean Ridge lie approximately 100 to 125 metres from the site boundary at a lower elevation. Their views toward Greenlane are either open or partially screened by existing offsite vegetation. These dwellings are generally oriented and offset, so only portions of Greenlane are visible at any one time. Residential development—including roads, accessways, green spaces, and planting—is already anticipated from this vantage point. While the Plan Change allows for additional dwellings beyond the expected density, the overall extent of the developed area remains largely unchanged; only the density appearance will increase. Significant dryland planting and vegetative buffers of around 2,700 m² are proposed along this boundary to soften and screen views. Existing berms and vegetation along the railway, together with the new landscape buffer, will help screen dwellings on Greenlane's lower slopes. Overall, however, the residential development is an expected and anticipated visual element at this location.

[23] And the Mitigation Map in Appendix 1 Graphic Attachment
[24] Approximately. And pending discussion with Council regarding recreational reserve and Transpower areas (see Morphum Plan).

Viewpoint O – Dwellings at Ludstone /Red Swamp Road Intersection

67. The ZTV map and onsite photos confirm that the cluster of rural residential dwellings at this intersection—including 222, 228, 304, and 333 Ludstone Road—have limited visibility of both the existing and proposed development due to topography and viewing angles. Notably, 8 Ludstone Road is fully screened by significant offsite vegetation surrounding the property (albeit it being offsite mitigation). Any limited views from the northeast are largely perpendicular and show minimal visual difference between the existing and proposed ODP.

Viewpoint P – Existing Ocean Ridge Dwellings (Area B in existing ODP)

68. Existing Ocean Ridge dwellings are in a similar position to the above description albeit from the opposite direction. The combination of angle and topography results in limited viewshafts. The limited views present are perpendicular to the northeast, restricting the amount of change able to be seen to the southeast limits. The dwellings main outlook remains unaffected out over the rural area to the west and mountains beyond. Design controls on the Zone A area in Greenlane will ensure the skyline is managed appropriately, and the height limit in this area is the same as what it would be in the current **ODP** in any case.

Viewpoint Q – Red Swamp Road and rural area

69. Wider rural residential views range from about 25–50 metres up to 2.5 kilometres or more from the site. Approximately 8–10 dwellings, along with farm buildings, are scattered in a typical rural pattern north of the site near Red Swamp Road. Road users traveling southeast on Red Swamp Road (around 100 km/h) will have brief, transient views of the area, with visibility varying by location.

70. Visibility does not necessarily mean a significant visual impact. Residential development of up to 97 additional dwellings in Greenlane is already anticipated under the current ODP. While densification will increase built form, it will be dispersed similarly and maintain a comparable landscape character. From a distance, views remain open but become fleeting closer to the site due to roadside shelterbelts. The increase in built form dominance compared to the existing ODP will be subtle but noticeable. Extensive mitigation measures are included, such as over 12.3 hectares of dryland planting, a 2-metre-wide visual integration planting strip, reserve areas, and green open spaces. ‘Zone A’ design controls will provide breaks between buildings to avoid continuous facades, limit building heights to current ODP standards, and require mono-pitched roofs. While the hillside backdrop will have less native restoration than before, large areas of rural, country-style landscaping will be maintained. Additional measures include high-quality streetscapes, building controls,

outdoor areas, and reserves to minimize visual impacts and ensure a well-integrated residential environment. Overall, this area is expected to develop as a high-quality residential neighbourhood consistent with the existing Ocean Ridge character, retaining its visual qualities and landscape character.

Viewpoint R – Ludstone Road (travelling west to east) and Viewpoint S – Green Lane/Coastal Pacific trail

71. The site can only be seen from the very corner of Ludstone Road and Red Swamp Road. The view is transient and experienced at speed (80km/hr). The corresponding ZTV map (**Appendix 1**) highlights the proposal has very limited visibility without even considering vegetation as a mitigating factor. Passengers on the Coastal Pacific train will have open views. However, many viewers will likely see this without prior context. Residential development is already anticipated in this location. Given the proximity but considering the transient nature of the viewers and their limited context, the visual change experienced will be minimal.

Visual Effects Summary

72. Given the anticipated outcomes under the ODP, the visual effects are limited to the change from the residential outcomes of the proposed **ODP** and associated subdivision and land use rules i.e. the proposed densification and extension adaptions of the **PC** and has been assessed as such. A summary of the visual effects on potential / actual viewing audiences is summarised in **Figure Six** below. Overall, viewpoint assessments were found to be **less than minor**[25] when considering all mitigation measures.

VP Ref.	Location/Receptors	Type of view (open, partial, screened)	Metres from area boundary	Visual Effect Rating (Permanent)	Mitigation Measures Applied at site specific areas
The Hub (Viewpoints A-G)					
A	Residents of 166 State Highway 1	Partially screened by existing vegetation.	70m	Low	MM-1 / MM-2 / MM-3
B	Residents of 7 & 7A Ludley Drive	Open with some offsite screening.	200m	Low	MM-1 / MM-2 / MM-3 / MM-4

[25] At 'worst'

VP Ref.	Location/Receptors	Type of view (open, partial, screened)	Metres from area boundary	Visual Effect Rating (Permanent)	Mitigation Measures Applied at site specific areas
C	Residents of 2 McRae Gardens / Ocean Ridge Blvd / Greenburn Way	Partially screened by trees in the road corridor and other residential dwellings and/or the Fairways Accommodation.	~65m	Low	MM-1 / MM-2 / MM-3 / MM-4 / MM-5
D	Transient views. Vehicle users of SH1 travelling south. Walkers / bikers on Kaikōura trail travelling south.	Partially screened by sporadic vegetation along the southern boundary.	20m	Very low - low	MM-1 / MM-2 / MM-3 / MM-5
E		Partially screened by sporadic vegetation along the southern boundary.	300m	Very low - low	
F	Semi-transient views. Visitors to South Bay wharf.	Partially screened by topography.	2.8km	Very low - negligible	MM-1 / MM-3
G	Semi-transient views. Visitors to Kaikōura Lookout.	Partially screened by topography.	3.4km	Very low - negligible	MM-1 / MM-3
The Farm (Viewpoints H-M)					
H	Ocean Ridge residents located on Clemett Court and west side of Greenburn Way	Partially screened by riparian restoration planting, with views over top of planting	100m	Low – very low	MM-1 / MM-2 / MM-3 / MM-4 / MM-5
I	Ocean Ridge residents located on the west side of Ingles Drive	Partially screened by dryland restoration planting	400m	Low	MM-1 / MM-2 / MM-3 / MM-4 / MM-5
N/A	Main Trunk/Coastal Pacific railway	Open	10m	Very low - negligible	MM-1 / MM-4

VP Ref.	Location/Receptors	Type of view (open, partial, screened)	Metres from area boundary	Visual Effect Rating (Permanent)	Mitigation Measures Applied at site specific areas
J	Vehicle users of SH1 travelling north	Partially screened	330m	Very low	MM-1 / MM-2 / MM-3
K	Vehicle users of SH1 travelling south	Partially screened	500m	Very low	MM-1 / MM-2 / MM-3
L	Kaikōura trail	Primarily screened by existing river margin vegetation	20m	Very low	MM-1 / MM-3
M	Kaikōura Golf Club	Open in parts and partially screened by amenity planting	10m	Low – very low	MM-1 / MM-2 / MM-3 / MM-4 / MM-5
Greenlane (Viewpoints N-S)					
N	87 & 95 Green Lane	Partially screened by topography and boundary planting	50-100m	Low	MM-1 / MM-2 / MM-3 / MM-4
O	Cluster of dwellings at Ludstone/Red Swamp Road Intersection	Screened by existing vegetation	50-200m	Very low	MM-1 / MM-3
P	Existing Ocean Ridge Dwellings	Open/partially screened by other existing dwellings	150m	Very low	MM-1 / MM-3
Q	Red Swamp Road and rural area	Open reducing to partial and glimpsing open views through roadside vegetation	150m	Low – very low	MM-1 / MM-2 / MM-3 / MM-4
R	Ludstone Road	Screened by topography	150m	Very low	MM-1 / MM-3
S	Green Lane/Coastal Pacific railway	Open	10m	Very low	MM-1 / MM-4

Figure 6: Visual Effects Scale Summary

Recommendations

73. Recommendations to address landscape and visual effects have been inherently built into the Plan Change. Guidance has been provided throughout the design inception, to ensure the conceptual masterplan is well considered and broadly reflected in the provisions of the ODP and Plan Change to form comprehensive outcomes with landscape and visual matters. The ODP plans were shaped by the extensive master planning exercise which included landscape and urban advice as outlined. Additionally, site-specific recommendations form part of the mitigation measures as outlined in Section 11 - 16 above, which include built controls, landscaping, height and design opportunities and outcomes.

Summary

74. The Plan Change and ODP were developed through an extensive master planning process that identified key opportunities and constraints, guided by landscape and visual values (among other factors). The proposal aligns with relevant national, regional and district policies, objectives, and guidelines. Significant mitigation measures, including comprehensive design controls, have been incorporated to manage potential effects. As a result, the visual effects on surrounding parties are assessed as **less than minor** and can be acceptably absorbed into the receiving environment.

Appendix 1

Graphic Attachment

OCEAN RIDGE ODP PLAN CHANGE - LANDSCAPE & VISUAL ASSESSMENT

OCEAN RIDGE, KAIKŌURA, CANTERBURY

APPENDIX 1 - GRAPHIC ATTACHMENT

Project no: 1322001
28th July 2025
Revision: A

novo group
Planning. Traffic. Development.

CONTENTS

Novo Group Limited
Level 1, 279 Montreal Street
PO Box 365, Christchurch 8140
O - 03 365 5570
info@novogroup.co.nz

PROJECT DETAILS

Project no: 1322001
Document title: Ocean Ridge ODP Plan Change - Landscape & Visual Assessment
Revision: A
Status: For resource consent
Date: 28/07/2025
Client: Cargill Station Limited

DOCUMENT HISTORY & STATUS

Revision	Date	Description	By	Review
DRAFT	30/05/25	For comment	ECF	AW
DRAFT	04/06/25	For comment	ECF	AW
DRAFT	10/07/25	For comment	ECF	AW
A	28/07/25	Final	ECF	AW

. SITE CONTEXT

. OCEAN RIDGE SITE CHARACTER PHOTOS

NOTES

A. Looking southwest down the Kaikōura coastline. The dramatic hills dropping into the ocean, with dryland planting in the foreground.

B. Low density residential dwellings on the ridge line, with swathes of dryland planting flanking the hillside.

C. Rolling rural land with sporadic exotic and native vegetation. The Seaward Kaikōura Ranges form a transient & memorable backdrop.

D. Coastal views from elevation at Ocean Ridge.

E. Planting and open space.

F. Planted riparian/wetland restoration areas.

Zoning

Ocean Ridge Comprehensive Living (ORCL) | Kaikoura Peninsula Tourism Zone (KPTZ) | Commercial Zone | Mixed Use Zone | Medium Density Residential Zone | Low Density Residential Zone | Settlement Zone | Rural

Scheduled Site | Archaeological Site | Voltage Tranmission Line (66kV or Higher)

Coastal Hazard: Coastal Hazard 1 | Coastal Hazard 2

Archaeological Area - Lines | Archaeological Area

Coast | Reserves: Reserve (Local Purpose) | Reserve (Scenic/Rec) | Reserve (Ngai Tahu) | Reserve (Esplanade)

Marine Facilities Zone | Proposed Road Widening | Main North Railway | Road Parcels | Road | Parcels

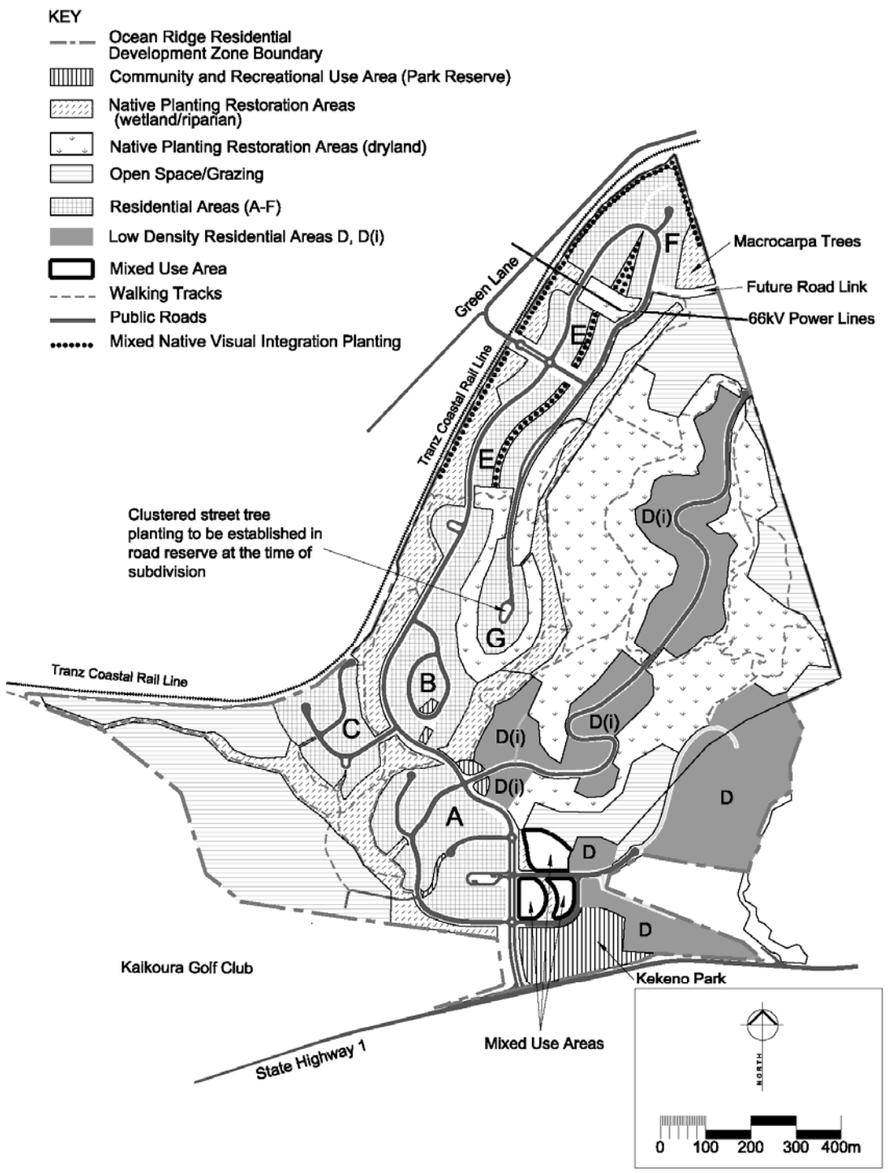
Clarence River | Lake Rotoiti | Height Control Areas: Height Control 5.5m | Height Control 11m | District Boundary

Other District Boundaries | Outstanding Natural Areas: Significant Landscape | Outstanding Landscape

NOTES

A. Retrieved from the Kaikōura Digital Plan on 25/04/25.

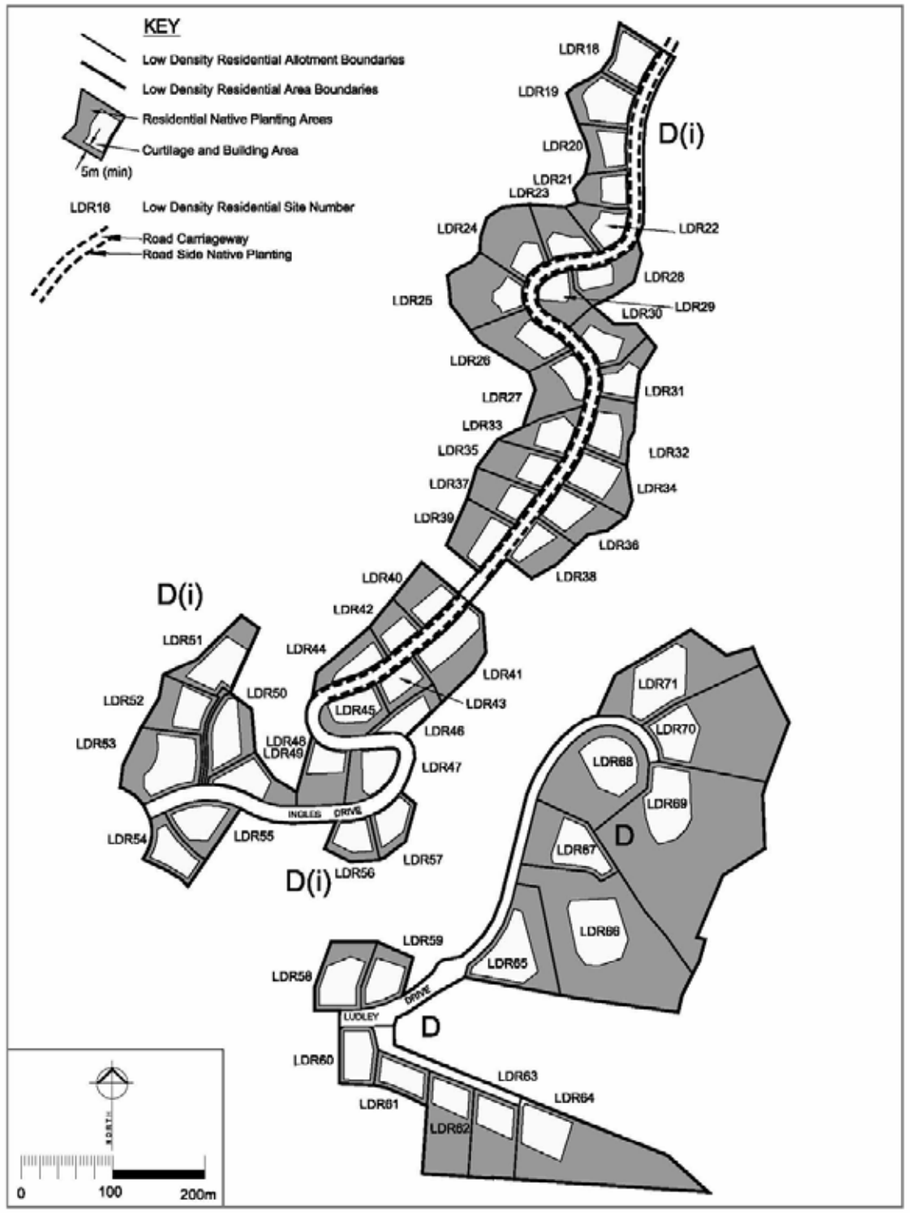
Appendix P: Outline Development Plan 1 – Ocean Ridge Comprehensive Living Zone



OCEAN RIDGE COMPREHENSIVE LIVING ZONE
Outline Development Plan 1

Rev August 09

Appendix P: Outline Development Plan 2 – Ocean Ridge Comprehensive Living Zone

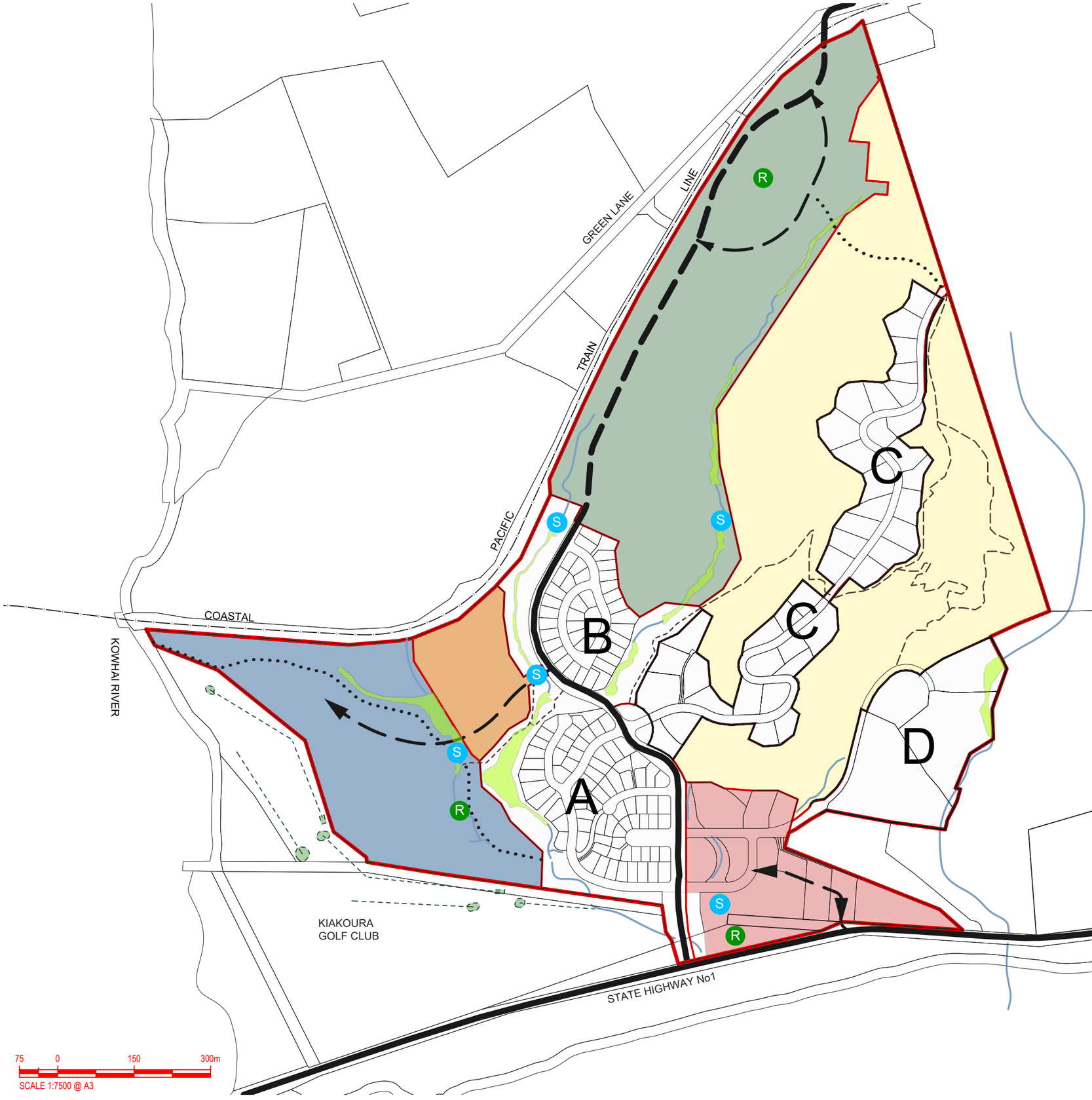


OCEAN RIDGE COMPREHENSIVE LIVING ZONE
Outline Development Plan 2 - Revision 8 December 2009

NOTES

A. Retrieved from Kaikōura District Plan, Appendix 1 and 2, DEV2 - Ocean Ridge Development Area.

. PROPOSED ODP



N

KEY

SITE
- SITE BOUNDARY
- SUB AREA BOUNDARIES

FOUNDATION AREAS
- RESIDENTIAL AREA

SUB AREAS
- THE CREST
- COUNTRY LIVING
- THE FARM
- GREENLANE
- THE HUB

TRANSPORT NETWORK
- EXISTING PRIMARY ROADS
- INDICATIVE PRIMARY ROADS
- INDICATIVE LOCAL ROADS
- COASTAL PACIFIC TRAIN LINE

ACCESS
- EXISTING WALKING TRACKS
- INDICATIVE WALKING TRACK

RESERVES & OPEN SPACES
- STORMWATER FACILITY (INDICATIVE)
- SIGNIFICANT RESERVE AREA (INDICATIVE)
- NATURAL INLAND WETLAND

PLAN 1

KEY FEATURES AND SUB-AREAS

OCEAN RIDGE DEVELOPMENT
OUTLINE DEVELOPMENT PLAN
REVISION E
DATE 18-06-2025

OCEAN RIDGE ALTERNATIVE PLANTING RESTORATION PLAN OVERVIEW

Verified Exsisting Vegetation

- Riparian/Wetland Planting
- Dryland Planting
- Low Density Residential Planting
- Predevelopment Vegetation

Ocean Ridge Alternative Planting Restoration Plan 2025

- Wetland & Wetland Bank Planting
- Riparian Planting
- Dryland Planting
- 6000m2 of dryland planting anticipated pending discussion with council regarding active recreation reserve area and Transpower regarding safe separation distances.

Client CARGILL STATION LIMITED
Project **OCEAN RIDGE PPC ECIA**
0 250 500 m

Project no. P05100
Date 23 May 2025
Drawn JT
Approved ML

MORPHUM environmental

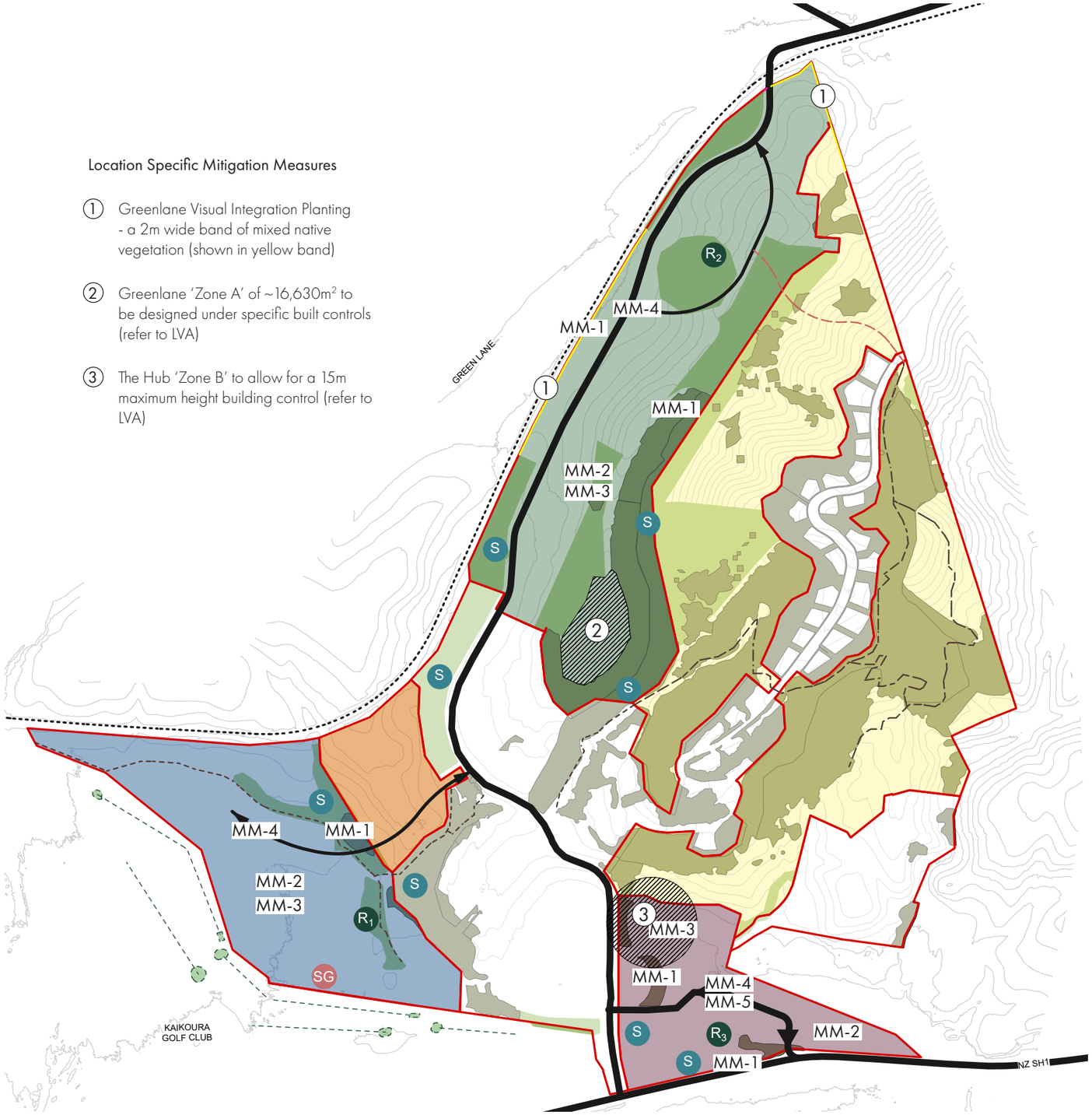
. MITIGATION MEASURES

Location Specific Mitigation Measures

① Greenlane Visual Integration Planting - a 2m wide band of mixed native vegetation (shown in yellow band)

② Greenlane 'Zone A' of ~16,630m² to be designed under specific built controls (refer to LVA)

③ The Hub 'Zone B' to allow for a 15m maximum height building control (refer to LVA)

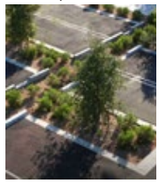


MM-1 (PLANTING & LANDSCAPING)

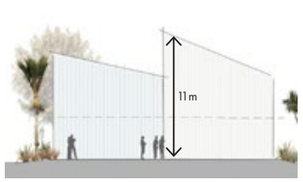


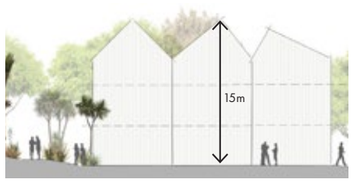
MM-2 (BUILDING DESIGN CONTROL)



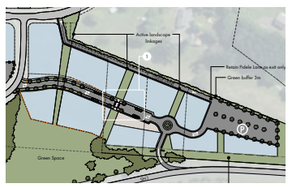
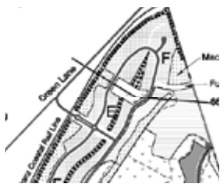



MM-3 (HEIGHT CONTROL)



MM-4 (ROADING & EARTHWORKS)

MM-5 (LIGHTING)



NOTE: Refer to the overall ODP fo area legend. All proposed and existing planting is shown on this mitigation map. Refer to Ocean Ridge Alternative Planting Restoration Plan Overview for full detail.

NOTE: Refer to the LVA document for a full description of proposed mitigation measures corresponding to the MM codes above.

. THE HUB - EXISTING SITE CHARACTER PHOTOS

NOTES

A. Looking east from the centre of the Hub area. SH1 can be seen in the right side of the photo.

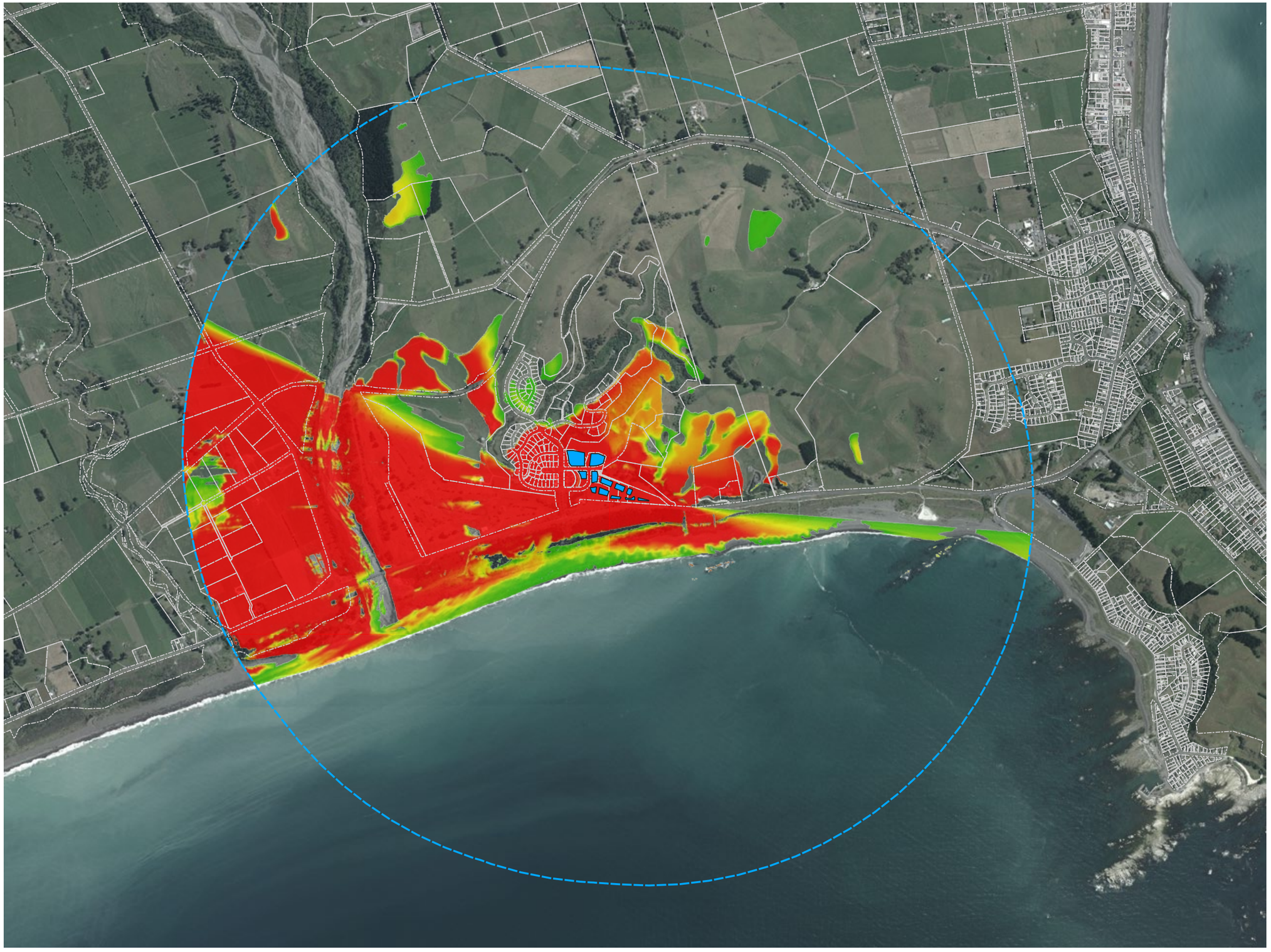
B. Looking west from the centre of the Hub area, grassed flat land with patches of native vegetation. Existing residential dwellings and the seaward Kaikōura Ranges can be seen in the distance.

C. As above but oriented slightly further northwest. The lower slopes of Highgate can be seen in the mid-ground.

D. Looking East along Ludley Drive. Existing low density residential dwellings can be seen on the skyline. Proposed Hub areas are to the left and right.

E. Looking north from Ludley Drive to areas for the proposed Hub.

. THE HUB - ZONE OF THEORETICAL VISIBILITY MAP



LEGEND

HUB SITE BOUNDARIES

2KM RADIUS

ZONE OF THEORETICAL VISIBILITY:

HIGHER VISIBILITY

VERY LIMITED VISIBILITY

REFER TO METHODOLOGY STATEMENT

Map created using Digital Elevation Model (DEM). Does not include any vegetation, buildings or other surface objects.

SCALE 1:20,000 @ A3

0 250 500 750 1,000 m

. THE HUB - VIEWPOINT MAP

. THE HUB - VIEWPOINTS

Camera: Samsung SM-F721U
Focal length: N/A
Height: 1.6m
Date: 23/05/2025, 12:22pm
Distance from site boundary: Within site

Camera: Samsung SM-F721U
Focal length: N/A
Height: 1.6m
Date: 23/05/2025, 12:25pm
Distance from site boundary: 360m

. THE HUB - VIEWPOINTS

Camera: Samsung SM-F721U
Focal length: N/A
Height: 1.6m
Date: 23/05/2025, 12:29pm
Distance from site boundary: 30m

Camera: Samsung SM-F721U
Focal length: N/A
Height: 1.6m
Date: 23/05/2025, 12:11pm
Distance from site boundary: 40m

. THE HUB - VIEWPOINTS

Camera: Samsung SM-F721U
Focal length: N/A
Height: 1.6m
Date: 23/05/2025, 12:15pm
Distance from site boundary: 340m

Camera: Nikon D5600
Focal length: 55mm (82mm full frame equivalent)
Height: 1.6m
Date: 28/05/2024, 2:10pm
Distance from site boundary: 2.92km

. THE HUB - VIEWPOINTS

Camera: Nikon D5600
Focal length: 35mm (52mm full frame equivalent)
Height: 1.6m
Date: 28/05/2024, 1:53pm
Distance from site boundary: 3.42km

. THE FARM - EXISTING SITE CHARACTER PHOTOS

NOTES

A. Overview of The Farm area, taken from The Crest.

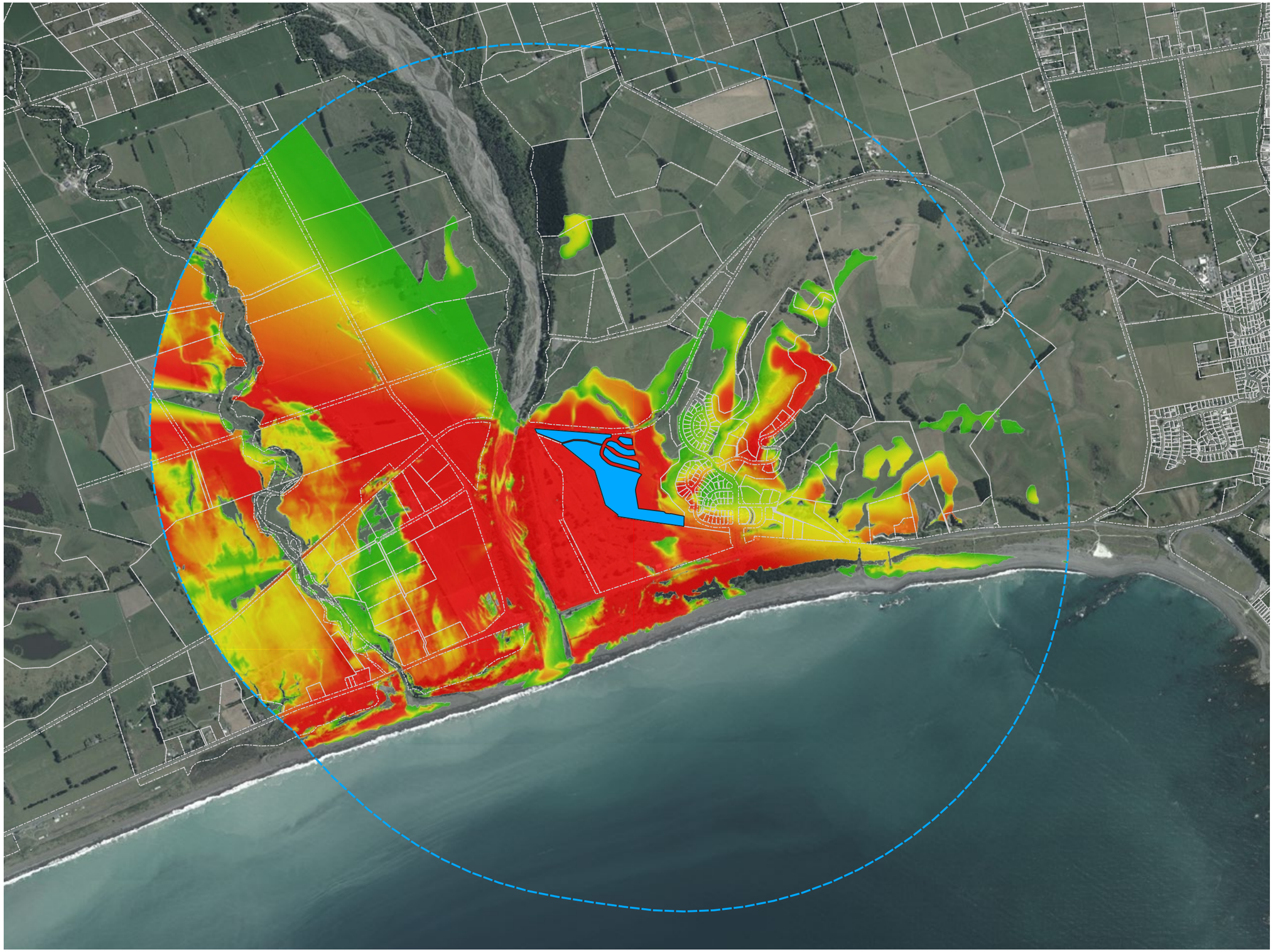
B. Overview of The Farm area, taken from Highgate.

C. Flat topography with grazed pasture.

D. Looking back towards existing residential dwellings from The Farm.

E. Looking east down the gravel road that runs through the Farm.

. THE FARM - ZONE OF THEORETICAL VISIBILITY MAP



LEGEND

FARM SITE BOUNDARIES

2KM RADIUS

ZONE OF THEORETICAL VISIBILITY:

HIGHER VISIBILITY

VERY LIMITED VISIBILITY

REFER TO METHODOLOGY STATEMENT

Map created using Digital Elevation Model (DEM). Does not include any vegetation, buildings or other surface objects.

SCALE 1:20,000 @ A3

0 250 500 750 1,000 m

. THE FARM - VIEWPOINT MAP

. THE FARM - VIEWPOINTS

Camera: Samsung SM-F721U
Focal length: N/A
Height: 1.6m
Date: 23/05/2025, 12:34pm
Distance from site boundary: 110m

Camera: Nikon D5600
Focal length: 40mm (60mm full frame equivalent)
Height: 1.6m
Date: 25/03/2024, 11:15am
Distance from site boundary: 540m

. THE FARM - VIEWPOINTS

Camera: Samsung SM-F721U
Focal length: N/A
Height: 1.6m
Date: 23/05/2025, 12:18pm
Distance from site boundary: 530m

Camera: Samsung SM-F721U
Focal length: N/A
Height: 1.6m
Date: 23/05/2025, 12:20pm
Distance from site boundary: 320m

. THE FARM - VIEWPOINTS

Camera: Nikon D5600
Focal length: 18mm (27mm full frame equivalent)
Height: 1.6m
Date: 28/05/2024, 2:28pm
Distance from site boundary: 0m (within site)

Camera: Samsung SM-F721U
Focal length: N/A
Height: 1.6m
Date: 23/05/2025, 12:43pm
Distance from site boundary: 110m

. GREENLANE - EXISTING SITE CHARACTER PHOTOS

NOTES

A. Greenlane area with a coastal backdrop.

B. Nearby rural residential dwellings outside of Ocean Ridge. The variable topography and exotic vegetation of the surrounding area is shown.

C. The snowcapped dramatic backdrop of the Seaward Kaikōura Ranges.

D. The northwest trending slope of Greenlane with characteristic coastal backdrop.

E. Hummocky topography of Greenlane.

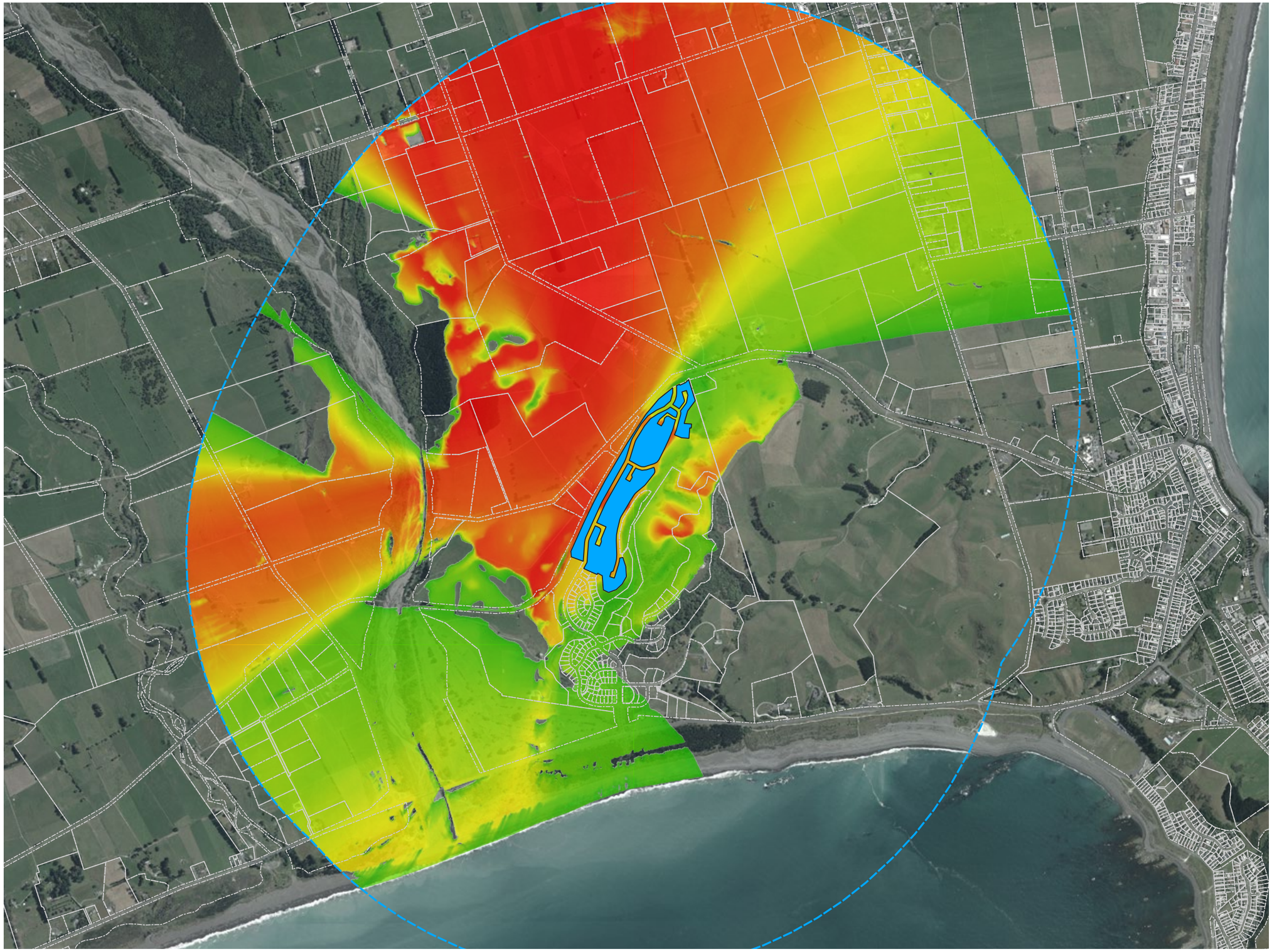
F. Looking back towards the existing residential area of Ocean Ridge. Natural depressions with wetland qualities are seen to the right.

G. The wetland area. The main trunk railway runs through to the left of the image.

H. An overview of the Greenlane area, demonstrating existing topography, patches of vegetation and outlook.

I. Looking east from the northern point of Greenlane towards the Kaikōura township.

. GREENLANE - ZONE OF THEORETICAL VISIBILITY MAP



LEGEND

GREENLANE SITE BOUNDARIES

2KM RADIUS

ZONE OF THEORETICAL VISIBILITY:

HIGHER VISIBILITY

VERY LIMITED VISIBILITY

REFER TO METHODOLOGY STATEMENT

Map created using Digital Elevation Model (DEM). Does not include any vegetation, buildings or other surface objects.

SCALE 1:20,000 @ A3

0 250 500 750 1,000 m

. GREENLANE - VIEWPOINT MAP

. GREENLANE - VIEWPOINTS

Camera: Samsung SM-F721U
Focal length: N/A
Height: 1.6m
Date: 23/05/2025, 11:40am
Distance from site boundary: 120m

Camera: Samsung SM-F721U
Focal length: N/A
Height: 1.6m
Date: 23/05/2025, 11:30am
Distance from site boundary: 100m

. GREENLANE - VIEWPOINTS

Camera:
Focal length: xxmm (xxmm full frame equivalent)
Height: 1.6m
Date:
Distance from site boundary:

Camera: Samsung SM-F721U
Focal length: N/A
Height: 1.6m
Date: 23/05/2025, 11:32am
Distance from site boundary: 680m

. GREENLANE - VIEWPOINTS

Camera: Samsung SM-F721U
Focal length: N/A
Height: 1.6m
Date: 23/05/2025, 12.03pm
Distance from site boundary: 350m

Camera: Nikon D5600
Focal length: 18mm (27mm full frame equivalent)
Height: 1.6m
Date: 25/03/2024, 10:02am
Distance from site boundary: 60m

Appendix 2

Methodology

Appendix 2: Landscape and Visual Effects Assessment Methodology

Introduction

1. The following LVA methodology is based on the ***Te Tangi a te Manu*** *(Aotearoa New Zealand, Landscape Assessment Guidelines (July 2022), (**TTaTM**))* which encourages a tailored methodology specific to the project situation, avoiding a prescriptive approach.

2. This assessment process is designed to be structured and consistent, relying on professional judgment supported by explicit evidence and reasoned argument. It acknowledges that landscapes are dynamic and constantly changing. The methodology focuses on the *implications of change for a landscape's values*, rather than change itself being inherently adverse. In brief, the components of the assessment include identification/description of the receiving environment and its values, assessment of landscape effects and of visual effects that may arise from the proposed development.

3. Site visits have been undertaken to view the site and surrounds on the 28/03/2024 and 28/05/2024. Photos were taken at key locations for reference and assessment. Additionally, a desktop analysis of site surrounds including GIS, Google Earth and LINZ Maps has been undertaken. A Graphic Attachment (**Appendix 1**) has been prepared to outline the site plan, mitigation planting, and viewpoints from the site to assist in the assessment of effects. Refer to the Graphic Attachment for photography methodology.

4. In terms of mitigation measures, the assessment and design have been integrated from inception. Refer to the LVA for a list of mitigation measures.

Receiving Environment Description, Character and Values

5. The identification of the receiving environment is undertaken through two main components: a descriptive phase of Landscape Description/Characterisation and an evaluative phase where values are ascribed to the landscape. This provides a basis on which to robustly assess the effects of proposed development.

6. This process involves interpreting the composite and cumulative character of a landscape, distinguishing it from other landscapes. It's not about rating, but determining what attributes combine to give an area its identity, and its sensitivity, resilience, or capacity for change. Landscape attributes, as outlined in **TTatM** and adopted by this methodology, fall into three broad categories - physical, associative, and perceptual attributes (see **Figure 1**). It emphasises that landscape's character and values lie in the distinct combination and interaction of these attributes, rather than treating them as discrete categories.

7. **TTaTM** defines landscape values as *"the various reasons a landscape is valued—the aspects that are important or special or meaningful"*. Values are understood as being embodied in attributes and are ascribed by people. Often planning documents have identified Outstanding Natural Features or Landscapes (ONF/L), and the objectives, policies, and rules within the plan are used as the basis for landscape significance or value, against which the proposal is assessed. When the landscape value of the site is not

identified in the District Plan under Section 6(b) of the RMA, an accepted approach is to use criteria identified in *Wakatipu Environmental Society Inc. & Ors v QLDC NZRMA 59*, generally known as the Amended Pigeon Bay criteria (see **Table 1**). These criteria are grouped into three broad categories or 'landscape attributes'. They align with **TTaTM's** conceptualisation of landscape having physical, associative, and perceptual dimensions.

Biophysical features, patterns, and processes

8. These can be natural or cultural in origin, ranging from geology and landform to physical artifacts like roads that mark human settlement and livelihood.

Sensory qualities

9. These are landscape phenomena directly perceived and experienced by humans, such as the view of a scenic landscape or the distinctive smell and sound of the foreshore.

Spiritual, cultural, and social associations

10. This includes both activities and meanings. Examples are *tupuna awa* (ancestral rivers) and *waahi tapu* (sacred places) with their appropriate *tikanga* (customary practices), or sites of historic events and heritage. Associative activities include patterns of social activity like popular walking routes or fishing spots, which foster a sense of attachment and belonging.

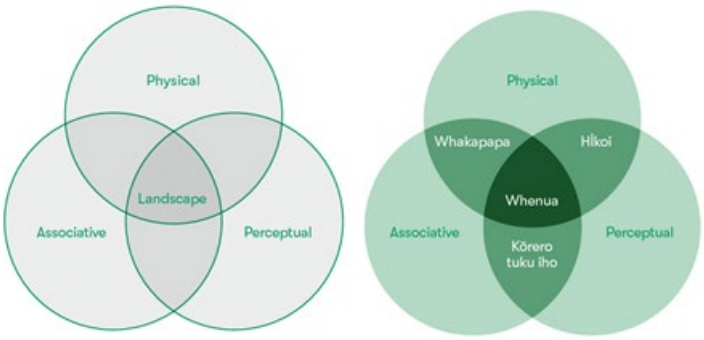


Figure 1. Landscape conceptualised as the intersection of three overlapping dimensions (left). Whenua conceptualised as the intersection of three overlapping dimensions and an overlay that integrates mātauranga (right)[1].

[1] Te Tangi a te Manu, 4.10, Figure 4

Table 1. Effects Analysis.

Pigeon Bay Criteria	Effect in Application	Meaning
i) Natural Science **iv) Transient Values**	**Physical / Biophysical Effects**	*Those tangible effects on landforms and vegetation resulting from the Project. It includes effects on existing properties in the direct landscape and adjacent environments.* *The physical effects also relate to short term and long-term cumulative effects over time.* *The transient values: occasional presence of wildlife; or its values at certain times of the day or of the year*
ii) Legibility Values	**Perceptual or Sensory Effects**	*Effects on people's perceptions of landscape including visual and aesthetic qualities like visual coherence and legibility in the landscape that the proposed site currently inhabits, and the community it is adjacent to.*
vi) Shared and Recognised Values **v) Tangata Whenua Values**	**Amenity Effects**	*"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" (s7 RMA). The criteria are used to define amenity values including aspects such as a sense of spaciousness (wide open spaces), privacy, quietness and absence of traffic and bustle, an environment relatively uncluttered by structures and artificial features, etc.*[1]
vii) Historic Values	**Associative Effects**	*Human connotation with a place or a landscape. Including spiritual, cultural or social associations.*
iii) Aesthetic Values	**Visibility analysis and influences**	*The physical orientation and visibility, including fixed views from the properties in the vicinity, the view from any recreational areas, and the transitional views by various road users. and the distance of the proposal from key viewpoints.*
	Nature, audience and sensitivity	*Being that of the viewing location (orientation of view; public or private locations) and that of the viewing audience (e.g. homeowners and recreationalists) on a per viewpoint basis. Considers the overall scale and bulk of the proposal in relation to the surrounding fabric, and character and existing amenity values.*

Policy Framework/Statutory documents

11. The Resource Management Act 1991 Part II that are relevant to the assessment of landscape and amenity effects of development are found in **Section 5** (purpose), **Section 6** (matters of national importance), and **Section 7** (other matters). The key local document that gives effect to the RMA 1991 is the Kaikōura District Plan (Updated Version 2024). Refer to the LVA for full description of the objectives and policies relevant to the Ocean Ridge proposed private plan change.

Landscape Effects

12. Landscape effects can be described as, *"Change in the physical landscape, which may change its characteristics or qualities"*. This component assesses the proposal against the identified landscape values. It requires understanding the nature of the landscape resource (considering its susceptibility to change and existing value) and the magnitude of change resulting from the proposed development. Components of the assessment include:

    a. *Landscape capacity*: Magnitude of change and sensitivity.

[1] Goodman, de Lambert, Dawson, McMahon & Rackham (2000). *Impact of development on rural landscape values*. Ministry for the Environment.

b. *Cumulative effects*: The irreversible changes to the overall landscape character as well as accumulation of forms (etc.).

c. *Temporary effects*: Effects on biophysical, associative and perceptual values as well as character, amenity and intrinsic values of the landscape.

d. *Effects on landscape character*: Effects on biophysical, associative and perceptual values as well as character, amenity and intrinsic values of the landscape.

Nature of change

13. The nature of the effect must be explained first, as magnitude alone is meaningless; the effect is an *outcome for a landscape value*, not just a change. This includes identifying the values that will be modified by the proposal.

Magnitude of landscape change

14. The assessment of magnitude considers several contributing factors:

a. *Size or scale of the effect:* This considers aspects such as the total loss or addition of key features or elements, or major changes in the key characteristics of the landscape, including significant aesthetic or perceptual elements. Also, whether the majority of key features are retained, and if key characteristics remain intact with limited aesthetic or perceptual change.

b. *Geographical extent of views:* Whether the change impacts a wider landscape scale or only at the site scale and its immediate setting.

c. *Duration and reversibility of change:* The assessment distinguishes between permanent and temporary (often associated with construction) effects. It also considers the long-term (over 10-15 years) versus short-term (0-5 years) nature of the change and its reversibility.

Effects rating

15. The overall level of visual effect is determined by combining the nature with the magnitude of landscape change. This professional judgment informs the overall level of effects, using the seven-point scale from **TTaTM**, linking to terms like 'minor' or 'more than minor' (see **Figure 2**). This corresponds to **Table 2** below which expands on the alignment to RMA ratings. The assessment predicts the effects without mitigation and the residual effects after mitigation measures are implemented.

Figure 2: Visual Effects Ratings and Categorisation as per *Te Tangi a te Manu*[2].

[2] Section 6.39, Pg. 151.

Table 2. Landscape and Visual Effects Rating Scale.

Relation to Planning Rating	Rating	Description
Less than minor	Negligible	• *Effects are not present.* • *The assessment of a "negligible" level of impact is usually based on no apparent change or complete lack of visibility only.*
Minor	Very Low	• *Effects are acceptable.* • *Negligible loss of or modification to key elements or features.* • *No change to characteristics of the baseline of the environment, approximating a 'no change' situation and a negligible change in views.* • *Does not require any mitigation.*
	Low	• *Effects are minimal.* • *Little material loss of or modification to key elements / features.* • *Modification or change is not uncharacteristic or prominent and can be generally absorbed within the receiving landscape.* • *Unlikely to require mitigation.*
More than minor	Moderate	• *Effects are apparent and could be cumulative.* • *Partial loss of or modification to key elements / features.* • *Characteristics of baseline change may be evident, and views present, but not necessarily uncharacteristic within the receiving landscape.* • *Could be mitigated to an appropriate level.*
	High	• *Effects are distinct in nature and likely to be cumulative.* • *Major modification or loss of most key elements / features.* • *Limited scope for the pre-development landscape character to remain and a major change in views.* • *Limited potential for additional mitigation to reduce effects to a lower degree.*
	Very High	• *Effects are very distinct.* • *Mitigation is unlikely to reduce the degree of effect to any discernible degree.*
	Extreme	• *Effects are unacceptable for the environment.* • *Cannot be mitigated.*

Note: The use of the NZ Institute of Landscape Architects' 'Best Practice Note - Landscape Assessment and Sustainable Management *been applied for the effects rating scale. The 'Relation to the Planning Rating' is an interpretation of the scale of the 'Okura' Environm* *[[2018] NZEnvC 78 Zhi Li, Jing Nui and Weili Yang and ors v Royal Forest and Bird Protection Society Inc ('Okura')] decision.*

Visual Effects

16. The assessment of visual effects considers how changes to the physical landscape affect the viewing audience and visual amenity. Visual effects are a subset of landscape effects inherently linked to the physical, associative, and perceptual dimensions. They can be defined as, *"Change to views which may change the visual amenity experienced by people"*.

Establish the Visual Baseline

17. The first step is to define the visual baseline, which identifies the existing visual environment against which the proposed development will be assessed. This involves determining the area where the development may be visible (also known as the 'visual catchment' or 'Zone of Theoretical Visibiliy – ZTV). An initial viewing matrix was prepared

for analysis of potentially effected viewers (see **Table 3** and **Figure 3**), based on site photographs and desktop study. This was followed by the preparation of ZTV maps (see **Zone of Theoretical Visibility (ZTV) Methodology** section below for details).

Identify viewing audience

18. The potential viewing audiences were then identified (the individuals or groups of people who will experience changes to views). This includes occupants of properties, users of roads and footpaths, and those engaged in outdoor recreation activities. Based on initial analysis and ZTV maps, key representative viewpoints were selected from which visual effects were assessed. They are representative of various viewing audiences within the receiving catchment and have been verified during site visits.

Assess the Nature of the Viewing Audience

19. The susceptibility of the viewing audience to change is assessed by considering their occupation or activity and the extent to which their interest is focused on the surrounding landscape. Higher susceptibility to change is generally attributed to:

    a. Residents at home, as their outlook significantly affects their quality of life.

    b. People engaged in outdoor recreation (e.g., walkers, bike riders whose attention is focused on the landscape).

    c. Visitors to known/important visitor attractions.

    d. Communities where views contribute to their landscape setting.

20. Lower susceptibility may include:

    a. Those viewing from their workplace, as the outlook is less central to their quality of life.

    b. Those traveling on public thoroughfares, where sensitivity varies depending on speed, direction, and view continuity.

    c. The value attached to views is also considered, which may be determined by popularity, numbers of people affected, or recognition in planning instruments (e.g., viewshafts, tourist maps, literature, or art).

Assess the Magnitude of Visual Change

21. The magnitude of visual change judges the amount of change likely to result from views of the proposed development. This considers:

    a. Size or scale of the effect: For example, total loss or addition of key features in the view, or the degree of contrast with existing landscape elements (form, scale, mass, line, height, color, texture). This also includes whether it's a full view, partial view, glimpse or screened.

    b. Geographical extent of views: Whether the change is visible across a wide area, near or long distance, or from front-on or oblique views.

c. Duration and reversibility of change: Whether the effect is permanent or temporary (e.g., associated with construction) and its long-term (over 10-15 years) or short-term (0-5 years) nature.

Effects rating

22. The overall level of visual effect is determined by combining the nature of the viewing audience (sensitivity) with the magnitude of visual change. This professional judgment informs the overall level of effects, using the seven-point scale from **TTaTM**, linking to terms like 'minor' or 'more than minor' (see **Figure 2**). The assessment predicts the effects without mitigation and the residual effects after mitigation measures are implemented.

Table 2. Initial Analysis (Matrix of Viewing Groups).

VP Ref.	Viewing audience & ~Distance from OR Boundary	View Description	Initial Analysis (See VPs in Figure 3)	Review/ LVA VP ref.
Roads				
A	NZ State Highway 1 (SH1) 20m to 1.2km +	• Transient, experienced in passing at highspeed (100km/hr). • Low sensitivity. • Partial & open views.	• Visibility mapping, see VP A. • Enhance visibility & accessibility for The Hub for drivers both directions on SH1.	Assessed, see VP D, E, J & K in Appendix 1.
B	Green Lane 10 to 500m	• Experienced in passing. • No thoroughfare, limited user group. • Multi-directional & directional. • Medium sensitivity. • Open view over flat pasture towards raised topography of Ocean Ridge.	• Visibility mapping, see VP B. • Potential screening through proposed riparian planting along Western boundary.	Assessed, see VP S in Appendix 1.
C	Ludstone Road 100m +	• Directional. Limited visibility due to natural topography. • Experienced in passing. • Low sensitivity. • Partial/screened view.	• Visibility mapping, see VP C. • No actions.	Assessed, see VP R in Appendix 1.
D	Red Swamp Road 100m +	• Directional, visible when heading southeast. • Experienced in passing. • Looking across open flats to rolling topography, ridgeline & high points of Ocean Ridge = highly visible in a rural area. • Medium sensitivity. • Open/Partial view.	• Visibility mapping, see VP D. • Mitigation planting. • Retention of pastural features. • Inclusion of building height limits & cladding controls.	Assessed, see VP Q in Appendix 1.
Residential				
E	Dwellings within Ocean Ridge N/A	• Fixed / permanent. • Anticipated change, with many dwellings already visible. Potential for blocking of mountain & sea views. • Medium sensitivity. • Partial view.	• Visibility mapping, see VP E. • Design amenity/softening planting. • Proposed development to fit within the existing character of Ocean Ridge & the wider Kaikōura environment. • Retain sky view factor & potential view paths.	Assessed, see VP B, C, H, I & P in Appendix 1.
F	87 & 95 Green Lane 100m	• Fixed / permanent. • Close, approximately 250m from proposed Green Lane development. • High sensitivity. • Primary view towards mountains, northwest away from ocean ridge. • Open view.	• Visibility mapping, see VP F. • Design screening planting along western boundary. • Dwelling on ridge to have visually recessive design controls & height limits.	Assessed, see VP N in Appendix 1.
G	166 State Highway 150 to 150m	• Fixed / permanent. • High sensitivity. • Primary views looking south over ocean, not east over Ocean Ridge. • Open/partially screened view.	• Visibility mapping, see VP G. • Boundary screening planting. • Proposed development to fit within the existing character of Ocean Ridge & the wider Kaikōura environment.	Assessed, see VP A in Appendix 1.
H	140 & 116 State Highway 1	• Fixed / permanent. • High sensitivity. • Primary views looking south over ocean, not east over Ocean Ridge.	• Visibility mapping, see VP H. • Existing screening/amenity planting around respective houses. No action.	Not assessed.

	250 to 550m	• Screened view.		
I	Dwellings at Ludstone Rd / Red Swamp Rd Intersection 200 to 350m	• Fixed / permanent. • High sensitivity. • Screened view.	• Visibility mapping, see VP I. • Significant amount of existing vegetation surrounding dwellings to act as screening.	Assessed, see VP O in Appendix 1.
J	South Bay Dwellings 2.2km +	• Fixed / permanent. • Distant view. • Negligible. • Low sensitivity.	• Visibility mapping, see VP J. • Distance & foreground acts as mitigation. No action.	Assessed, see VP F in Appendix 1.
Recreational				
K	Kowhai River Bike Trail 50m +	• Transient. • Experienced in passing. • Existing vegetation buffer. • Partial/screened view. • Medium sensitivity.	• Visibility mapping, see VP K. • Existing vegetation acts as screening, no mitigation action. • Increase access for residents & visitors to The Hub & potential cycle related facilities from Western point of Ocean Ridge boundary.	Assessed, see VP L in Appendix 1.
L	The Kaikōura Trail 30m+	• Transient. • Experienced in passing. • Potential vegetation buffer. • Low sensitivity. • Open view.	• Visibility mapping, see VP L. • Visibility has increased due to removal of pine trees, potential native planting proposed. • SH1 is the prominent factor. Increase visibility/access to The Hub for potential trail related facilities such as cafes & bike maintenance/rental.	Assessed, see VP D, E, J, K & L in Appendix 1.
M	Kaikōura Lookout 3.5km	• Distant view. • Negligible. • Transient. • Low sensitivity. • Partial view.	• Visibility mapping, see VP M. • Distance & foreground 'noise' acts as mitigation. No actions.	Assessed, see VP G in Appendix 1.
N	Kaikōura Golf Club Adjacent to 500m	• Adjacent. • Direct view. • Backdrop rather than primary view. • Medium sensitivity. • Partial view.	• Visibility mapping, see VP N. • Existing vegetation softening foreground. • Amenity planting to be designed along boundary between golf course & Ocean Ridge.	Assessed, see VP M in Appendix 1.
O	Wider rural area Adjacent to 2km+	• View across to flat farmland towards raised topography of Ocean Ridge.	• Visibility mapping, see VP O. • Building constraints on height & exterior cladding in place. • Amenity & ecological planting to assist in blending dwelling into the topography/existing environment.	Not assessed.
P	Sea 500m+	• From sea looking back towards l&. Direct, open and complete view, although distant. • Visitors on whale & dolphin watching boats. Commercial & recreational fishermen. • Audience has a heightened sense of experiencing the natural environment & sees the view as a whole.	• Visibility mapping, see VP P. • Pine trees in the process of removal will increase visibility of Ocean Ridge. • Dwellings on skyline to be built to height restrictions in place. • Exterior cladding & roofing building constraints in place.	Not assessed.

Figure 3. Initial analysis viewpoint map.

Zone of Theoretical Visibility (ZTV) Methodology

23. The following process was followed in the preparation of the Zone of Theoretical Visibility (ZTV) Maps for Ocean Ridge. The maps were then used to identify viewpoints with potentially effected audiences.

Terrain Data Preparation:

a) New Zealand national 1m resolution Digital Elevation Model (an amalgamation of the most current LiDAR surveys) sourced from LINZ Data Service.

b) Ocean areas excluded from DEM by redefining all values below -1.2m as 'No Data', following examination of the data to determine the approximate sea/tide level at the time of capture.

c) DEM resampled to 2m resolution to allow for practical map processing time and iterations. (Previous R&D by Method Visual has indicated that downsampling DEM from 1m to 2m resolution has negligible effect on ZTV mapping results).

Proposal Data Preparation:

a) Farm, Greenlane and Hub development areas received from Novo Group landscape architecture team in georeferenced CAD drawing.

b) 5m setback calculated from Hub development area boundaries shown in received CAD drawing, as per instructions received. 5m setback treated as Hub development area boundary for the purpose of ZTV mapping in subsequent steps. No setback calculated for Farm and Greenlane development area boundaries shown in received CAD drawing.

c) Farm, Greenlane and Hub building development areas defined by amalgamating proposed lots within each area excluding identified road and shared right of way parcels, resulting in each respective development area comprising a number of discrete polygons.

d) Point markers distributed along perimeter of each polygon at a maximum spacing of 20m, with markers placed on distinct boundary corners and additional markers distributed evenly between them. Where deviations between adjoining boundary sections are subtle (approx. <10°), those sections are treated as a single boundary section, as are curvilinear boundary sections without distinct corners.

e) Additional point markers distributed throughout the interior of each polygon in a 20m x 20m grid pattern, with points excluded where they occur within a 10m setback from the polygon perimeter.

f) Each point marker assigned a value corresponding to the maximum building height in metres for the development area that it occupies, as advised by Novo Group landscape architecture team.

g) Point markers amalgamated into shapefiles representing each respective development area.

ZTV Map Calculation, Presentation and Interpretation:

a) Zone of Theoretical Visibility analysis performed for each development area, whereby automated calculations are performed for each point marker within the shapefile and each pixel/grid square in the 2m resolution digital elevation model, to determine whether a structure of the point's specified height would be theoretically visible from that pixel, or whether it would be occluded by intervening landform. For each calculation the result is binary (i.e. 1=visible, 0=not visible).

b) The result of each ZTV analysis is the combined, additive result of the individual binary calculations for each point marker and pixel, with output pixel values ranging from 0 (no points visible) to the total number of point markers used to represent the respective development area (all points visible).

c) The numerical results of the ZTV analysis are graphically presented by a continuous, four-node colour spectrum ranging from 1 point visible (green) to all points visible (red), with yellow and orange nodes distributed evenly between the two extremes at 33.3% and 66.6% respectively. Nil results are represented as transparent / no colour.

d) The resulting green-yellow-orange-red colour spectrum represents the portion/percentage of the total development area upon which structures of the specified heights would potentially be visible from any given location on the map. The number of point markers representing each development area, and therefore the maximum/red value returned by the ZTV analysis, varies between development areas, and the numerical value itself is not of specific relevance (i.e. the numerical value does not directly correspond to the number of buildings or properties that are theoretically visible).

e) ZTV analysis results subsequently clipped to within an area that includes a 2km buffer calculated from the boundary of the respective development area, and the South Bay settlement area defined by the land parcels that it comprises.

f) For the Hub development area, two separate ZTV analyses were performed, one depicting the visibility of built structures at heights of 11m and 15m in areas as instructed, and another depicting the visibility of built structures at a uniform height of 8m.

g) It is important to note that a Digital Elevation Model (DEM), by definition, represents a bare-earth model of the terrain that does not include vegetation and built structures. Therefore, ZTV analysis performed using a DEM to represent the terrain does not consider potential occlusion of views by vegetation and built structures, and the verification of any such occlusion would require further analysis and/or field investigation.