APPENDIX 1:

LANDSCAPE AND VISUAL IMPACT ASSESSMENT METHODOLOGY

The methodology used for this assessment follows the guidelines provided in Te Tangi a Te Manu - Aotearoa New Zealand Landscape Assessment Guidelines (July 2022). The assessment focuses on three main components to determine the effects of the proposal on visual and landscape amenity:

1. Identification of the receiving environment, including a description of the existing landscape and natural character.
2. An assessment of the proposal's compatibility with existing landscape values.
3. A visual impact assessment that examines the effects on visual amenity and people, evaluated against the character and quality of the existing visual catchment.

1.0 LANDSCAPE ASSESSMENT

1.1 LANDSCAPE DESCRIPTION AND CHARACTERISATION

Landscape attributes are classified into three broad categories: biophysical features, sensory qualities and associative values.

Biophysical Features: Includes both natural and cultural elements, such as landforms, vegetation, and human-made features like roads, which reflect the landscape's physical structure and history of human interaction and historical settlement.

Sensory Qualities: These are the aspects of the landscape as perceived by the senses, such as scenic views, sounds, and smells unique to the area.

Associative / Cultural Values: The cultural, spiritual, or social meanings attached to specific elements or features of the landscape, such as traditional landmarks (e.g., tupuna awa and waahi tapu), recreational activities, or historical events that foster a sense of identity and attachment to the landscape. Associative activities are patterns of social activity that occur in particular parts of a landscape, for example, popular walking routes or fishing spots. Associative values and activities provoke a sense of attachment and belonging.

Landscape characterisation involves interpreting these elements to define the landscape's unique identity, understanding how these attributes contribute to its resilience, and evaluating its capacity for change. According to both national and international best practices, landscape characterisation includes identifying distinctive types of landscape based on their patterns of natural and cultural features, processes and influences; and their geographical delineation. This classification does not rank landscapes but highlights the unique attributes that shape the area's identity and importantly helps to determine an area's sensitivity, resilience or capacity for change.

<table>
<tr><td colspan="2">Natural</td><td>Near-natural</td><td colspan="2">Semi-natural (including pastoral agriculture and exotic forests)</td><td colspan="2">Agricultural (arable and intensive cropping)</td><td>Near-cultural</td><td>Cultural</td></tr>
<tr><td>Very high-pristine</td><td>High</td><td>Moderate High</td><td colspan="2">Moderate</td><td>Low-Moderate</td><td>Low</td><td>Very Low-nil</td></tr>
</table>

Table 1: Continuum of Natural Character

1.2 LANDSCAPE VALUES

Following the descriptive phase of landscape assessment, the evaluative phase determines the significance or value of the landscape. This step is essential for understanding how the landscape contributes to the environment, community, and cultural heritage, providing a foundation for assessing the proposal's impact on these valued attributes.

Landscape values refer to the qualities and characteristics of a landscape that make it significant, meaningful, or beneficial to people. This phase of the assessment assigns value to the landscape based on ecological, aesthetic, cultural, historical, and social characteristics. The criteria for determining these values draws on guidance from statutory documents, such as district or regional plans, and nationally recognised guidelines like the Te Tangi a Te Manu - Aotearoa New Zealand Landscape Assessment Guidelines (2022).

An assessment of landscape values involves several steps, and each report is tailored and may include all or some of the steps outlined below:

1.2.1 Identification of Landscape Significance

Planning and Statutory Context: The first step in identifying landscapes of significance involves reviewing relevant planning documents to determine if any specific landscape values have been assigned to the site or its surrounding areas. This includes:

- **Outstanding Natural Landscapes and Features (ONL/ONF):** If the area is designated as an ONL or ONF in a district or regional plan, its value is legally recognised, often requiring special consideration and protection measures.

- **Areas of High Landscape Value (AHLV):** Some planning documents identify areas with high landscape value, often in sensitive environments. These areas typically carry specific policies for preserving landscape quality and character.

- **Cultural and Historical Sites:** Statutory plans may identify significant cultural or historic landscapes, which could include areas of indigenous significance, heritage sites, or locations associated with important historical events.

District Plan and Policies: Where specific values relating to landscape are identified in local and regional planning documents, the objectives, policies, and rules are examined and assessed. These values form a baseline against which the proposal is assessed to ensure alignment with local or national policies and objectives.

Where there is uncertainty or a lack of site-specific designation, further assessment against District Plan values may be required, and when no formal designation exists, we apply criteria based on the NZILA guidelines, focusing on:

1. **Biophysical Elements, Patterns, and Processes:** The physical attributes of the landscape, such as geology, landforms, vegetation, and hydrological features. These elements shape the landscape's structure, ecological processes, and overall character.

2. **Sensory or Perceptual Qualities:** This refers to the visual and sensory characteristics of the landscape, including views, sounds, and smells. It also encompasses the emotional or experiential qualities that contribute to the landscape's aesthetic value and how these qualities are experienced by people.

3. **Associative Meaning and Values:** These encompass the cultural, spiritual, and social connections people have with the landscape. For example, this may include wāhi tapu (sacred sites), sites with historical or cultural associations, and social activities linked to particular parts of the landscape, such as walking trails, fishing areas, or communal gathering spaces.

1.2.3 Determining Landscape Value and Sensitivity

The evaluation of sensitivity refers to the landscape's ability to accommodate change without losing its valued qualities. Factors influencing sensitivity include:

- **Natural Landscapes:** Highly natural or unmodified landscapes are generally more sensitive to change, as they are less resilient to modification. Landscapes with a high level of human influence or modification may be less sensitive to additional change.

- **Resilience to Change:** The capacity of the landscape to absorb change without significant degradation of its character or values. This includes evaluating whether the proposed changes align with existing land uses, patterns, and development trends.

- **Cultural Significance:** Landscapes with strong cultural or spiritual values are often highly sensitive, particularly if they involve wāhi tapu, sites of historical importance, or areas that hold meaning for the local community or tangata whenua.

The landscape assessment concludes by assigning an overall value or significance to the landscape, based on the combination of biophysical, cultural, and sensory values. This classification is used to inform the landscape and visual impact assessment and mitigation planning process:

- **High Value:** Landscapes with outstanding or unique qualities that are recognised for their ecological, cultural, or scenic importance.

- **Moderate Value:** Landscapes that contribute to local character and provide important social, recreational, or cultural functions, but may have a higher degree of resilience to change.

- **Low Value:** Landscapes that are heavily modified, less distinctive, or more resilient to change, where alterations are unlikely to result in significant adverse effects.

By systematically evaluating and assigning value to these different aspects of the landscape, the assessment can identify what makes the landscape special, how it contributes to the area's character, and its significance to local communities and tangata whenua. This process is essential for understanding the potential impacts of the proposal on landscape values and provides a foundation for the visual and effects assessments that follow.

2.0 VISUAL ASSESSMENT METHODOLOGY

The visual assessment methodology evaluates the effects of the proposal on visual amenity and assesses how these effects may impact on the people who experience the landscape. Visual amenity values refer to the qualities of a landscape that contribute to people's appreciation of its visual appeal, aesthetic coherence, and cultural or recreational value. The methodology used follows a systematic approach to evaluate the proposal's visual impacts, identifying the views affected, the sensitivity of viewers, and the potential for visual impact. The following steps inform and influence the visual assessment:

1) Identification of Key Viewpoints

2) Sensitivity Assessment of Receptors
3) Identification of Visual Effects
4) Mitigation Measures
5) Evaluation of Visual Effects

2.1 IDENTIFICATION OF KEY VIEWPOINTS

Viewpoint Selection: Key viewpoints are chosen to represent a range of viewing audiences and locations. This includes public spaces, such as parks, roads, and recreational walkways, as well as residential areas where people may experience the visual impacts of the proposal on a regular basis. Viewpoints are selected based on:

- **Receptor Type:** Identifying where people are likely to experience the view (e.g., residents, visitors, and recreational users).
- **View Accessibility:** Selecting public locations where views of the proposal are accessible to a broad audience.
- **Diversity of Perspectives:** Ensuring the viewpoints represent different distances, angles, and elevations relative to the proposal.

Verification Process: The initial selection of viewpoints is based on a desktop study using tools such as GIS to review aerial imagery, topographic contours, and land use data. These preliminary viewpoints are then verified through on-site visits to ensure their accuracy and relevance to the assessment. Adjustments are made if necessary to reflect the most accurate and representative viewpoints.

Viewshed Analysis: For larger or more complex projects, a Theoretical Zone of Visual Influence (TZVI) may be created. This analysis uses digital modelling to identify the areas from which the proposal is likely to be visible. The TZVI mapping is conservative, as it does not account for existing structures, vegetation, or other obstructions that may block views. This data helps refine the selection of key viewpoints and assists in visualizing the potential impact on the surrounding landscape.

Photos are taken of the identified viewpoints following the methods set out within the 'Best Practice Guide 10.2 – Visual Simulations (2010)'. All photos are taken using a SONY ALPHA A7 II digital camera with a focal length of 50mm. No zoom was used. In the case of stitched photos used as the viewpoint images, a series of 4 or 5 portrait photos were taken from the same position to create a panorama. The photos were stitched together in Adobe Photoshop to create the panorama presented in the figures.

2.2 SENSITIVITY ASSESSMENT OF RECEPTORS

The sensitivity of visual receptors (viewers) is assessed based on several factors that influence their experience of the landscape and their likely response to visual changes:

- **Nature of the View:** This includes the quality, value, and character of the current view. Views that are identified as scenic or culturally significant generally carry higher sensitivity.

- **Type of Receptor:** Different types of viewers have varying levels of sensitivity. For example:

  - **Residential Viewers:** Generally considered to have high sensitivity due to their expectation of a stable, pleasant visual environment.

  - **Recreational Users:** May have moderate to high sensitivity, particularly those engaged in activities focused on the landscape, such as hiking, bird-watching, or picnicking.

  - **Workers:** Viewers from workplaces may have moderate sensitivity, as their primary focus is on their work rather than the view, although this can vary depending on the nature of the workspace.

  - **Travelers:** The sensitivity of travellers varies based on their mode of transport and speed. Pedestrians and cyclists are generally more sensitive than drivers, who may view the landscape only briefly.

- **Viewing Distance:** Distance from the proposal influences the perceived magnitude of change. For example, views within 500 meters are generally considered to have a higher sensitivity due to greater detail and prominence in the field of view, while views from greater distances may have reduced sensitivity.

- **Duration and Frequency of View:** Frequent, prolonged views (e.g., from a home) tend to have higher sensitivity compared to transient or occasional views (e.g., while driving).

Each receptor group is evaluated to determine its level of sensitivity on a scale from low to high, depending on these factors and the overall context.

2.3 IDENTIFICATION OF VISUAL EFFECTS

The assessment then identifies the potential sources of visual impact and the degree of change the proposal may cause to the existing view. This step involves:

- **Defining Visual Changes:** Visual changes are described in terms of scale, contrast, and compatibility with the existing landscape. This includes the size, shape, colour, and materials of the proposed development relative to the surrounding environment.

- **Assessing View Composition:** The visual assessment evaluates how the proposal will alter the composition of the view. This includes consideration of elements such as:
  - Whether the proposal will block open views or reduce visual clarity.
  - Whether the proposal will dominate the view or blend with existing features.
  - Whether the proposal aligns with the aesthetic qualities of the current landscape or introduces contrasting elements.

- **Analysing Cumulative Effects:** For areas already experiencing visual changes, the assessment considers the cumulative impact of the proposal in relation to other developments or existing structures, evaluating the potential for visual clutter or landscape character degradation.

2.4 MITIGATION MEASURES

Where potential adverse visual effects are identified, the assessment explores mitigation measures to reduce or minimise these impacts. Common mitigation strategies include:

- **Design Modifications:** Adjusting the scale, location, or orientation of the proposal to reduce visibility from key viewpoints.

- **Landscape Screening:** Using vegetation, such as trees or hedges, to screen or soften views of the proposal. Native planting is often prioritised to enhance ecological integration.

- **Material Selection:** Utilising materials and colours that reflect the natural tones of the surrounding landscape, reducing visual contrast.

- **Lighting Controls:** Managing the intensity, direction, and timing of artificial lighting to limit light pollution and reduce visual impacts during nighttime.

The effectiveness of these mitigation measures is assessed to determine the extent to which they reduce visual impacts, aiming for a balance between development and landscape preservation.

2.5 EVALUATION OF VISUAL EFFECTS

The assessment evaluates the visual effects both with and without mitigation measures, focusing on the following stages:

- **Operational Impacts:** Describing the anticipated visual impact of the proposal during normal operations, including any permanent changes to the landscape.

- **Residual Effects:** After mitigation measures are applied, the assessment identifies any remaining (residual) visual effects and their significance. This may involve re-evaluating the scale of visual change and adjusting the sensitivity ratings based on the effectiveness of mitigation.

The visual impact is then classified according to the NZILA's seven-point scale, which helps standardise the assessment and provide a consistent framework for evaluating visual changes.

3.0 EFFECTS METHODOLOGY

The Effects Methodology evaluates the extent and nature of potential impacts resulting from the proposal, focusing on how the landscape and visual environment may respond to change. This methodology considers both the current and future states of the receiving environment, assessing the landscape's resilience and capacity to accommodate the proposed development. The process involves examining the landscape and visual characteristics, defining the nature and magnitude of effects, and evaluating the overall significance of these effects. The Effects Methodology is divided into several stages:

3.1 ANALYSIS OF THE RECEIVING ENVIRONMENT

Current State Evaluation: The first step is a detailed analysis of the existing landscape and visual environment. This involves documenting the baseline conditions, including:

- **Landscape Character:** The overall character, qualities, and values of the landscape, as well as any notable features or attributes that contribute to its identity. This includes both natural and cultural elements such as landforms, vegetation, built structures, and historical or culturally significant areas.

- **Visual Receptors:** Identifying key viewer groups who may experience changes to their views as a result of the proposal. This includes assessing their sensitivity, based on factors such as receptor type, viewing distance, and frequency of view.

Future State Considerations: In some cases, it is necessary to assess how the landscape may evolve independently of the proposal, considering factors such as:

- **Permitted Baseline:** The degree of change allowed under current planning regulations, which may influence the landscape regardless of the proposal. This could include activities that are permitted under zoning rules or existing land use rights.

- **Cumulative Effects:** Potential cumulative impacts of the proposal when considered in conjunction with other existing or approved developments in the area. The assessment may include granted resource

consents that are likely to be implemented in the future, influencing the overall landscape and visual environment.

3.2 ASSESSMENT OF LANDSCAPE AND VISUAL EFFECTS

Magnitude of Change: The proposal's impact on the landscape and visual environment is evaluated based on the magnitude of change it introduces. This involves examining the scale, nature, and intensity of the proposed changes:

- **Scale and Extent of Change:** The physical scale of the proposal (height, area, and volume) and the spatial extent of its influence. This includes analysing the visual prominence of the proposal within the landscape and its potential to alter existing views.

- **Nature and Degree of Contrast:** The degree of visual contrast between the proposal and the surrounding environment. Elements such as colour, form, texture, and material are considered to determine how the proposal will integrate with or stand out from the existing landscape.

- **Duration of Change:** The temporal aspects of change, including whether the impact is short-term (e.g., during construction) or long-term (permanent changes). Temporary visual impacts are typically associated with construction activities, while permanent impacts are considered during the operational phase.

The magnitude of effects is assessed using the 7-point scale as described below.

Sensitivity of the Receiving Environment: The assessment of landscape sensitivity is combined with the magnitude of change to evaluate the level of effects. Sensitivity is determined by factors such as:

- **Landscape Value and Quality:** Higher-value landscapes with significant natural, cultural, or recreational importance are generally more sensitive to change. Landscapes identified as Outstanding Natural Landscapes (ONL) or within Areas of High Landscape Value (AHLV) are often considered to have low resilience to change.

- **Viewer Sensitivity:** This includes the type and location of visual receptors and their sensitivity to changes in their views, as determined in the Visual Assessment Methodology.

Assessment of Effects on Landscape and Visual Amenity: Once sensitivity and magnitude of change are determined, the effects are classified according to the NZILA's seven-point scale as below.

The assessment covers both the unmitigated (raw) and mitigated (residual) forms of the proposal to understand its full impact. Key categories include:

- **Very Low:** Changes are negligible or not readily discernible, and the overall effect is minimal.
- **Low:** Changes are discernible but do not significantly alter the viewer's experience of the landscape.
- **Low-Moderate:** Changes begin to adversely affect the visual experience but are still relatively subtle.

- **Moderate:** The visual quality of the view is affected, but main qualities of the view remain intact.
- **Moderate-High:** Significant changes that impact the quality of the existing view and may lead to partial loss of views.
- **High:** A fundamental change to the character and quality of the existing view, with substantial impacts on visual amenity.
- **Very High:** The change results in a total loss of views or greatly affects the quality of the view, fundamentally altering its character.

3.3 IDENTIFICATION OF MITIGATION MEASURES

Mitigation measures are evaluated and recommended where adverse landscape or visual effects are identified. These may include:

- **Avoidance:** Changing the proposal's location, scale, or design to completely avoid adverse effects on sensitive areas.
- **Minimisation:** Reducing the magnitude of visual impact by refining design aspects, such as reducing the height or adjusting the colour palette to better integrate with the surrounding landscape.
- **Remediation:** Introducing elements to restore or enhance affected landscape values. For example, replanting disturbed vegetation or restoring habitats that are altered during construction.
- **Compensation:** In cases where direct mitigation is not feasible, compensatory measures such as creating additional public open spaces, or enhancing nearby landscapes to offset the impact, may be considered.

3.4 EVALUATION OF RESIDUAL EFFECTS

After mitigation measures are applied, the assessment determines the residual effects – the remaining impacts of the proposal after all practical mitigation has been implemented. The significance of these residual effects is evaluated based on the following criteria:

- **Indiscernible Effects:** No effects, or effects too minor to register.
- **Less than Minor Adverse Effects:** Discernible but too small to affect other people or the environment noticeably.
- **Minor Adverse Effects:** Noticeable but not likely to cause any significant impact.
- **More than Minor Adverse Effects:** Noticeable impacts that may affect others but could be mitigated.
- **Significant Adverse Effects:** Noticeable impacts with a significant effect on the environment but are potentially mitigatable.
- **Unacceptable Adverse Effects:** Substantial effects that cannot be effectively mitigated and may lead to a fundamentally altered landscape character.

These levels of residual effects provide a clear framework for understanding the proposal's long-term implications and guide decision-makers on the appropriateness of the proposal relative to its potential impact on the receiving environment.