Ongaonga Solar Farm

LANDSCAPE ASSESSMENT

November 2023

Isthmus.

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Introduction and Summary

1 Helios Energy Limited (Helios) is applying for resource consent for the construction, operation and maintenance of a 100MW photovoltaic solar farm to the south of Ongaonga on Taylor Road, north of the Tukituki River.

2 Isthmus Group Ltd (IGL) has been engaged by Helios to provide landscape design advice and undertake an assessment of the landscape character and visual amenity effects arising from the proposed solar farm.

3 The purpose of this report is to undertake an evaluation of the existing landscape character and visual amenity values of the area and to assess the effects of the proposal on those values. The proposal is also reviewed in relation to relevant statutory documents, including the Central Hawkes Bay District Plan.

Methodology

4 The following method has been used to assess the site, the broad physical context, the proposal and its landscape and visual effects:

- A desktop review of the site area including a review of relevant documents, statutory provisions and the nearby consented SkySolar solar farm (resource consent number: RM220083);
- A site visit including visiting the surrounding roads from where the site can be viewed. The site visit was undertaken on 25 July 2023. Photographs were taken during the site visit, included within **Appendix A – Graphic Attachments**;
- A description of the existing landscape context of the site and the surrounding area. The description includes reference to the existing site land uses, including historical and cultural associations;
- An analysis of the landscape character and values of the site and of the surrounding area;
- An assessment of the visibility of the Project from the surrounding landscape;
- An assessment of the potential landscape effects of the Project on the site and the wider context;
- An assessment of the potential visual effects of the Project on the site and on the wider context; and,
- An assessment of the cumulative effects of the Project.

5 An assessment of effects on landscape character and visual amenity is included within this report, referring to a 7 point rating scale for the level of effect. The rating of effects provides a summary of the assessment only. The rating 'scores' should be considered alongside the descriptive sections of the assessment; to reduce the likelihood of landscape effects being considered out of context and in a formulaic way.

6 Comparisons of how adverse value ratings assigned in accordance with Te Tangi a te Manu – Aotearoa New Zealand Landscape Assessment Guidelines (TTatM) relate to the Resource Management Act 1991 (RMA) terminology of 'less than minor', 'minor' and 'more than minor' are provided below.

Adverse Effect Rating	Very Low	Low	Moderate – low	Moderate	Moderate – high	High	Very high
RMA terminology	*Less than Minor*		*Minor*	*More than Minor*			

7 It should be noted that a change in a landscape does not in itself mean that a proposal will result in an adverse effect on the values of that landscape:

> *"Change itself is not an effect: landscapes change constantly. It is the implications of change for a landscape's values that is the effect."*[1]

8 The components of an effect are 'nature x magnitude'. The nature of the effect is the description of what it is (for example, disruption of landscape pattern, reduction of naturalness, modification of landform etc). The nature of effect can be **Adverse** (negative) or **Beneficial** (positive). An assessment of effects combines both value ratings (Very Low – Very High) and the adverse or positive nature of the effect.

- An adverse effect relates to an activity which results in a reduction in landscape and / or visual amenity values; in this circumstance the RMA terminology of 'less than minor', 'minor' and 'more than minor' is applied.

- A positive effect relates to an activity which enhances landscape and / or visual amenity values through restoration and / or provision of positive elements or features.

9 Where a proposal will result in a change, but that change will have no effect on the characteristics or values of a particular landscape or view, a nature of effect rating of '**no effect'** will be provided.

10 The method used is consistent with the methodology (principles and approaches) set out in **Te Tangi A Te Manu Aotearoa New Zealand Landscape**

[1] Refer 6.03 - Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines'

Assessment Guidelines Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022.

11 The detailed methodology for the preparation of the site photographs and the visual simulations within Appendix A - **Graphic Attachments** is described and illustrated at the end of the Graphic Attachment booklet and is consistent with **NZILA Tuia Pito Ora Best Practice Guide Visual Simulations 10.2.**

12 The methodology section above sets out a series of 'steps' that have been taken to assess the relevant landscape and visual effects of the proposal on the receiving environment. The list is provided for completeness to set out the key matters that have been taken into consideration. The detailed description of the work undertaken is contained under the relevant headings throughout the report.

Description of the project

13 The proposal includes the construction, operation, and maintenance of a 100MW solar farm on Taylor Road, to the south of Ongaonga, Central Hawkes Bay. The solar farm is to be located across three landholdings, covering approximately 240ha.

14 The overall site area is linear in shape, orientated broadly east – west along the northern side of the Tukutuki River. The arrangement of the solar farm is arranged in linear rows (on a north-south axis) of bifacial monocrystalline panels mounted on steel piles which are fitted with a tracking system to enable to panels to slowly rotate east – west through the day to follow the movement of the sun across the sky; maximising energy capture.

15 The proposed solar farm is part of a wider landholding within the applicant's control through lease agreements with three different landowners. This resource consent application does not propose any development within the wider site area, and the existing vegetation within the wider landholding will remain unaffected. The solar farm extent (red line) is illustrated in relation to the land ownership on Diagram 1 below.

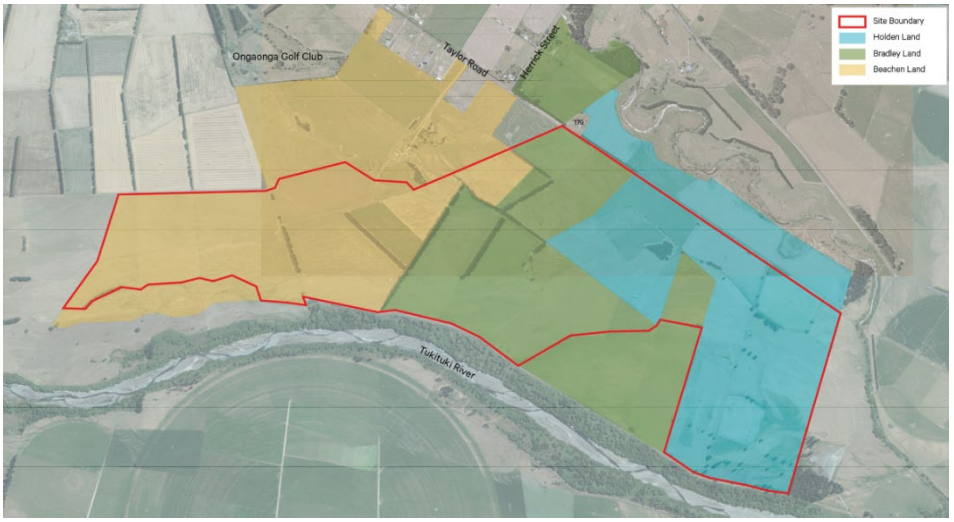

Diagram 1 – Land Ownership.

16 The site layout has been developed to provide setbacks to sensitive landscape features and boundaries, including:

- A setback from the intermittent stream which crosses the site (east to west).
- Exclusion of areas of high-quality soils from the development area (notably to the north of the Tukituki River).
- Setbacks from neighbouring residential properties (notably the approximate 200m offset from the junction of Taylor Road and Herrick Street – with the offset totalling an approximate land area of 5.8ha).

17 The solar panels will be installed in parallel rows approximately 6-8m apart (pole to pole), with a minimum 12m setback from the solar farm property boundary (often substantially more where there are indents in the alignment of the rows).

18 Each panel will have a maximum height of 2.8m (above ground level), which will be observed at the beginning and end of the day where the panels are at their greatest angle tilted towards the rising and setting sun. Throughout the majority of the day, the panels will have a lower elevation, with minimum height (1.8m) at solar noon (refer Diagram 2).

19 The largest extent of site coverage will occur when the panels are positioned flat (at solar noon). At this time, the panels (and all additional components / supporting infrastructure) will have a total site coverage of approximately 35%. The remaining 65% of the site is green space, including pastoral land for sheep grazing, and proposed planting.

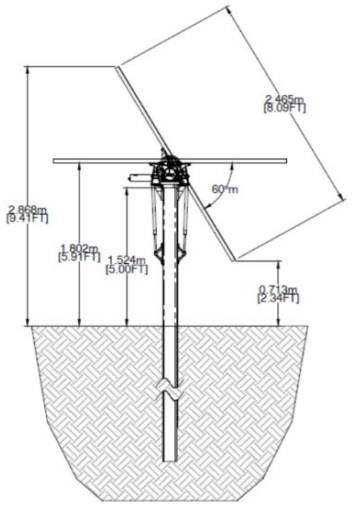

Diagram 2 – Typical elevation of a solar panel.

20 The solar farm will include the following additional infrastructure:

- **Inverters** – Used to convert power generated from DC to AC. The inverters will be housed within a structure similar in size and bulk to a 20ft shipping container. The inverters will be located evenly through the site, and located away from sensitive site boundaries. The site layout plan illustrates 26 inverters across the 240ha site area. The inverters will be connected by access tracks.

- **Collector Substation and Battery Storage –** Substation infrastructure and battery storage is required to temporarily store the energy and step-up the voltage. The substation and battery storage area will be located in the northeastern corner of the site, south of the existing agricultural track (extending east from Taylor Road). The collector substation will include four capacitor banks and a switch room (approximately 3.5m tall). The battery storage will consist of units approximately 2.5m high, 7.1m long and 1.7m wide.

- **Transmission Line** – A new transmission line (110kV) will be required between the proposed collector substation and the Transpower Waipawa substation to the northeast on Ongaonga Road. The transmission line will be approximately 2km in length and will be parallel to (and immediately adjacent to) the existing 110kv Transpower alignment. The transmission line will be supported by steel monopoles (approximately 20m high) with 150m – 170m pole spacings.

- **Security** – The solar farm will be enclosed by a 2m high perimeter deer fence with security cameras evenly distributed along the fence line. The deer fence will be set back 6m from the property boundary to

allow sufficient space for mitigation planting. In addition the substation and battery storage area will be contained by a security fence (2.5m high) to meet Transpower safety requirements.

21 The application is supported by a mitigation planting plan (**Figure 5 – Appendix A Graphic Attachments**) which illustrates proposed planting along the site perimeter. Proposed planting includes a mix of native shrubs and small trees which have been selected to integrate the proposed solar farm into the environment, and screen views of the panels from ground level within the immediate setting. Mitigation planting is located along site boundaries and includes:

- A 4m wide planted strip along the (central) northern site boundary which includes approximately 2m tall planting at time of planting.
- 2m wide planted areas along the northwestern, northeastern and eastern site boundaries which includes areas of 1m-2m high planting and 2m high planting at time of planting.
- A 2m wide planted strip to the north of a retained shelterbelt (north of Herrick Street) to screen views below the canopy of the retained shelterbelt.

22 Clustered areas of marginal planting are also proposed along the intermittent stream corridor that runs east to west through the site. Marginal planting will include juvenile plants that will assist in increasing the seed bank along the intermittent stream. The intent of this planting is not to plant the entire stream length but provide pockets of planting allowing the corridor to naturally revegetate over time.

23 Use of the agricultural land below and between the solar panels will be retained, with sheep grazing proposed to manage grass cover and weed growth.

24 The proposed solar farm will have an approximate one-year construction period.

25 The proposal is outlined in full within the Assessment of Environmental Effects (AEE) prepared by The Property Group and is illustrated in the Site Plan included within **Appendix A – Graphic Attachments.**

Description of the existing environment

26 The author has undertaken a site visit to Ongaonga and the surrounding area and has taken photographs at various locations. These are included as the photographs from Viewpoints 1 – 8 (including an additional aerial view) within

Appendix A - Graphic Attachments and provide a visual representation of the site and its context.

Description of Ongaonga and the wider landscape setting

27 The site is located in the rural environment to the south of Ongaonga, north of the Tukituki River.

28 Ongaonga is located centrally in the Ruataniwha Plains; an area of largely flat and predominantly agricultural land. The plains are defined by the Ruahine Ranges to the west and the range of hills behind Waipawa and Waipukurau to the east. It is the floodplain of the Waipawa and Tukituki Rivers, and in geological times was part of an inland sea. The Māori narrative of the two taniwha explains the gorges cut through the hills to drain the inland sea.

> *"Māori mythology tells a story of a boy who fell into a lake and two taniwha fought over his body. The lashing of their tails broke through the eastern bank forming the Tukituki and Waipawa rivers, draining the lake and leaving in its place the Ruataniwha Plains."*[2]

29 Pre Māori and European settlement, the Ruataniwha Plains were likely covered by lowland native forest and grassland. Post settlement, the plains have been cleared of native forest / bush and are characterised by largely flat agricultural land (mixture of arable and pastoral with some apple orchards), crossed by braided river corridors[3] and interspersed with rural towns[4] and farmsteads. The agricultural landscape is typically dry and 'dusty', with multiple irrigated agriculture practices (predominantly centre-pivot irrigation) visible in the landscape; with irrigation structures visible at ground level and distinctive circular field patterning visible in aerial views.

30 Ongaonga is a small rural settlement located approximately 1km to the north of the site. The settlement was established in 1865 and has an estimated population of 190 as of June 2022[5]. Ongaonga is predominantly residential, with a small collection of historic and commercial buildings located centrally along Bridge Street.

31 Ongaonga town was named after the Ongaonga Stream, which is located to the south of the town (north of the site). The Ongaonga Stream was named by Māori after the native stinging nettle (Urtica ferox[6]) which is understood to have grown on the banks of a nearby river.

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2 The Ruataniwha Roars - BayBuzz

3 Including: Makaretu River, Tukipo River, Tukituki River, Waipawa River and Mangaonuku Stream.

4 Including: Takapau, Ongainga, and Tikokino

5 Stats NZ

6 A tall woody plant with fine poisonous hairs on the leaves and stems.

32 The Ruahine Ranges and foothills include multiple braided rivers which flow from the west. The rivers converge in the lowland hills to the east of the plains, and flow to Hawke Bay to the northeast at Haumoana.

33 The braided river corridors are defined by mature vegetation which typically comprise exotic species including *Salix* and *Poplar* spp. The Tukituki River, to the south of the site, is defined by vegetated riverbanks up to approximately 100m – 120m in width. This width and scale of vegetation provides a strong level of containment and visually screens the site from the south.

34 The wider agricultural landscape is largely devoid of mature trees, however exotic shelterbelt planting (observed to predominantly be *Pinus* or *Macrocarpa*) and infrequent tree blocks are not uncommon in the landscape fabric. There are large expanses where no shelterbelts are present, which are assumed to have been removed to install pivot irrigation systems. The largely flat topography of the plains, in combination with the shelterbelt planting results in the wider landscape having an open character, with expansive views across the working agricultural land uses.

35 State Highway 50 (SH50) is located to the west of the site, west of Ongaonga, and is the primary road through the Ruataniwha Plains (connecting to State Highway 2 at Waiohiki and Takapau to the northeast and southwest respectively).

36 Ongaonga Golf Club is located to the northwest of the site (south of SH50) and includes a 9-hole course within a manicured landscape setting. The course boundaries are defined by regular evergreen exotic tree planting (assessed on site to be *Larix* spp.) to the west and south.

Description of the site and its immediate landscape setting

37 The site includes 240ha of rural agricultural land to the south of Ongaonga, north of the Tukituki River. The site is predominantly used for stock farming (sheep and cattle).

38 The northeastern site boundary is broadly defined by Taylor Road[7] and a farm track. This section of Taylor Road provides access to a single residence (179 Taylor Road) and is defined by established exotic shelterbelt planting on the northern side of the road corridor, with a break in planting at the location of the residence.

39 The eastern site boundary is defined post and wire fencing, with the adjacent land including pastoral and arable land uses with a centre-pivot irrigation system.

[7] East of the junction with Herrick Street.

40 The southern site boundary is broadly defined by the Tukituki River corridor. The river is defined by densely vegetated banks (up to widths of approximately 100m – 120m) with a river stop-bank (approximately 2m – 3m in height) located along both sides of the river. The vegetation and stop-bank provide containment to the site, entirely screening views from the wider landscape to the south. The southern site boundary excludes an area of agricultural land which is identified as 'highly productive land' and is to be retained for agricultural use (with access provided through the site).

41 The southwestern site boundary is defined by post and wire fencing and extends into land within the applicants' control. Land immediately southwest of the site (and within the southern part of the site) is characterised by a river terrace, with visible scarring from historic river flows visible in the landform.

42 The western site boundary is defined by post and wire fencing and abuts adjacent agricultural land.

43 The northwestern site boundary is predominantly defined by post and wire fencing, with a small section of site boundary immediately southwest of 126 Taylor Road (Beachen Farmstead) being defined by a subtle landform rise along the intermittent stream which crosses the site. The adjacent land to the northwest of the site is predominantly within the applicants' control.

44 Taylor Road, to the north of the site (west of Herrick Street) includes linear rural lifestyle residential development, including a recent subdivision south of Taylor Road. Development to the north of Taylor road is more established, and generally contained by mature vegetation along the road corridor.

45 The plains fall gradually from west to east across the site by approximately 30m over 3km. This slope is barely perceptible so that the site appears flat. A localised slope defines the river terrace along the southwestern site boundary and extending into the southern site area; and a subtle rise in landform is visible along the northwestern site boundary, along the intermittent stream which crosses the site.

46 The unnamed intermittent stream which crosses the site originates at Ongaonga Golf Course, traversing through the site west – east, and converging with the Tukituki River to the south east. The intermittent stream is largely devoid of tree cover, with few tree groups located along the corridor in the eastern part of the site.

47 The site is used for stock farming (sheep and cattle) and is divided into land parcels by post and wire fencing. The site is largely devoid of tree cover, however, includes a prominent grouping of exotic shelterbelts (approximately seven) located centrally in the site. A small grouping of native trees in the northeastern part of the site and a sporadic area of stand-alone trees

(predominantly *Poplar* spp.) in the southeastern corner of the site are also present.

48 The parallel FHL – WDV[8] (A and B) Transpower 110kV lines cross the southeastern site area. The line is supported by single circuit single poles, with double circuit steel towers spanning the Tukituki River.

49 Overall, the site is characterised by intensive agricultural land uses. The existing shelterbelts within the centre of the site are notable physical features within the site context, which contribute to a 'layering' of vegetation across the largely flat landscape in combination with the planting along the Tukutuku River; seen against the distant backdrop of the ranges to the west.

50 The site and its local setting are illustrated on **Figures 1-2** within **Appendix A Graphic Attachments.**

Consented Environment

51 Resource Consent[9] has been granted (6/7/2022) for an approximate 144ha solar farm to the east of Ongaonga (approximately 1.3km to the northeast of the site at its closest point).

52 The consented solar farm ('**SkySolar Site**') includes double rows of tracking photovoltaic solar panels which at sunrise and sunset will achieve a maximum height of approximately 5m (in comparison to approximately 2.8m within the Helios application).

53 The SkySolar site is not yet constructed, however this granted resource consent informs the existing and consented environment of the site.

54 A resource consent application has also recently been lodged by Centralines Limited ('**Centralines Site**') for a proposed 54ha solar farm at 921 Ongaonga Road (RM230109). The Centralines site is located approximately 3.6km to the east of the Helios site at its closest point.

55 The Centralines site, whilst not consented, has been considered within the cumulative effects assessment.

56 The consented SkySolar site (in blue) and lodged Centralines site (in yellow) are illustrated relative to the location of the Helios site on **Figure 1 – Appendix A – Graphic Attachments**.

8 Fernhill to Woodville.

9 Reference RM220083

Planning context

57 This section of the report is not intended to provide a planning assessment, but rather to highlight certain relevant provisions to help frame the assessment of landscape effects. A full planning assessment of the Project has not been undertaken here as that is not within the scope of this report. The AEE has been prepared by The Property Group.

Resource Management Act 1991

58 The site is located within the context of the Tukituki River, however is not located within the river margins, with separation provided by the planting along the riverbank and the physical stop-bank. An assessment of natural character effects as required by s6(a) of the RMA is therefore not considered to be required.

59 With regard to Part 2 of the RMA, the relevant provisions are within section 7: Other Matters.

Section 7

> *"In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to:"*
>
> - *s7(c) - The maintenance and enhancement of amenity values.*
> - *s7(f) - Maintenance and enhancement of the quality of the environment.*

National Policy Statement for Renewable Electricity Generation (2011)

60 This National Policy Statement (NPS-2011) sets out an objective and policies to enable the sustainable management of renewable electricity generation under the RMA. The NPS-2011 is operative until such a time that it is superseded by the drafted 2023 National Policy Statement.

61 The following relevant objective and policies have been considered (**emphasis** added):

- **Objective -** *To recognise the national significance of renewable electricity generation activities by providing for the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities, such that the proportion of New Zealand's electricity generated from renewable energy sources increases to a level that meets or exceeds the New Zealand Government's national target for renewable electricity generation.*

- **Policy C2 -** *When considering any **residual environmental effects** of renewable electricity generation activities that cannot be **avoided**, **remedied** or **mitigated**, decision-makers shall have regard to offsetting measures or environmental compensation including measures or compensation which benefit the local environment and community affected.*

Proposed National Policy Statement for Renewable Electricity Generation (2023) – Draft for Consultation

62 The Draft National Policy Statement (NPS-2023) is not yet adopted and therefore holds little weight; however the below relevant draft objective and policies have been considered (**emphasis** added):

- **Objective -** *The Objective of this National Policy Statement is that electricity generated in Aotearoa New Zealand from renewable resources is significantly increased in a timely manner to achieve New Zealand's emissions reduction targets, emissions budgets, energy targets, and associated commitments under any emissions reduction plan:*

    a) through enabling the effective and efficient development, operation, maintenance, and upgrading of renewable generation assets; and

    *b) while **managing adverse effects on the environment**.*

- **Policy 4 -** *It is recognised that REG activities may need to take place in areas with significant environment values and, where adverse effects remain after applying the effects management hierarchy, REG activities are enabled if the national significance and benefits of the REG activities outweigh those remaining adverse effects.*

- **Policy 5 -** *In areas that are not areas with significant environment values, REG activities are enabled provided any **adverse effects** on the values of those areas, including on local amenity values, are **avoided**, **remedied**, or **mitigated to the extent practicable.***

63 The changes to the NPS signal the New Zealand Government's clear direction towards increasing renewable energy generation and transmission in order to meet the 2050 Net Zero Carbon Emission targets.

Proposed Central Hawke's Bay District Plan (P-CHBDP) (operative in part)

64 The appeals period for the P-CHBDP closed on 7 July 2023 and no appeals were made with reference to the Rural Production Zone or Renewable Energy Chapters. As such, under Section 86F of the RMA, this plan must be treated as operative.

65 The site is located within the Rural Production Zone (RPROZ Chapter of the P-CHBDP) which is described as:

> *"The Zone is generally sparsely settled and is characterised by a predominance of open space. There are a small number of small scale commercial or industrial activities and a small number of larger established rural industries, largely servicing the primary production sector and rural communities within the zone."*[10]

66 The following relevant objectives and policies of RPROZ have been considered (emphasis added):

- **Objective RPROZ O2 -** *The rural land resource is **protected from fragmentation**, and from being compromised by inappropriate building and development, including from ad hoc urban expansion.*

- **Objective RPROZ O4 -** *The predominant **character** of the Rural Production Zone is **maintained**, which includes:*

    1. *overall low-density built form, with **open space and few structures**;*

    2. *a predominance of primary production activities and associated buildings such as barns and sheds, post-harvest facilities, seasonal workers accommodation, and artificial crop protection structures and crop support structures, which may vary across the district and seasonally;*

    3. *the sounds, smells, and traffic associated with primary production activities, and established rural industries, anticipated from a **working rural environment**;*

    4. *existing rural communities and community activities, such as rural halls, reserves and educational facilities;*

    5. *a landscape within which the **natural environment** (including farming and forest landscapes) **predominates** over the built one;*

[10] Introduction, RPROZ.

6. *an environmental contrast and clear distinction between town and country (including a **general lack of urban infrastructure**, such as street lighting, solid fences and footpaths).*

- **Objective RPROZ O5 -** *Activities are managed to ensure that **rural character and amenity are maintained**.*

- **Objective RPROZ O6 -** *The primary productive purpose and **predominant character of the Rural Production Zone are not compromised** by potentially incompatible activities establishing.*

- **Policy RPROZ P2 -** *To provide for non-primary production activities that have a functional or operational need for a rural location, and/or that support the function and wellbeing of rural communities and/or the enjoyment of the rural environment, and contribute to the vitality and resilience of the District's economy, and where they are managed to ensure that:*

    1. *their **scale**, **intensity** and **built form** are **in keeping** with the **rural character** of the Rural Production Zone;*

    2. *they maintain a level of **amenity** in keeping with the **rural character** of the Rural Production Zone;*

    3. *they minimise reverse sensitivity effects on activities otherwise anticipated within the Rural Production Zone; and*

    4. ***adverse effects are avoided, remedied or mitigated***

67 The proposal is for a solar farm, as such, the Renewable Energy (RE) Chapter of the P-CHBDP has been considered. The following relevant objectives and policies of RE have been considered (emphasis added):

- **Objective RE O1 -** *Enable and encourage the sustainable use and development of renewable energy resources within the Central Hawke's Bay District.*

- **Objective RE O2 -** *Enable renewable electricity generation activities while **avoiding, mitigating or offsetting adverse effects.***

- **Policy RE P1 -** *To provide for the use and development of renewable energy resources of the District for electricity generation in recognition of the particular local, regional and national benefits in relation to climate change, national energy production and social and economic wellbeing.*

- **Policy RE P3 -** *To recognise the **environmental**, functional, operational and technical **constraints** of managing new and existing renewable electricity generation activities.*

- **Policy RE P6 -** *To recognise that in some circumstances n**ot all significant environmental effects of renewable electricity generation activities can be avoided or remedied**. In determining if a proposal is consistent with sustainable management, regard will be had to any **environmental compensation** or **mitigation measures** offered by the applicant as part of the proposal.*

68 The construction and commissioning of new renewable electricity generation activities is a Discretionary Activity in all zones (when tested against Rule RE-R4 – Renewable Energy Chapter).

Assessment of effects

69 The following section assesses the Project's effects on the landscape and visual amenity values of the site and the wider landscape setting. The specific **Landscape Character** and **Visual Amenity** effects considered are:

a) ***Landscape Character** effects:*

b) ***Visual Amenity** effects:*

i. Public viewpoints within the immediate and wider setting of the site; including:

a) Views from Taylor Road to the north

b) Views from Ongaonga Waipukurau Road to the north and east

c) Views from SH50 to the west

d) Views from Ongaonga Golf Club

ii. Private viewpoints within the immediate and localised setting of the site (refer housing inventory)

c) ***Cumulative** effects*

Landscape Character Effects

70 The methodology for assessing the effects of an activity or development on landscape character requires a four-stage process:

i. Analysis of landscape characteristics;

ii. Overall synthesis (or appraisal) of landscape character; and

iii. Assessment of effects of an activity or change on those characteristics.

'While landscape draws strands from diverse sources (natural sciences, humanities, cultural perspectives), it is perceived and experienced as a unified phenomenon. It is an integrated whole. It is more than a summary of data – the whole is greater than the sum of the parts.

The current professional practice of conceptualising 'landscape' as the overlap of its physical, associative, and perceptual dimensions'[11]

71 The three overlapping dimensions of landscape character include:

- **Physical** aspects (its geomorphology, ecological communities and processes) of the site;
- **Perceptual** aspects (the vividness and memorability of the landscape features); and
- **Associative** aspects, including such meanings as the historical connections of the site.

72 The existing landscape setting is highly modified, characterised by a patchwork of wall-to-wall productive agriculture (mixture of dry stock farming, dairy, cropping and orcharding) land uses with frequent irrigation systems and interspersed with rural settlements, farmsteads and infrastructure (including roading and electrical).

73 The proposal will introduce additional built structures and elements into the environment which will change the character of the site from a (modified) pastoral landscape to a working solar farm with retained and integrated pastoral land uses and retained rural qualities.

74 When considering **physical** aspects, the proposal will result in minimal earthworks and changes to the site topography. The solar panels will be installed on steel piles, which will be removed once the solar farm is decommissioned, with the site being reinstated to its current condition.

75 The proposal will require the removal of a limited amount of established vegetation including approximately five shelterbelts in the centre of the site and the sporadic area of stand-alone trees in the south-eastern corner of the site. All vegetation proposed to be removed is exotic.

76 The alignment of the proposed overhead power line to the Transpower Waipawa Substation follows the existing 110kv alignment and will require the installation of steel monopoles over an approximate 2km length. Poles will be

[11] Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines, Paragraphs 4.21 – 4.22

similar in appearance to the existing poles and on a parallel alignment alongside the existing lines. The visual effects will be contained by such co-location (with policies often requiring the co-location of infrastructure). Earthworks required to erect the poles will be highly localised and of a low volume, restricted to the footprint of the pole. The proposed alignment will not require the removal of any established vegetation as the route is consistent with the existing alignment (which is already cleared of vegetation).

77 Overall, the proposed landscape mitigation planting (Refer **Figure 5, Appendix A Graphic Attachments**) will result in a net gain of vegetation cover within the site, including 2m – 4m wide planted corridors (between the lot boundary and the perimeter fence) and areas of marginal planting along the intermittent stream. The proposed planting will result in positive effects.

78 When considering **perceptual** aspects, the largely flat topography of the site will result in the solar farm being visually discrete. The proposed mitigation planting, once fully established, will screen views into the site from the adjacent roads and properties, with views of the solar farm limited to between breaks in vegetation (to allow for access).

79 The gradual and gentle rise in topography across the site (rising to the west) is barely perceptible when viewed from the east (as illustrated by V**iewpoint 7, Appendix A**). The proposed mitigation planting along the site boundaries will assist in visually integrating the solar farm into the environment and will ensure that there is no 'stacking' of panel rows.

80 There will be passing and fleeting views of the proposed overhead power lines, however these will be seen within the context of the existing 110kV network and will be in keeping with the existing landscape character. Some views of the upper elevations of the substation equipment may be available, seen above and beyond mitigation planting. Any views will be seen at distance and will be fleeting, predominantly seen by motorists using local roads.

81 The vividness and memorability of the landscape is influenced by the broad and open rural setting, informed by the largely flat topography and general lack of tree cover (with the exception of the prominent shelterbelts within the centre of the site and occasional shelterbelts within the localised site setting). The proposal will introduce additional built structures into the landscape (seen in conjunction with other structures such as pivot irrigation frames). However the openness and topography will remain consistent due to the low-lying profile of the panels which maintain views to the distant ranges and backdrop of hills.

82 The removal of the existing shelterbelts within the site will result in a perceptible change and will further open views to the ranges to the west from

some vantage points. However the overall layering of vegetation will remain and will be reinforced by the mitigation planting.

83 In terms of visual amenity values, in a flat landscape only the end row of solar panels is generally visible, with the spatial extent of the proposal not being visually apparent.

84 When considering the **associative** aspects, the author is unaware of any known cultural or historical associations within the site itself.

85 The author of this assessment understands that the site is located within the rohe of Heretaunga Tamatea and Ngāti Kahungungu, and that the wider area and rivers have significance to iwi and hapu. However the author is not aware of any cultural or historical significance associated specifically with the site. This is a matter for tangata whenua to provide further clarification on. Mana whenua engagement is outlined and discussed within the AEE.

86 When considering the site's appropriateness to the proposal, the site characteristics help to avoid potential adverse effects including its modified productive character, its flatness, and its separation from main roads and other public viewpoints. Further, the layout avoids the majority of highly productive land soils, with a small amount of LUC 1 and 2 soils being located within the solar farm site. The site has no natural features aside from an intermittent watercourse which is to be avoided and enhanced by new riparian planting.

87 Overall, the proposal will 'sit lightly'[12] on the land and fit in with the existing landscape patterns. It will have (at most) **Low** (less than minor) adverse effects on landscape character during both short term (0-5 years) and long term (>5 years), for the following reasons:

- The proposal will result in minimal earthworks, with the underlying topography of the site remaining consistent.
- The proposal will require the removal of vegetation, however the proposed mitigation planting will result in an overall net increase in vegetation cover and will contribute to the layering of vegetation in the area.
- The largely flat topography of the site, in combination with the mitigation planting ensures that the site is visually discrete, limiting views to breaks in the boundary planting to allow for site access.
- There are no known associative aspects related to the site.

[12] It will require only highly localised earthworks and will be visually discrete due to its low-lying arrangement.

- The broader rural character and modified rural intensive agricultural setting of the environment will be maintained.

- When the solar farm is decommissioned, the site will be reinstated to its current condition.

Visual Amenity

88 The author undertook a site visit on 25 July 2023, with viewpoint photographs taken from within the immediate and localised setting of the site. These are included as photographs from **Viewpoints 1 – 8** within **Appendix A - Graphic Attachments** and provide visual illustrations of the setting and context of the site.

89 The potential viewing audiences are identified as:

i. Public viewpoints within the immediate and local setting of the site; including:

a) Views from Taylor Road to the north

b) Views from Ongaonga Waipukurau Road to the north and east

c) Views from SH50 to the west

d) Views from Ongaonga Golf Club

ii. Private viewpoints within the immediate setting of the site.

a) Properties north of Taylor Road

b) Properties south of Taylor Road (recent subdivisions)

c) 162 and 179 Taylor Road

d) Properties in the wider landscape setting.

Views from Taylor Road[13]

90 Taylor Road is a minor rural road on a northwest – south east orientation, to the north of the site. The road provides access to multiple residential properties and becomes a 'no exit' road past the junction with Herrick Street.

91 The proposed solar farm is located approximately 200m from Taylor Road at its closest point (at the southern end of the 'no exit' road). Further north, the solar farm is located approximately 700m from the road, with distance increasing to the north.

92 Due to the alignment of the road relative to the site, views of the proposal from motorists travelling north along Taylor Road will be oblique. Only those

[13] Refer viewpoint locations 2, 3 and 5, Appendix A Graphic Attachments

motorists travelling south along Taylor Road will have direct views toward the site area. Views from motorists travelling south will be transient and seen between and beyond rural residential development to the south of Taylor Road.

93 As illustrated in the visual simulation of viewpoints 2 and 3 from Taylor Road, the most noticeable change arising from the proposal will be the removal of the shelterbelt planting in the centre of the site. The proposed solar panels will be visually discrete, set low down in the landscape. The proposed substation and inverters will not be visible from this location. The proposed mitigation planting along the site boundaries will ensure that the solar farm is integrated into the environment in the short term, and will mature to visually contain the proposal in the long term. Proposed mitigation includes a planted mix of native species (2m – 4m deep with areas in excess of 2m high at time of planting) along the northern site boundary.

94 The removal of the shelterbelt planting will be noticeable, however the overall characteristics of the view, including the layering of vegetation (existing and proposed combined) and distant views to the ranges will be maintained.

95 Overall, the proposal will result in **Low** (adverse, less than minor) effects on the visual amenity of users of Taylor Road in the short term, reducing to **Very Low** (adverse) in the long term, because:

- The solar farm is located 200m from the road at its closest point, with distance increasing to the north. For the main users of Taylor Road (north of the junction with Herrick Street), the solar farm is located at a distance in excess of 300m.
- The proposed mitigation planting will visually integrate the solar farm into the environment, with the solar farm being visually contained once planting matures.
- Direct views are only afforded to those motorists travelling south, with motorists travelling north having oblique views.
- The characteristics of the view and layering of vegetation will be maintained.

Views from Ongaonga Waipukurau Road[14]

96 Ongaonga Waipukurau Road is located to the north and east of the site (approximately 300m to the north and 950m to the east at its closest point). To the north, the road alignment is broadly parallel to the site, with only

[14] Refer viewpoint locations 6 and 7, Appendix A Graphic Attachments

oblique views available. To the east, the road is orientated broadly towards the site (to the west).

97 Ongaonga Stream is located to the north and east of the site (between the site and Ongaonga Waipukurau Road) and includes groups of tree and shrub planting which assists in containing views from the road. Glimpsed and fleeting views towards the site are available from the road, however these are transient and seen within the context of motorists travelling along the road.

98 The site area includes a gentle and gradual rise of approximately 30m across the site (rising to the west). As illustrated by viewpoint location 7, this rise is barely perceptible when viewed from the east. The proposed mitigation planting along the site boundaries will assist in visually integrating the solar farm into the environment and will ensure that any subtle 'stacking' of panel rows is not visible.

99 The proposed mitigation planting along the site boundaries will ensure that the solar farm is integrated into the environment in the short term, and will mature to visually contain the proposal in the long term. Proposed mitigation includes a planted mix of native species (2m deep and predominantly 1-2m high at time of planting) along the northern and eastern site boundaries.

100 The proposed overhead power line alignment crosses Ongaonga Waipukurau Road to the north east of the site. The alignment follows the existing 110kv Transpower line, and will be seen within this context. The new alignment will be supported by transmission poles (approximately 20m in height). When first constructed, the monopoles will appear 'shiny'; however over time, normally a period of two to three years, the steel will weather to a natural patina, becoming visually consistent with the other weathered steel transmission structures along the alignment. The monopoles will not introduce new or uncharacteristic features into the environment.

101 The upper elevations of the proposed substation equipment will be barely perceptible from Ongaonga Waipukurau Road, seen at distance, above the mitigation planting along the site boundary and beyond intervening vegetation along Ongaonga Stream. Views will be fleeting, seen within the context of motorists travelling along the road.

102 Overall, the proposal will result in **Very Low** (adverse) effects on the visual amenity of users of Ongaonga Waipukurau Road in the short term, reducing to **No Effect** (on landscape values) in the long term, because:

- Ongaonga Waipukurau Road is located to the north and east of the site. To the north, the road is broadly parallel to the site, with only oblique views available. To the east, the road is located approximately 950m from the site at its closest point.

- Ongaonga Stream is located between the site and Ongaonga Waipukurau Road, and includes mature tree and shrub planting which partially contains the site.

- The proposed mitigation planting will visually integrate the solar farm into the environment, with the solar farm being visually contained once planting matures.

- The proposed transmission alignment which crosses Ongaonga Waipukurau Road will follow the existing transmission alignment and will not introduce new or unexpected features into the environment.

Views from SH50[15]

103 SH50 is located approximately 1km to the northwest of the site and is orientated broadly northeast – southwest. The orientation of SH50 relative to the location of the site results in all views towards the site from SH50 being oblique.

104 The pastoral landscape to the northwest of the site includes shelterbelts which visually contain views of the site from SH50, with only passing views available looking 'down' the shelterbelt rows, where the site is visible in the distance.

105 Overall, the proposed solar farm will result in **Very Low** (adverse) effects on the visual amenity of users of SH50 in both the short and long term because:

- The proposal will be barely perceptible, largely obscured by existing shelterbelts.

- The proposal will be seen within a transient context.

Views from Ongaonga Golf Club[16]

106 Ongaonga Golf Club is located approximately 450m to the north of the site at its closest point. The southern boundary of the golf course is defined by mature *Larix* spp.[17] which visually contain wider views to the south from within the golf course grounds. At the golf course boundary, views below the tree canopy are available, with more open views to the northern parts of the site.

107 Views from the edge of the golf course are characterised by pastoral land uses enclosed by large shelterbelts which obstruct the skyline. The *Macrocarpa spp*. shelterbelt within the internal site area (orientated broadly northeast – southwest) will be retained within the proposed layout, visually screening the

15 Refer viewpoint location 8, Appendix A Graphic Attachments
16 Refer viewpoint location 1, Appendix A Graphic Attachments
17 As observed during the site visit.

proposed solar farm to the east and ensuring that the vegetated outlook from the golf course will remain largely unchanged.

108 The northern site boundary is defined by a subtle change in topography, assessed as being an approximate 1m - 2m escarpment during the site visit. The proposed solar farm will be set back from the escarpment edge, with mitigation planting located along the escarpment.

109 The proposed mitigation planting along the northern site boundary will ensure that the solar farm is integrated into the environment in the short term, and will mature to visually contain the proposal in the long term. Proposed mitigation includes a planted mix of native species (2m deep, with areas of planting in excess of 2m high at time of planting) along the northern site boundary.

110 Overall, the proposal will result in **Very Low** (adverse) effects on the visual amenity of users of Ongaonga Golf Course in both the short and long term because:

- The southern boundary of the golf course is defined by established Larch trees which provide a degree of visual containment to the site from within the golf course grounds.
- The proposed solar panels will be set back beyond an escarpment, and will be contained by proposed landscape mitigation planting which will integrate the proposal into the environment.

Views from properties north of Taylor Road[18]

111 Taylor Road is orientated broadly northwest – southeast and includes clusters of residential development on both its northern and southern side. Residential development to the north of Taylor Road[19] typically includes mature vegetation defining lot boundaries along the road corridor, containing views of the site to the south. Properties are one storey and generally set back from the road by approximately 20m or more.

112 Views of the proposed solar farm will be largely obscured by vegetation along the residential lot boundaries and within the curtilage, with views only being available where vegetation thins or through breaks to allow for access. Where views are available, they will be seen at distance and within the context of existing development to the south of Taylor Road.

113 The proposed mitigation planting along the northern site boundary will ensure that the solar farm is integrated into the environment in the short term, and

[18] Refer viewpoint locations 2 and 3, Appendix A Graphic Attachments

[19] Excluding 179 Taylor Road which is assessed separately below.

will mature to visually contain the proposal in the long term. Proposed mitigation includes a planted mix of native species (2m – 4m deep, with planting in excess of 2m high at time of planting) along the northern site boundary.

114 Overall, the proposal will result in **Very Low** (adverse) effects on the visual amenity of residents to the north of Taylor Road in both the short and long term because:

- Properties to the north of Taylor Road are generally contained by mature vegetation along the lot boundaries and within the curtilage.
- Where views are available, the solar farm will be seen within the context of and beyond existing development to the north of Taylor Road.
- Proposed mitigation planting along the northern site boundary will ensure that the proposal is integrated into the environment.

Views from properties south of Taylor Road [20]

115 A recent linear subdivision to the south of Taylor Road has established nine rural residential lots. At the time of the site visit, six lots included recently constructed dwellings, one lot was under construction and two lots remained vacant (refer UAV[21] Image 1 below).

UAV Image 1 – view from above the site looking north – taken 25 July 2023

116 Due to the recent establishment of these properties, lot boundaries are defined by rural fencing with limited vegetation cover, allowing for more expansive views towards the site to the south. Recently implemented lot boundary planting is located along the southern lot boundary of 112 Taylor Road (currently under construction). However this planting is yet to mature to provide sufficient cover.

20 Refer viewpoint locations 2 and 3, Appendix A Graphic Attachments

21 Unmanned Aerial Vehicle.

117 The layout and orientation of dwellings on these properties generally maximise north facing aspects, with parking / access to the rear (south) and exterior living spaces to the north (away from the site). Whilst primary views and living spaces are to the north, open views to the south and towards the site are available from all properties south of Taylor Road.

118 Views to the south are characterised by working rural (pastoral) land uses, with a layering of shelterbelts which largely obscure long-distance views.

119 The proposed solar farm is located approximately 300m from the recent subdivision at its eastern end and approximately 600m at its western end. Land between the subdivision and the solar farm is within the applicants control and is excluded from the solar farm arrangement, with substantial setback being provided to neighbouring properties.

120 The proposal will result in the removal of around five internal shelterbelts, however two shelterbelts will remain, including the longer Macrocarpa shelterbelt which is orientated north east – south west through the site. The removal of the shelterbelts will result in a noticeable change to the outlook of these properties. However the layering of vegetation will remain; provided by retained shelterbelts, planting along the Tukituki River and proposed mitigation planting.

121 The proposed solar farm will include additional mitigation planting along the northern site boundary which includes native planting at depths of 2m – 4m of a grade and size that will provide visual integration of the solar farm in the short term, and will mature to entirely screen the proposal in the long term.

122 The offset of the solar farm from the residential properties to the south of Taylor Road will provide a degree of separation and assist in maintaining rural outlooks. The proposed mitigation planting along the northern site boundary will further assist in integrating the solar farm into the environment, and be consistent with the shelterbelt vegetation pattern and rural outlook from properties south of Taylor Road.

123 Overall, the proposal will result in **Low** (adverse, less than minor) effects on the visual amenity of residents to the south of Taylor Road, with effects reducing to **Very Low** (adverse) in the long term once mitigation planting has matured, because:

- Dwellings to the south of Taylor Road are generally oriented to the north, however, open views to the south towards the site are available.

- The proposed solar farm is offset from these properties, maintaining a degree of separation and maintaining a rural outlook.

- Mitigation planting along the northern site boundary will assist in integrating the proposal into the environment.

Views from 162 and 179 Taylor Road[22]

124 162 Taylor Road is a vacant lot that boarders the site area, south of Taylor Road. The property has an open (unvegetated) boundary along the adjoining boundary, with open views into the site area.

125 179 Taylor Road is located at the eastern end of the legal extent of Taylor Road, east of the junction with Herrick Street. The frontage of the lot is devoid of vegetation and is located in a break of *Macrocarpa spp.* shelterbelt planting (refer UAV Image 2).

126 Views from 179 Taylor Road are open towards the site area to the south, characterised by pastoral land uses and backdropped by shelterbelt planting.

127 As illustrated by the visual simulation of viewpoint 5, the solar farm arrangement has been designed to provide substantial setbacks from both 162 and 179 Taylor Road[23] (identified as the hatched area within the UAV Image 2) which will ensure a degree of separation is provided and that the rural outlook from these properties are maintained. The shelterbelt to the south of the setback area is also proposed to be retained, and further reinforced through additional planting to ensure that the solar farm is visually integrated into the environment. Mitigation planting is also provided along the site boundaries to the south of 162 Taylor Road.

UAV Image 2 – view from above the site looking northeast – taken 25 July 2023

22 Refer viewpoint location 5, Appendix A Graphic Attachments

23 An approximate 220m offset is provided (northeast – southwest)

128 The proposed mitigation planting will assist in containing views of the solar farm development from both 162 and 179 Taylor Road, with views being entirely contained by the time planting matures.

129 Overall, the proposal will result in **Low** (adverse, less than minor) effects on the visual amenity of both 162 and 179 Taylor Road, with effects reducing to **Very Low** (adverse) in the long term once mitigation planting has matured, because:

- The proposed solar farm is setback from both 162 and 179 Taylor Road, maintaining a degree of separation and maintaining a rural outlook.
- Mitigation planting along the northern site boundary will assist in integrating the proposal into the environment and will reinforce the retained shelterbelt planting.

Views from properties in the wider landscape setting

130 Within the wider landscape setting, the largely flat topography in combination with the wider vegetation pattern, largely restricts views towards the site. Glimpsed views of the site may be available from properties to the west, north and east, however the extent of intervening vegetation and distance between the solar farm and wider properties will ensure that the proposal is barely perceptible, and seen as a recessive element within the wider view.

131 The overall characteristics and landscape values of the rural environment, including broader land uses, topography and vegetation patterns will remain consistent. The proposal will result in a perceptible change in the environment, however the characteristics and qualities of the view will remain unchanged.

132 Overall, the proposal will result in **No Effect** (on landscape values) on the visual amenity of properties within the wider landscape setting because:

- Where visible, the proposed solar farm will be seen at distance and beyond intervening vegetation.
- The proposal will result in a perceptible change in the environment, however the characteristics and qualities of the view will remain unchanged.

Cumulative Effects

133 Cumulative effects are the effects of a proposal in combination with those of previous [or consented] developments. Cumulative effects come into play in circumstances where an additional effect takes a landscape beyond a 'tipping point' - which would normally require a benchmark against which the effects

are to be measured. Such benchmarks might include the character envisaged in the district plan or the 'capacity' of a landscape to accommodate development before compromising its landscape values (its valued attributes).[24]

134 Consideration of cumulative effects includes assessment of experience of the proposal in combination with other projects, including:

- **Combined effects** (where two or more developments are visible within the same 'static' view, e.g., in a view from a hillside)
- **Sequential effects** (where two or more developments are seen successively, e.g. seen one after the other when moving along a road)

135 The proposed Helios solar farm is located within the localised setting of a recently consented (but not yet constructed) 144ha solar farm (SkySolar), located approximately 1.3km to the northeast of the Helios site at its closest point.

136 A recently lodged resource consent application for the Centralines solar farm is located approximately 3.6km to the east of the Helios site. The Centralines site is smaller than the Helios and SkySolar sites (approximately 54ha). The application considers an 'envelope' of effects and provides for either double height panels at 10m row spacings, or single height panels at 4.5m row spacings.

137 The consented SkySolar site (blue) and lodged Centralines site (yellow) are illustrated relative to the location of the proposed Helios site (red) in Diagram 3 below.

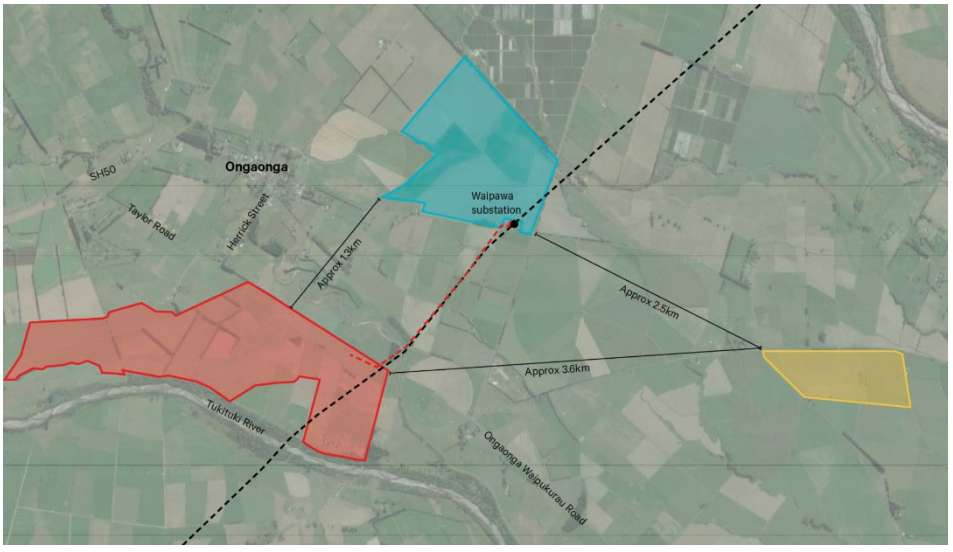

Diagram 3 – Solar development in Ongaonga

[24] Refer 6.46 – 6.48 - Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines'

138 The largely flat topography of the wider landscape in combination with the extent of vegetation (including both shelterbelts and vegetation along river / stream corridors) and spatial arrangement of the solar farms will ensure that the three developments are not seen in combination, with the exception of aerial views from passing planes / helicopters.

139 When considering sequential effects, successive views of the developments are limited to views from local roads (not visible from primary roads such as SH50). The solar farms are located within the rural environment, in a landscape where you may expect to see this type of development. When seen sequentially, the developments will not represent uncharacteristic or unexpected features within the landscape, and include mitigation measures to integrate them into their respective settings. Furthermore, road users are likely to travel along **either** Ongaonga Waipukurau Road **or** Ongaonga [Waipawa] Road – but not both roads in the same journey (the Helios solar farm is therefore unlikely to ordinarily be experienced sequentially with the SkySolar or Centralines sites)

140 The landscape has capacity to accommodate development of this type, with rural and landscape values being maintained. The proposal will not represent a 'tipping point', and any cumulative effects are considered to be appropriate.

Effects Summary

141 The assessment finds that the proposal will result in no more than **Low** effects (less than minor) on landscape character and visual amenity. A summary of effects is included in **Table 1** below:

Table 1: Overview of Effects

		Short Term Level of Effect	**Long Term** Level of Effect
	Landscape Character Effects	**Low** (adverse) Less than Minor	**Low** (adverse) Less than Minor
Visual Amenity Effects	Views from Taylor Road	**Low** (adverse) Less than Minor	**Very Low** (adverse) Less than Minor
	Views from Ongaonga Waipukurau Road	**Very Low** (adverse) Less than Minor	**No Effect**
	Views from SH50	**Very Low** (adverse) Less than Minor	**Very Low** (adverse) Less than Minor
	Views from Ongaonga Golf Club	**Very Low** (adverse) Less than Minor	**Very Low** (adverse) Less than Minor
	Views from properties north of Taylor Road	**Very Low** (adverse) Less than Minor	**Very Low** (adverse) Less than Minor
	Views from properties south of Taylor Road	**Low** (adverse) Less than Minor	**Very Low** (adverse) Less than Minor
	Views from 162 and 179 Taylor Road	**Low** (adverse) Less than Minor	**Very Low** (adverse) Less than Minor
	Views from properties in the wider landscape setting	**No Effect**	**No Effect**

142 Cumulative effects are considered to be appropriate.

Recommendations

143 The proposal includes native shrub and tree mitigation planting along the site boundaries to provide a degree of visual containment to the site and appropriate setbacks to adjacent properties.

- It is recommended that planting is commenced in tandem with the construction of the solar farm, and fully implemented before operation.

- It is recommended that a final detailed planting plan and landscape management / maintenance plan is provided to the Central Hawkes Bay District Council by condition of resource consent which has been prepared in general accordance with the outcomes and intent of the landscape mitigation plan and schedule (**Figures 5 and 6, Appendix A Graphic Attachments**). The detailed planting plan and landscape mitigation / management plan should be prepared by a suitably qualified individual and should be inclusive of both the proposed vegetation and the existing vegetation to be maintained within the site.

Summary and Conclusions

144 The site is located to the south of Ongaonga, north of the Tukituki River. A recently consented (not yet constructed) solar farm (SkySolar) is located approximately 1.3km to the northeast of the site, east of Ongaonga. A recently lodged resource consent application for a solar farm is also located approximately 3.6km to the east of the site.

145 The Project is for the construction, operation and maintenance of a 100MW solar farm south of Taylor Road. The solar farm is to be located across three landholdings, covering approximately 240ha.

146 The site is well suited to accommodate a solar farm having regard to such characteristics as its flatness, modified nature, and adjacency to the existing National Grid network. Selection of such a site helps to avoid potential adverse effects.

147 The proposal will 'sit lightly' on the land and fit in with the area's landscape patterns. It will have 'low' effects on landscape character and values for the following reasons:

- There will be negligible adverse biophysical effects. The site is modified. The proposal will require minimal earthworks. The configuration retains and will enhance the intermittent watercourse which is the only natural feature of note. The only vegetation to be removed is exotic farm vegetation and there will be a net increase in

native vegetation. The proposal avoids the majority of highly productive land soils, with a small amount of LUC 1 and 2 soils being located within the solar farm site.

- The proposal will have, at most, low adverse visual or perceptual effects. It will have limited visibility because of the low profile of the solar panels combined with the flat nature of the terrain, the extent of vegetation screening, and separation from main roads or other public viewpoints.

- There will be no adverse cumulative effects in conjunction with the existing consented SkySolar solar farm approximately 1.3km to the northeast. The two projects are separate. They will not be visible from each other, nor experienced sequentially from the same roads.

- There will be, at most, 'low' adverse effects on visual amenity values from private dwellings having regard to the low profile of the solar panels, flat terrain, vegetation screening, and distance (buffer setbacks).

- There are no known associative values specific to the site that would be affected.

- Any adverse effects of the proposal are reversible. When the solar farm is decommissioned, the site will be reinstated to its current condition.

148 The recommendations included within this assessment will assist in integrating the proposed solar farm into the environment.

149 The site is well suited for the proposal and any landscape or visual amenity effects arising from the proposal on the receiving environment are acceptable.

Isthmus

November 2023

Appendix A – GRAPHIC ATTACHMENTS (refer separate document)