The Property Group Limited
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21 March 2024
Our job no. 719073

Emma Hilderink-Johnson
Central Hawke's Bay District Council (c/o Good Earth Matters Consulting Limited)
PO Box 127
28-32 Ruataniwha St
Waipawa 4240

Tēnā koe Emma,

Application for Resource Consent – Taylor Road Solar Farm, Ongaonga

Please find enclosed a resource consent application on behalf of Helios HKB Op LP to construct and operate a photovoltaic (PV) solar farm, energy storage, substation and transmission line infrastructure at a 239-hectare site at 126 Taylor Road (Lot 4 DP 568563), Lot 1 DP 27344 and Lot 2 DP 21496, Ongaonga ('the site').

This application includes a Form 9, a detailed description of the proposal, along with an assessment of environmental effects and supporting appendices.

A lodgement deposit of $2,000 will be paid by electronic transfer upon receipt of an invoice.

The Property Group Limited (TPG) is the agent for this application and should be the contact for any correspondence or telephone discussions.

I would appreciate being able to review draft conditions prior to consent being issued.

Please contact me should you have any questions regarding the application.

Yours sincerely

Holly McIntee

Senior Planner

027 774 0989

hmcintee@propertygroup.co.nz

Form 9

Application for Resource Consent - Section 88, Resource Management Act 1991

To:	Central Hawke's Bay District Council
Applicant:	Helios HKB Op LP
Agent:	Holly McIntee Senior Planner The Property Group Limited (TPG) 027 774 0989 hmcintee@propertygroup.co.nz
Address for service:	The Property Group Limited PO Box 104 Shortland Street, Auckland 1140 Attention: Holly McIntee
Invoice details:	Helios Energy Limited Level 10, Generator Britomart 11 Britomart Place Auckland Central Auckland 1010
Site address:	126 Taylor Road (Lot 4 DP 568563) Lot 1 DP 27344 Lot 2 DP 21496
Owner of site:	126 Taylor Road (Lot 4 DP 568563) – Alison Jane Baldwin, Anthony Paul Beachen Lot 1 DP 27344 – Samuel Charles Bradley, William Mark Bradley Lot 2 DP 21496 – Duncan Dudley Holden, Wendy Margaret Holden, Sainsbury Greer Trustee Company Limited
Consent for:	Land Use Consent for Electricity Generation Activities, as a Discretionary Activity No other resource consents are required for this proposal
Description:	Land use consent application for the construction and operation of a Solar Farm in Ongaonga.
Enclosed:	Application and AEE

	Appendix 1 – Records of Title Appendix 2 – Records of Title Summary Appendix 3 – Site Development Plans Appendix 4 – Solar Panel Elevations Appendix 5 – Substation Building Plans Appendix 6 – BESS Specification Appendix 7 – Pole Design Appendix 8 – Integrated Transportation Assessment Appendix 9 – Construction Methodology Appendix 10 – Landscape Assessment Appendix 11 – Graphic Attachments Appendix 12 – Glint and Glare Study Appendix 13 – Acoustic Assessment Appendix 14 – Flood Risk Assessment Appendix 15 – Productive Capacity Assessment Appendix 16 – Land Management Plan Appendix 17 – Consultation Summary Appendix 18 – Proposed Conditions of Consent
Signed:	 Holly McIntee Senior Planner 027 774 0989
Date:	21 March 2024

Application for Resource Consent

Ongaonga Solar Farm

126 Taylor Road (Lot 4 DP 568563), Lot 1 DP 27344, Lot 2 DP 21496

Helios HKB Op LP

March 2024

The Property Group

Quality control

Title:	Application for Resource Consent – Ongaonga Solar Farm
Client:	Helios HKB Op LP
Job number:	719073
Prepared by:	Holly McIntee – Senior Planner
Signature:	
Reviewed by:	Peter McCoskrie – Planning Manager – Waikato and Bay of Plenty
Signature:	

1 Introduction

Helios HKB Op LP (Helios Energy) hereby applies for resource consent from Central Hawke's Bay District Council (CHBDC) to construct and operate a photovoltaic (PV) solar farm at 126 Taylor Road (Lot 4 DP 568563), Lot 1 DP 27344 and Lot 2 DP 21496, Ongaonga ('the site').

Helios Energy is a New Zealand company established in 2020 when its founders recognised the potential for grid-scale solar developments to make a positive contribution to New Zealand's energy space.

Ongaonga was recognised as an ideal location for a large-scale solar project, as it has a strong solar resource and demonstrates the key characteristics of a high-quality solar farm site.

This large-scale solar generation activity will make a meaningful contribution to New Zealand's national commitments of reaching 100 percent renewable electricity generation by 2030, 50% of total energy consumption from renewable sources by 2035 and net zero carbon emissions by 2050. The Project will help deliver a more secure and affordable energy source for the country.

The site is located in the Rural Production Zone as classified by the Central Hawke's Bay Proposed District Plan (District Plan) and requires resource consent for the reasons outlined in Section 4 of this report. The application includes plans of the proposal which are included as Appendix 3.

2 Site Description

2.1 Site Context

The subject site is made up of three land parcels (refer to Figure 1) which identifies the land parcels (yellow, green and blue) and the area where the proposal will take place (red outline)):

- 126 Taylor Road, Ongaonga (Lot 4 DP 568563) (yellow);
- Lot 1 DP 27344 (green); and
- Lot 2 DP 21496 (blue).

These three parcels have a combined area of 403 hectares of which 239 hectares is proposed to be utilised for the proposal. Figure 1.

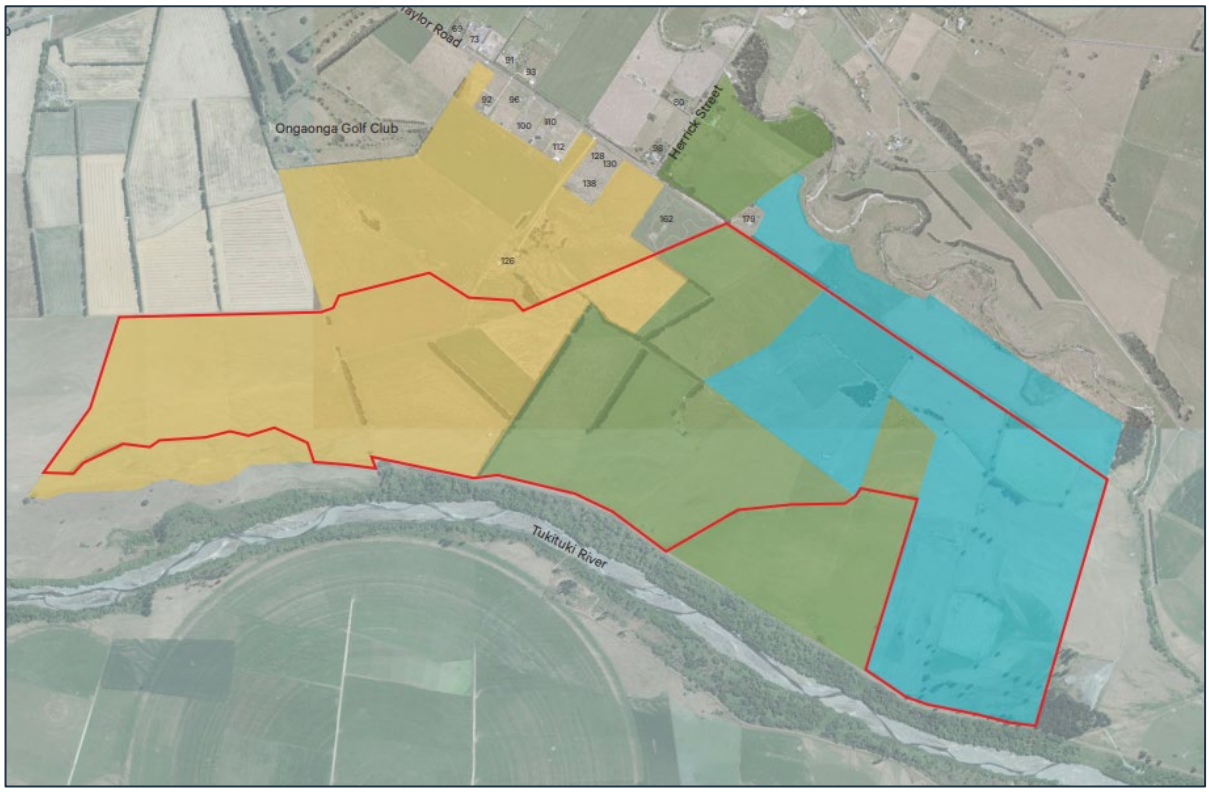

Figure 1: Image showing proposal area (red outline) and land parcels (yellow, green, blue).

In addition to those properties which comprise the subject site (outlined in red), the following adjoining properties are held under the same ownership, as identified in Figure 1 above and identified as:

- Lot 1 DP 538839 (owned by Alison Jade Baldwin and Anthony Paul Beachen, shown in yellow in Figure 1).
- Section 15 Block VIII Ruataniwha DP (owned by Samuel Charles Bradley, William Mark Bradley, shown in green in Figure 1).
- Lot 2 DP 410959 (owned by Duncan Dudley Holden, Margaret Holden and Sainsbury Greer Trustee Company Limited, shown in blue in Figure 1).

A detailed description of each land parcel that comprises the subject site is included below. However, these can generally be described as existing pastoral land fronting Taylor Road, with the Tukituki River located toward the south. The subject site is currently used for a mix of pastoral uses, mainly sheep and beef grazing, with some cropping. The topography of the site is generally flat.

The site contains land that is classified as highly productive under the National Policy Statement for Highly Productive Land. The south-eastern portion of the site contains Land Use Capability (LUC) Class 2 soils, and the north-western and north-eastern portions of the site contains LUC Class 1 soils (refer to Figure 2). The remainder of the soils are classified as LUC Class 4, which is not considered to be highly productive.

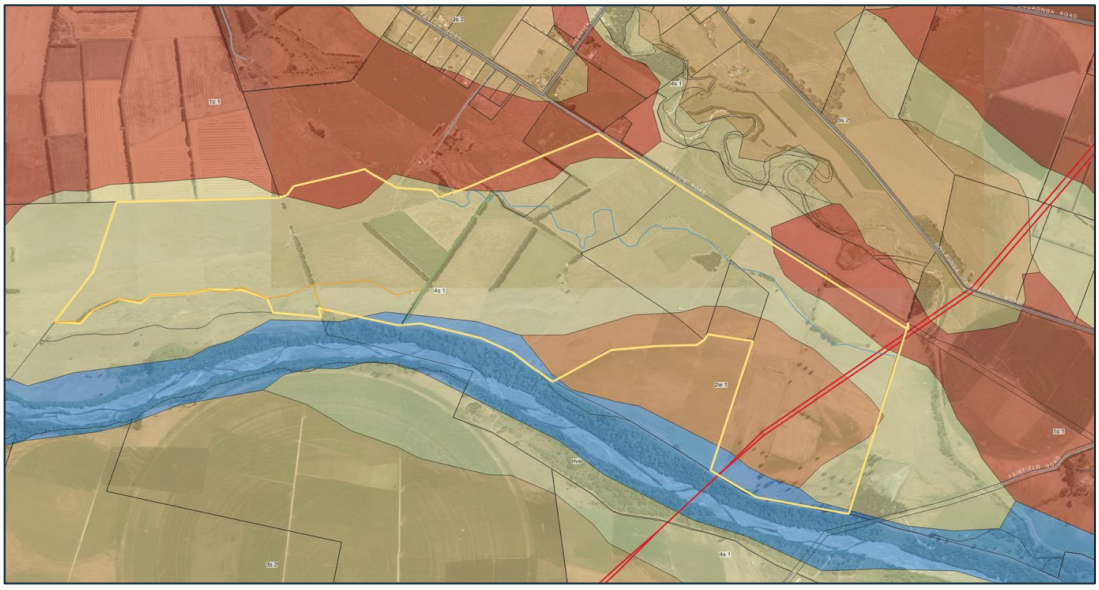

Figure 2: Outline of the subject site, showing the location of LUC Class 1 (dark red) and Class 2 (orange) soils.

The entirety of the site, and wider surrounding area, is contained within Flood Hazard Zone 2. Flood Hazard Zone 1 is present over the eastern and central portions of the site (refer to Figure 3). An existing intermittent stream on the site flows west to east. The Ongaonga Stream is located approximately 400 metres north and north-east of the site.

Figure 3: Image showing the flood hazards on the site (Zone 1 is shown in blue, Zone 2 is shown in striped blue).

Two existing National Grid 110kV transmission lines (owned by Transpower) run through the eastern section of the solar farm area (refer to the two red lines in Figure 4), terminating at Transpower's Waipawa substation. These transmission lines span across the site on wooden monopoles, spaced approximately 150 metres apart. The two existing transmission lines are approximately 10 metres apart.

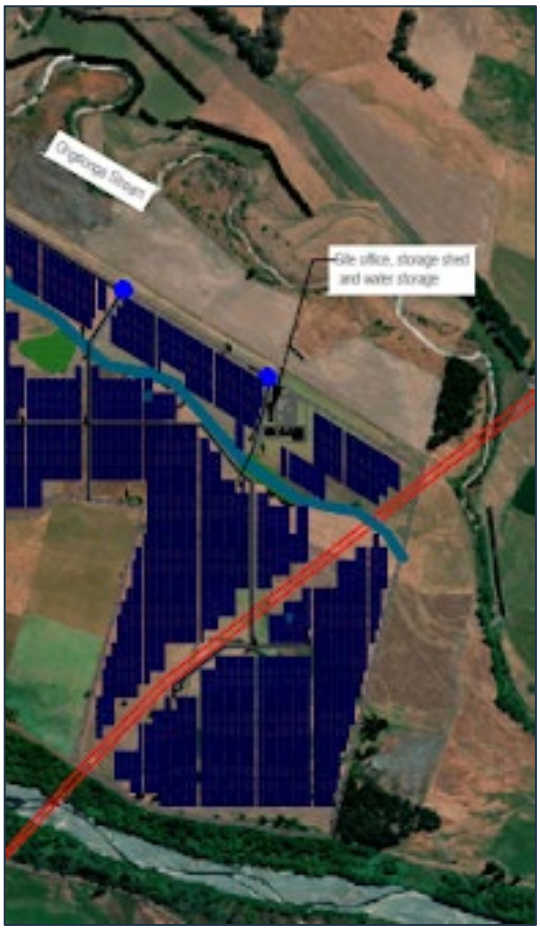

Figure 4: Location of existing Transpower 110kV transmission lines

The site is located approximately one kilometre south-west of the Ongaonga township. The surrounding environment is characterised by rural land uses predominantly including pastoral land.

A cluster of smaller rural-residential lots north of the site, along Taylor Road, borders 126 Taylor Road. These lots generally contain one residential dwelling each with open space. Some of these lots are vacant as no dwellings have been constructed on them to date. Some smaller residential properties are also located away from this cluster, along Herrick Street and on the eastern side of Taylor Road, north and north-east of the site. The Ongaonga Golf Club is located north-west of the site, bordering 126 Taylor Road.

The site is located approximately two kilometres south-west of the Waipawa Substation, located at 1304 Ongaonga Road. This substation contains 11 kV, 33 kV, and 110 kV assets owned by Transpower or Centralines.

2.2 Location, Legal Description and Site Description

Records of Title

The site comprises three separate land parcels, held in three separate records of title. A summary of the legal description and property details of each parcel is below.

126 Taylor Road (Lot 4 DP 568563)

This property is 145.75 hectares and contains a residential dwelling and farming sheds (refer to Figure 5). The remainder of the site is utilised for pastoral purposes. This property is flat in topography. Access is gained via a vehicle crossing to Taylor Road, and through an accessway on Lot 1 DP 27344.

The property is adjacent to a cluster of rural-residential properties toward the north, and the Ongaonga Golf Club to the north-west.

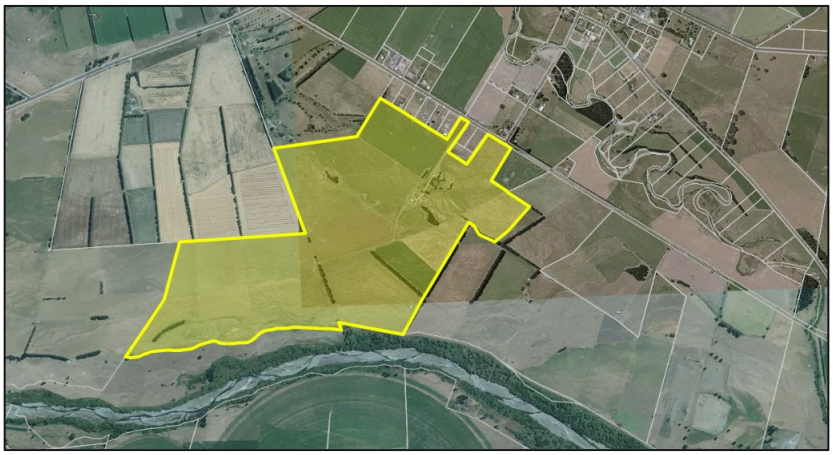

Figure 5: Aerial image showing 126 Taylor Road.

Lot 1 DP 27344

This property is 98.52 hectares and contains no physical development (refer to Figure 6). Shelterbelts are present throughout the centre of this site. Access is gained via an existing vehicle crossing on Taylor Road. The site is used for pastoral purposes and has a flat topography.

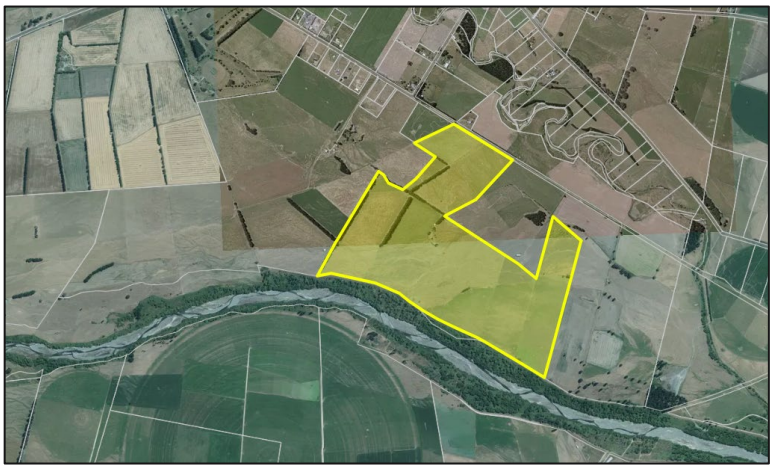

Figure 6: Aerial image showing Lot 2 DP 27344.

Lot 2 DP 21496

This property is 85.15 hectares and contains two sheds (refer to Figure 7). Access is gained via two existing vehicle crossings on Taylor Road. The site is used for pastoral purposes and has a flat topography.

This parcel is held in the same title as Lot 2 DP 410959, which is located directly north of the site, across Taylor Road.

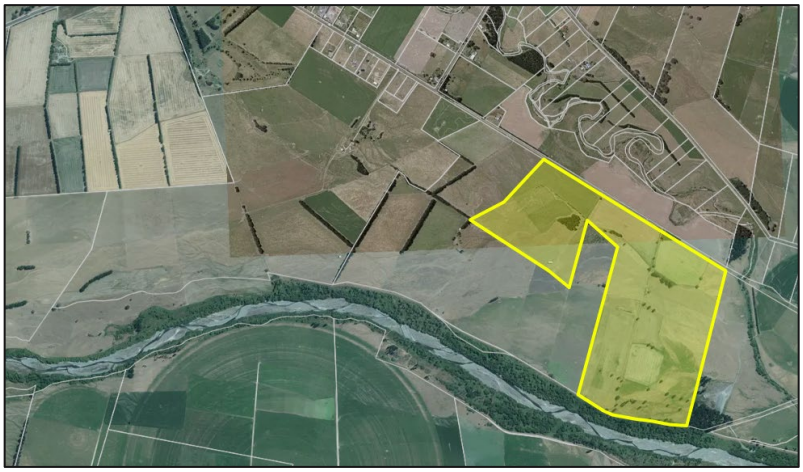

Figure 7: Aerial image showing Lot 2 DP 21496.

3 Proposal

3.1 Overview

The application seeks resource consent to establish and operate a photovoltaic (PV) solar farm, energy storage, substation, and transmission line infrastructure for renewable electricity generation at the site.

The proposed solar farm is to be built on land leased from three local farming families and it will be connected into the national electricity transmission grid via the Waipawa Substation on Ongaonga Road.

3.2 Operational Solar Farm Components

Solar Panels

The solar farm will consist of approximately 204,438 solar panels, mounted on a tracking system. The panels will be aligned in north and south rows, and the panels will follow the movement of the sun throughout the day.

The central axis of the panel will be approximately 1.8 metres high and each panel when rotated to the maximum angle will reach approximately 2.8 metres above the ground at the highest point (refer to Figure 8). The panels will be arranged approximately six to eight metres apart (when measured from pole to pole), which would leave at least a 3.6 metre horizontal gap between the panels when positioned horizontally.

When the panels are tilted parallel to the ground (i.e. at their maximum site coverage), they will have a footprint of approximately 35% of the total site. The ground under and around the panels will be a grass mix suitable for sheep grazing.

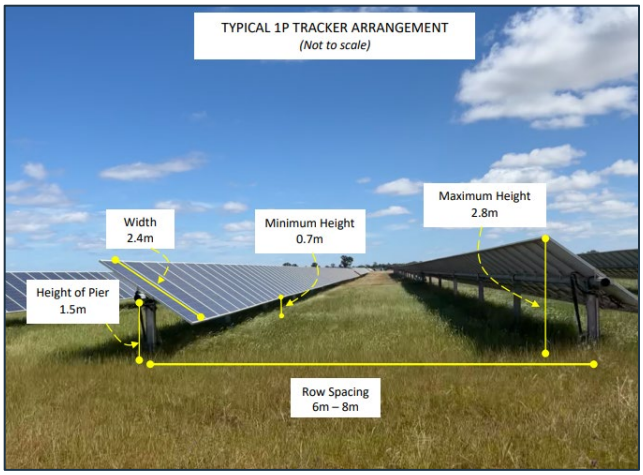

Figure 8: Image showing the typical dimension and layout of the solar panels.

The solar panels are transported to the site in shipping containers and assembled on-site. The panels are installed on galvanised steel piles which are pile driven into the ground. No earthworks are required for the installation of the panels and there is no concrete used in the installation of the piles.

To connect the solar panel arrays with the inverters and the substation (discussed in Section 3 of this report), cabling will be installed across the site. The DC cable trenches will be approximately 0.6 metres wide and 0.8 metres deep. The AC cable trenches may be wider at approximately 0.8 metres wide and 1.2 metres deep. The trenches will be completed in sections and backfilled with thermal sand to minimise the area of earthworks exposed at any one time.

Inverters

Twenty six (26) inverters will be installed across the site. The inverters convert power generated by the solar panels from DC to AC electricity which is what is used by homes and businesses.

The inverters will be located centrally within the site, away from the shared boundaries. Inverters are similar in size and bulk to 20ft shipping containers (refer to Figure 9). The specific make and model of inverter will be confirmed at detailed design stage.

Figure 9: Image showing a typical inverter.

Substation Building

A new 110kv substation is required to collect the electricity generated across the site. The new substation will be located in the western portion of the site, adjacent to Taylor Road. The substation building will have a maximum height of 15.5 metres. The substation components will be within a gravel yard fenced area measuring approximately 62 metres x 42 metres (refer to Figure 10). It includes one 33kV switchroom, one transformer and gantry structure, and filter banks.

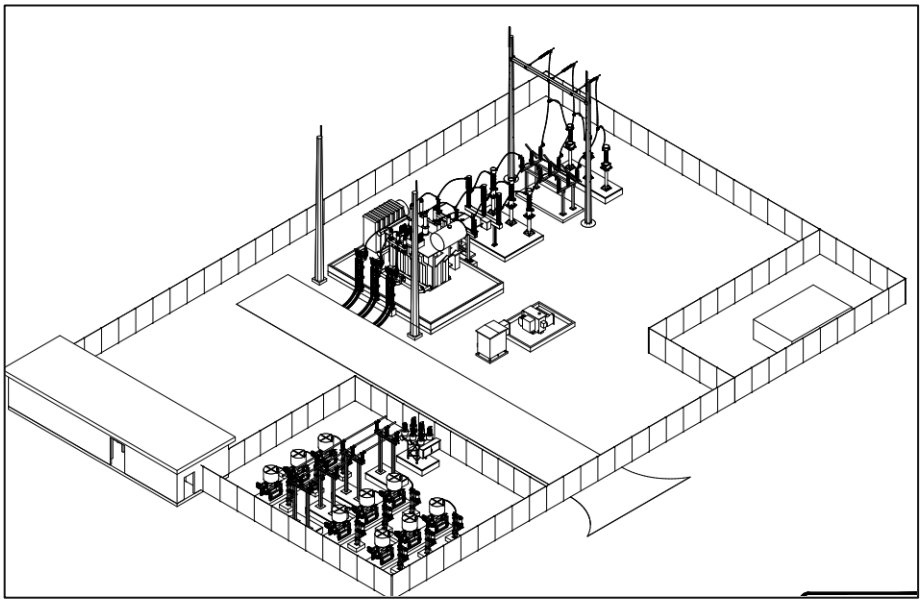

Figure 10: Image showing the proposed substation.

Battery Energy Storage System

A Battery Energy Storage System (BESS) is proposed to be located to the south of the substation. The BESS system will comprise 28 units similar in scale and appearance to a 20-foot shipping container (refer to Appendix 6 and Figure 11).

Figure 11: Image showing a typical BESS.

The BESS will be housed on individual concrete plinths within a metalled compound. The prefabricated modules will be lifted onto the foundations. The BESS will be located at least 100 metres from the road boundary. The final location of the BESS is subject to detailed design but may move even further from the road boundary.

Lighting

External lighting will be provided for intermittent emergency/work inspection purposes only on the site. The substation, site office, and battery storage areas will not be lit permanently at night. Lighting will be installed to comply with the District Plan lighting standards, with lighting directed downwards and onto the buildings.

Grid Connection

A new transmission line, comprising single poles measuring up to 20 metres in height (refer to Appendix 7) will be constructed to transport electricity from the onsite substation to the Waipawa Substation, located approximately two kilometres to the north-west of the site.

The transmission line will have a span of 150 to 170 metres between poles and will be located across private land running parallel to the existing transmission lines.

The indicative new transmission line route is shown below in Figure 12. Note that this is indicative at this stage, due to ongoing discussions with landowners and Transpower. The final route will be confirmed at the detailed design stage.

Figure 12: Indicative new transmission line route from solar farm to Waipawa Substation

National Grid Yard Asset Protection Measures

As there are two existing 110kV transmission lines traversing the eastern section of the site (refer to Figure 12), Helios is aware of Transpower's requirements to keep the National Grid Yard (NGY) (the area beneath, and immediately next to national grid assets and structures) free of most buildings in order to provide for the operation and maintenance of the National Grid. In particular, Transpower requires that all sensitive activities shall be located outside the NGY.

Helios can confirm the following measures as part of the solar farm design are proposed to meet Transpower's requirements:

- No buildings or assets within the NGY. Solar panels and inverters will be the closest structures to the NGY and will be well in excess of the required 12 metres to the single pole centrelines. The proposed minimum distances are:
    - 16 metres from the transmission centreline to the closest solar panel.
    - 24 metres from the transmission centreline to the closest inverter.
- The BESS must be located to provide for a minimum 50 metre setback to both National Grid transmission lines and substations to mitigate any fire risks. The proposed BESS will be located approximately 220 metres from the National Grid transmission lines and approximately 2 km from Transpower's Waipawa Substation. Transpower's required setback distance of 50 metres can easily be met to mitigate any fire risks.

- The overall solar farm has been designed and the constructability of the development has regard to the New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP34) requirements, through:

    - Above ground solar assets such as panels and inverter cabinets being setback at least 14 metres from the existing Transpower transmission lines and support structures.

    - Solar farm security fencing being setback at least five metres from the existing pole base, unless written consent is obtained from Transpower to be closer than five metres.

    - With regard to the clearance required between the solar farm security fence and conductors, Transpower will need to advise Helios of this requirement as the existing Transpower transmission line height is currently unknown.

    - Cable trenching, excavation or any earthworks will be undertaken at least five metres from the base of a pole structure/stay wires, unless prior written consent is sought from Transpower.

- No trees or vegetation greater than two metres in height are proposed within 12 metres of the centreline of the National Grid transmission lines. Nor are there any proposed new trees or vegetation planted outside of 12 metres either side of the centreline of the transmission line, which would need to be setback sufficiently to ensure that trees cannot fall within four metres of the transmission lines.

- Transpower's access to the National Grid assets can be maintained to ensure maintenance can be undertaken at all reasonable times and emergency works can be undertaken at all times, including during and after construction. Transpower require access to be five metres in width to allow for large mobile plant access required for tower operation and maintenance activities. This can be provided in the form of:

    - Road access from Taylor Road via an existing primary access point (likely the most eastern access point) which will be upgraded to a six metre width and constructed to an all-weather, metalled surface with necessary stormwater control.

    - New primary access tracks will be constructed across the site. These will be four metres wide and constructed to an all-weather metalled surface, with necessary stormwater control. An additional three metre width of grass on either side of the primary access tracks will enable a 10 metre width to be provided for access.

    - New secondary access tracks will remain grassed to provide access between the panels and around the perimeter of the site. These will also enable a 10 metre width for access.

    - Security fencing will not impede Transpower's access to their assets.

- The provision of construction management measures to be undertaken during the construction period to ensure the protection of the National Grid transmission lines. Helios propose to incorporate these information requirements into an overarching Project

Construction Management Plan (CMP), with such a requirement to be a consent condition (refer to Appendix 18). Helios is committed to providing this information to Transpower in advance of finalising the details in the CMP prior to lodging with Council.

- Earth Potential Rise (EPR) is the potential for towers or poles to transfer high voltage and dangerous currents into the ground during a lightning strike or fault on the transmission line. This can affect, among other things, all new installed services such as pipelines, communication cables, fences, streetlights and buildings located in close proximity to transmission towers. Piles, solar panels, underground cables, security fences, and inverters will be located within 100 metres of a Transpower support structure, and therefore Helios has been liaising with Transpower on whether an EPR assessment is required. A response is forthcoming.

- Helios's new overhead 110kV transmission line from the solar farm substation to Transpower's Waipawa substation will in part run parallel with and within 100 metres of existing National Grid transmission lines. The new Helios transmission line will be located and designed appropriately. It is important to note there will be work required to modify Transpower's lines near the Waipawa substation to make clearance and access available for Helios's new transmission line as part of the required connection.

- Helios propose to add standard Transpower conditions relating to General, Access, NZECP34, plus select clauses identified in a CMP condition. These select CMP clauses will be incorporated into the Helios proposed CMP condition, so as to avoid having duplication of CMP conditions or the need to prepare two separate CMP's.

Site Office and Storage Shed

A single-storey prefabricated office is proposed on the eastern portion of the site, near the substation building. This office building will be 10.6 metres long, 6.6 metres wide, with an approximate area of 70 m^2. The maximum height of this building will be 3.6 metres.

A storage shed is also proposed on the eastern portion of the site. This shed will be a kitset building 12.6 metres long, 7 metres wide, with an approximate area of 88 m^2. The maximum height of this building will be 4 metres.

Water Tanks

Six 25,000L above ground water tanks for firefighting purposes are proposed near the site office, storage shed and substation buildings.

Fencing

Two-metre-high deer fencing will be constructed around the perimeter of the site. The fences will be constructed with timber posts and mesh wire. Fences will be setback from external property boundaries will allow sufficient space for planting.

The substation and energy storage area will be surrounded by a wire mesh security fence, approximately 2.5 metres in height.

Security Cameras

Security cameras will be installed on the security fencing around the perimeter of the site. Each of the cameras will point inwards and will be directed along the fence line. The cameras will not face toward neighbouring properties.

Planting

A Landscape Assessment and Graphic Attachment has been prepared by Isthmus and are attached as Appendix 10 and 11. The Landscape Assessment identifies proposed mitigation planting along the boundaries of the solar farm to provide visual screening in front of the fence line. The boundary planting includes a four-metre-wide strip along the northern (central) boundary with vegetation approximately two metres tall at the time of planting. A two-metre-wide strip is proposed along the north-western, north-eastern and eastern site boundaries, which includes one- to two-metre-tall vegetation at the time of planting.

Clustered areas of riparian planting are also proposed along the intermittent stream that runs east to west through the site. This planting will include juvenile plants, in pockets, that will assist in increasing riparian planting naturally over time. It is proposed to retain two existing shelterbelts (one along the northern boundary, and one running through the centre of the site). The remainder of the shelterbelts throughout the site will be removed.

A draft Mitigation Planting Plan prepared by Isthmus is shown in Figure 13 (refer to Appendix 11 – Graphic Attachments). The draft Mitigation Planting Plan identifies the type, size and location of proposed mitigation planting. A Plant Species List as part of the draft Mitigation Planting Plan identifies the botanical and common name, grade at time of planting, height after 5 years of planting, mature height, width and proposed spacings. A final Mitigation Planting Plan will be submitted to Council prior to construction for certification confirming the final layout, species, grades, numbers, spacing, eco-sourcing, a planting programme and specifications for implementation and ongoing maintenance.

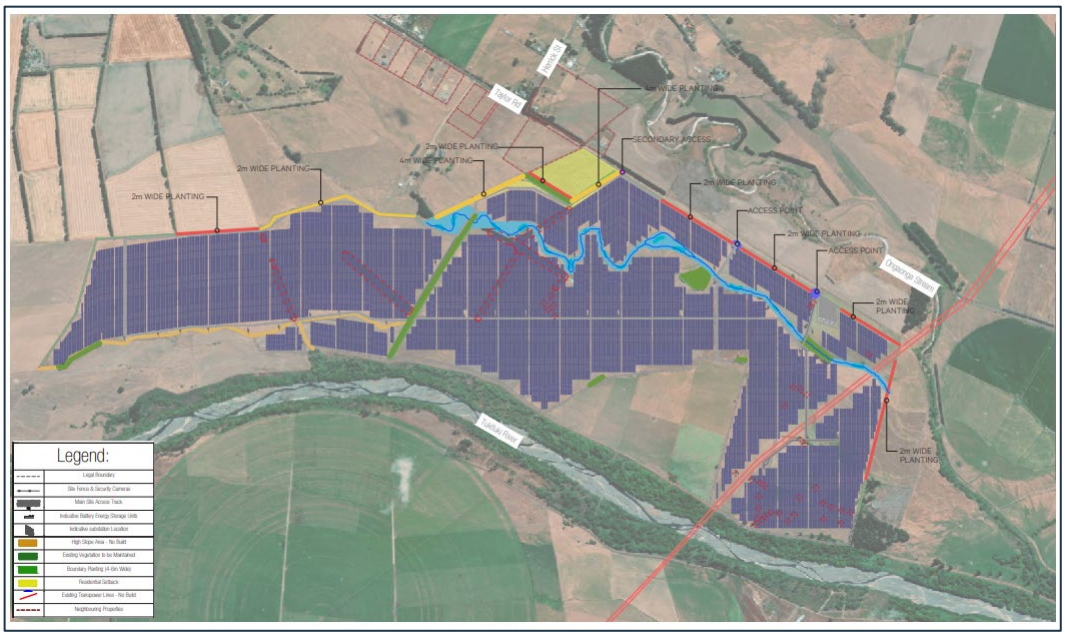

Figure 13: Draft Mitigation Planting Plan (Source: Isthmus Ltd Landscape Assessment)

The proposed planting will be completed in stages within the construction period and during planting seasons.

Sheep Grazing

As noted above, the land under and around the solar panels will remain as pastoral land. The grazing of sheep is complementary to the operation of a solar farm, due to the size of sheep being able to freely move under and shelter amongst the panels without damaging them.

A Land Management Plan for livestock grazing has been prepared by AgFirst and is attached as Appendix 16. In summary, the following is proposed as a viable grazing programme which can co-locate and operate alongside the solar farm:

- The provision of a self-contained system for grazing of sheep across the lease area.
- Implementation of 1,670 mixed age terminal ewes throughout the site over Summer and Autumn.
- An additional 400 tail end lambs from October through to early November as a point of flexibility in the system to cope with fluctuating pasture growth.
- A slow rotation of 60 days across the farm is proposed, based on 10-hectare maximum paddock sizes. Fertiliser application is also proposed, and is considered essential to maintain livestock production. Irrigation is not proposed.
- Appropriate fencing will be installed within the site to prohibit sheep from accessing waterways and substation/BESS infrastructure, as well as manage their grazing areas within the solar farm site.

Operational Access to the Site and Internal Access Tracks

The existing three vehicle crossings on Taylor Road (two primary access, one secondary access) will be upgraded (refer to Figure 14). These crossings will be six metres wide, and constructed to an all-weather, metalled surface with necessary stormwater control.

Figure 14: Image showing the proposed vehicle crossings along Taylor Road.

Primary access tracks will be constructed across the site. They will be four metres wide, and constructed to an all-weather metalled surface, with necessary stormwater control. The access tracks will provide vehicle access to the inverters located centrally across the site. Secondary access tracks will remain grassed to provide access between the panels and around the perimeter of the site.

Once the solar farm is operational it is anticipated that traffic movements to and from the site will be of a low volume and intermittent. Staff members are expected to visit the site five to six times per week, which will equate to approximately 12 trips per week. It is noted that this estimate is conservative, and traffic movement levels could be lower.

Typical maintenance vehicles will be of a rural nature and will include small farm utility vehicles and quad bikes. A mini tractor may be used once or twice a year to transport a water tank for cleaning the panels, however given the average yearly rainfall in the District, it is unlikely that cleaning will be required.

The inverters have a 20-year warranty and will likely require replacing once within the 35-year lease period. The replacements will be like for like on the same foundations. The substation is identified as being able to be maintained remotely with infrequent maintenance visits required.

No operational or maintenance works will be undertaken on the site outside of daylight hours with the exception of emergency inspections/maintenance.

Staff

Up to two staff members are anticipated to visit the site during the daytime hours daily once the solar farm is operational. A farming manager is also expected to visit the site as required to manage the sheep grazing operation.

Operational Noise

An Acoustic Assessment has been prepared by Marshall Day Acoustics (refer to Appendix 13). Noise will be generated during daylight hours from power generation, and primarily between the

hours of 7am to 10pm, with generation potentially starting before 7am in summer periods (however this will be low, as solar levels are not high then).

The solar panels will make up the vast majority of the site and these emit very low levels of noise, as the solar panels on tracker frames tilt slowly to align the panels to the sun throughout the day. The trackers are rotated around a central horizontal axis by a DC motor (which is small and low powered, approximately 300 watts). The tracker motors make very low levels of noise and operate intermittently during daylight hours and only for a short period as they make small incremental adjustments to the trackers.

There is a low level of noise generated by the cooling fans within the inverters. However, inverters will be positioned centrally throughout the site to ensure they are located away from residential properties.

The Acoustic Assessment concludes that the solar farm will be designed to comply with the noise limits in both the Proposed and Operative District Plans, for all periods of the day, and for all assessed scenarios of operation.

Transformer and inverter oil storage

Transformer and inverters contain oil for both electrical insulation and cooling, and it is not anticipated to be drained during the lifespan of the transformer. As such, this oil is considered to be a passive substance. The dominant volume of oil is contained in one transformer at the proposed substation.

The transformers are located within the substation and are typically designed to last 60 years. The oil contained in the transformers is only ever drained when there is a transformer fault and the internal layout need inspecting. This is a low probability event, if there was an issue draining of the transformer is often done at a specialised centre, and the transformer is taken off site for this.

As there will be very little handling of the oil, and the risk of its accidental spillage is low. The Hazardous Substances rules contained in Chapter 13 of the Operative District Plan are not relevant to the proposal as the transformer oil will be used for insulation and cooling, it will meet the storage exemption. It is noted that Rule HAZS-R1 under the Proposed District Plan is currently under appeal and therefore not operative.

Fire Safety Measures

Helios Energy has undertaken engagement with Fire and Emergency New Zealand (FENZ) (refer to the Consultation Summary document in Appendix 17). and have taken into account their feedback as part of the site design and on-site fire safety measures.

Helios Energy has considered low fire risk plant species during landscape design, appropriate access to the site and around the site to allow for fire trucks, and the provision of firefighting water supply via the six above ground water tanks. These measures will be incorporated into the detailed design with ongoing discissions with FENZ throughout the development of the project. Further, a Fire and Emergency Management Plan will be developed between Helios,

the yet to be appointed contractor, and FENZ to detail emergency service access and emergency response procedures during construction and operational phases, confirmation of on-site firefighting water supply and any other fire risk management measures and procedures.

3.3 Site Preparation and Construction

Following on site early investigations (including geotechnical investigations, piling tests and site surveys), the construction period is expected to take approximately 12 months. Due to the size of the site, construction is expected to be staged across the site. This will be followed by a period of commissioning activities.

Site Preparation

This includes the removal of existing farm infrastructure. As the property is relatively flat, no major earthworks are required to prepare the site for the installation of the solar panels.

Piling and Trenching

The solar panel piles will be installed using driven ground pile methodology. No concrete foundations are required. The piles will be driven into the ground at regular intervals, with an expected depth of between 2.5 to 3 metres. The piles will be galvanized steel with a matte finish.

The DC cable trenches will be approximately 0.6 metres wide and 0.8 metres deep. The AC cable trenches may be wider at approximately 0.8 metres wide and 1.2 metres deep. The trenches will be completed in sections and backfilled with thermal sand to minimise the area of earthworks exposed at any one time.

Foundations

As the site is flat, very minimal earthworks will be required to establish foundations for the inverters, substation and battery storage area. The battery storage area will be finished in gravel and each battery will sit on concrete plinths. Prefabricated inverter and battery units will be installed by crane, onto the foundations.

Earthworks

Given the large component of installation methodology required for the solar farm, only a small portion of the construction activities will involve earthworks.

Earthworks will be completed in stages to minimise the amount of soil exposed at any one time. All primary access tracks will be finished in an all-weather metalled surface, with secondary access tracks to remain grassed. An approximate total volume of 30, 072 m³ of earthworks will be undertaken across an approximate 5.26 hectare area. The volume of earthworks will be a mix of cut and fill, and all excess cut material is to be reused on-site for access track, landscaping or trenching purposes.

The estimated total area and volume of earthworks per component is broken down as follows in Table 1:

Table 1: Estimated Earthworks Quantities.

Component	Area of Earthworks	Volume of Cut	Volume of Fill	Volume of Cut to Fill	Total Volume of Earthworks
Units	*m2*	*m3*	*m3*	*m3*	*m3*
DC Cable trenching	7,800	0	1,872	4,680	6,552
AC Cable Trenching	4,127	0	1,321	3,302	4,622
HV Cable Trench	0	0	0	0	0
Inverters	452	0	135.72	136	271
Roading	32,764	0	6,553	6,553	13,106
Substation	6,300	0	2,520	2,520	5,040
BESS Area	1,200	0	240	240	480
Total:	**52,644**	0	**12,641**	**17,430**	**30,072**

The Hawke's Bay Regional Resource Management Plan (RRMP) enables vegetation clearance and earthworks to be undertaken as a Permitted Activity under Rule 7 with no area restrictions, as long as:

- There is no erosion or mixing with water bodies; and
- No vegetation clearance occurs within five metres of any permanently flowing river.

The proposed earthworks can meet the criteria of Rule 7, therefore the proposed earthworks can be undertaken as a Permitted Activity under the RRMP, and a regional consent is not required for earthworks.

In the event that, during earthworks, an archaeological find is made or koiwi uncovered, work shall stop immediately and the appropriate iwi authority shall be advised and an appropriate course of action shall be determined in accordance with the Heritage New Zealand Pouhere Taonga Act 2014 and the appropriate iwi protocols.

Erosion and Sediment Control Measures

The following measures are proposed to manage sediment and erosion control during the construction period (up to approximately 12 months):

- Any exposed earth will be backfilled as soon as practicable.
- The trenching will be completed in stages to minimise the area of exposed earth at any one time.
- All excavated soils will be kept on site to be re-used or backfilled. If any excess soil is unable to be re-used on site, it will be transported to an appropriate facility for disposal.
- The flat topography of the site and relatively free draining nature of the soils mean construction phase stormwater can be managed appropriately onsite by the contractor.

Dust Control

Earthworks will be completed in stages to minimise the amount of soil exposed at any one time. All accessways will be finished in an all-weather metalled surface.

The contractor will ensure appropriate measures to manage any dust within the boundaries of the site. Appropriate measures may include deploying water carts (or alternative dust suppression mechanism).

Vehicle Crossing and Roading Upgrades

An Integrated Transportation Assessment (ITA) has been undertaken by Gray Matter Ltd (refer to Appendix 8). The ITA outlines the proposed vehicle crossing and roading upgrades, internal accessways, parking, and loading requirements for the proposed activities.

As identified above and in Figure 14, the site contains a number of existing vehicle crossings and farm gates which provide access to the surrounding roading network, with immediate access to Taylor Road. It is proposed to utilise existing vehicle crossings and upgrade these as necessary to provide access to the solar farm for construction and operational purposes.

The following provides a summary of the vehicle crossing locations and proposed upgrade works:

- Vehicle crossings 1 and 3: Proposed new crossings that will replace the existing crossings along the Taylor Road frontage. These crossings will have a width of six metres.
- Vehicle crossing 2: An upgraded vehicle crossing for long term vehicle access. This crossing will have a width of six metres.

The vehicle crossings will be in the same location as the existing vehicle crossings, and there will be no increase or reduction to the number of vehicle crossings on the site.

Earthworks to upgrade the vehicle crossings will be undertaken in accordance with the Construction Methodology identified in Appendix 9.

In addition to the above, the following measures are proposed to ensure the safe and efficient operation of the roading network during the construction period (refer to the ITA in Appendix 8 and the Proposed Consent Conditions in Appendix 18):

- A reduced speed limit of 30km per hour along Taylor Road for the duration of the construction activity.
- New temporary signage for the duration of the construction activity. This signage will consist of a give way sign on Taylor Road, and two ‘concealed’ curve warning signs on Taylor Road and Herrick Street.
- A white centreline around the curve of Taylor Road and Herrick Street.
- The construction of two 30-metre long pull-over bays on Taylor Road, between the eastern site entrance (Access 3) and the Herrick Street intersection. These bays will have a width of 5.5 metres.
- The preparation and provision of a Construction Management Plan to Council to outline the proposed management of construction works to minimise the impacts on the environment and nearby residents.

- Sealing along a section of Taylor Road, east of the Herrick Street intersection, to reduce dust/nuisance effects from construction vehicles. This section is currently unsealed.

- Carrying out a pre and post-construction inspection of Taylor Road's condition, with the affected roads returned to at least their pre-construction condition upon completion of construction.

Internal Access Tracks and Laydown Area

The primary internal access tracks will be four metres wide and constructed to an all-weather, metalled surface with necessary stormwater control. The primary access tracks will provide vehicle access to the inverters located centrally across the site. Secondary access tracks will remain grassed.

All parking and loading areas will also be constructed to an all-weather, metalled surface with necessary stormwater control.

A main laydown area will be constructed in the north-eastern corner of the site by the proposed substation. Dust will be controlled via water carts as required.

Construction Traffic

The ITA (attached as Appendix 8) details the traffic movements associated with the construction and operation of the solar farm.

Construction vehicles will enter Taylor Road via the State Highway, with minimal traffic movement expected along Herrick Street. Taylor Road via the State Highway is the most appropriate route for construction vehicles with the least disturbance to residences.

The worst-case (conservative) number of trips as calculated by Gray Matter Ltd is likely to be 62 trips per day, comprising:

- 11 delivery vehicles, travelling both to and from the site;

- 20 heavy vehicles, travelling either to or from the site;

- 19 light vehicles, travelling either to or from the site;

- Six light vehicles, travelling both to and from the site; and

- Six earthworks truck trips (three trucks arriving then leaving).

Peak trips per hour have been calculated as 14 which is equivalent to one trip every four minutes.

Construction equipment will include JCB earth movers (trenching), rollers (compacting access track and compounds), piling machines (for solar panel installation), and a crane (for positioning of inverters etc).

Construction Noise

Construction of the solar farm will involve noise from the following sources:

- Delivery of panels, inverters and other components, requiring trucks and small cranes;
- Earthworks using trucks, loaders and excavators; and
- Installation of solar panels on pile driven support piles.

The total duration of construction is expected to be approximately 12 months, Monday to Saturday between 7.30am to 5pm.

The Acoustic Assessment has concluded that the proposal will comply with the construction noise limits. The closest dwelling to the solar farm is 179 Taylor Road, which is approximately 110 metres north of the site. Due to this setback, construction noise will comply with the NZS 6803:1999 75dB noise limit.

Regarding vibration effects, the Acoustic Assessment (Appendix 13) concludes that there will be no perceptible vibration.

The preparation of a Construction Noise and Vibration Management Plan (CNVMP) has not been considered necessary or recommended by Marshall Day Acoustics in their Acoustic Assessment due to the proposal's compliance with the District Plan noise limits.

Connection to the Waipawa Substation

The solar farm will be connected to the Waipawa substation via a new 110kV overhead transmission line. The construction of new electrical lines and poles are a Permitted Activity under Rule 10.4.1(a) of the Operative District Plan and Rule NU-R3 of the Proposed District Plan.

Helios Energy will work with Central Hawkes Bay District Council and other relevant authorities to obtain any other required approvals to install the 110kV transmission line. The design of the transmission line will meet the relevant pole design standards which mitigate the risks to road users, through a safety in design methodology.

Commissioning Activities

The commissioning process is the final stage in establishing a solar farm and involves a series of tests to ensure all components including solar panels, inverters, transformers, switchgear and associated systems are installed and functioning correctly.

It also involves grid connection testing to ensure the power generated by the solar farm can be safely and effectively integrated into the electricity grid. While there are a number of electrical contractors required on site during this time, there are no prolonged or heavy construction related activities during the commissioning stage.

Decommissioning Activities

The solar farm will be decommissioned, remediated and reinstated (Decommissioned) to facilitate an ongoing agricultural application at the end of the project's 35-year operational life

span. Decommissioning the project requires no major works, and is an obligation set out in the agreed form lease with the project landowners.

The project has been designed to minimise impact on the land. For example:

- Solar panels are secured on driven steel piles which do not require concrete foundations;
- A single axis tracking system is utilised which allows the panels to follow the sun east/west over the course of the day and also requires greater inter-row spacing, both of which increase the amount of light absorbed by the underlying pasture, while better facilitating ongoing grazing of the site with sheep during the Project's operational life span;

At the end of the project's operational life span, the solar panels and mounting system (including steel piles) can be completely removed from site with no residual components left in the ground. All ancillary solar equipment can be carefully dismantled and removed from the site with no permanent impact.

Decommissioning will generally consist of the following activities:

- Solar panels will be removed from the mounting system, dismantled and recycled (see below for further discussion on panel recycling).
- Mounting systems (including piles) are removed and recycled as scrap metal. Piles can be extracted from the ground, requiring only minimal soil disturbance and backfilling.
- Electrical components such as inverters, BESS and the on-site substation are removed from the site and are then disassembled at an appropriate off-site facility where components that can be repurposed, reused or recycled are separated from other non-recyclable components, oils and coolants which will be disposed of at an appropriate facility.
- Reinstatement of hardpack and aggregate areas (inverter pads, access tracks etc) with specified access tracks to potentially remain in consultation with landowner if they are beneficial for the ongoing farming operation.
- Following removal of all componentry and other materials from the Project site:
    - All disturbed earth will be correctly backfilled.
    - Soil decompaction will be undertaken if needed in highly frequented areas (ie. access tracks).
    - New topsoil will be reintroduced where required.
    - All disturbed areas of the site will be re-seeded and fertilised to return the site to bare pasture, enabling future productive use of the land.

The traffic and earthworks effects related to the project's decommissioning phase will be minimal and will be outlined in further detail in the proposed Decommissioning Plan. Decommissioning activities will comply with the noise limits as set out in the District Plan.

Solar Panel Recycling

Solar panels make up the majority of the components installed across the project. By weight, approximately 85% of a typical solar panel is glass and aluminium. The panels used in the project do not contain hazardous materials or contaminants. A typical panel will contain:

- Glass 67%
- Aluminium 16.5%
- Polymers 11.2%
- Silicon 4.4%
- Copper 0.8%
- Silver 0.03%
- Other trace metals 0.11%

At present, recycling of solar panels typically includes stripping of the aluminium frames for general recycling and then the crushing of the remaining panel. This crushed aggregate is included as an inert matter in construction materials.

However, as some of the world's first large scale solar farms approach the end of their lifespans, the recycling industry for solar panels is rapidly advancing, particularly in the US and Europe.[1]

As is starting to occur in other more mature solar markets, it is anticipated that the recycling industry in New Zealand will develop significantly over the 35-year operational term of the solar farm to enable more specialist recycling such as the extraction of embodied materials within the panels (ie. copper and silver) given the value of these materials as part of the solar supply chain, or for repurposing into other applications.

Detailed Site Decommissioning Plan

Engineering methods and technologies will develop significantly over the 35-year lifespan of the Project. A detailed project decommissioning plan is best to be developed towards the end of the 35 year operational period, incorporating the prevailing best practices in solar farm decommissioning methodology and pasture reinstatement at that time.

The applicant proposes to work with expert consultants and contractors to prepare a draft Site Decommissioning Plan and provide this to Council for approval at least six months prior to commencing the decommissioning of the Project (as a proposed consent condition in Appendix

[1] https://e360.yale.edu/features/solar-energy-panels-recycling and https://pvbuzz.com/us-doe-announces-funding-to-support-domestic-solar-manufacturing-recycling/

18). Helios is amenable to increasing the timeframe to provide the draft Site Decommissioning Plan one year in advance of decommissioning if that provides additional comfort to Council.[2]

The scope of the draft Site Decommissioning Plan identified as a proposed condition of consent in Appendix 18 and is as follows:

> *The draft Site Decommissioning Plan must be prepared by a suitably qualified and experienced person and meet the following objectives:*
>
> *a) Decommissioning of the solar panels and associated infrastructure in a manner that*
>
> *b) complies with all legislative requirements;*
>
> *c) Leaving the land in a condition that is safe and suitable for rural land use; and*
>
> *d) Ensuring the components and infrastructure are disposed of to maximise reuse or recycling. For any parts that cannot be reused or recycled, ensuring they are disposed of in an environmentally responsible way following industry best practices.*
>
> *The draft Site Decommissioning Plan must include the following:*
>
> *a) Methodology of site decommissioning.*
>
> *b) Likely timeframe for decommissioning of the site.*
>
> *c) Management of effects arising from the decommissioning of the site, including*
>
> *d) Providing notice to adjoining property owners.*

The intent of this draft condition is to outline the minimum scope of information to be provided in a draft Site Decommissioning Plan to ensure CHBDC are informed of the best practice methodologies and timeframes for decommissioning, as well as understanding how the effects of decommissioning will be managed, how components will be recycled appropriately, and how the reinstatement of the site for subsequent agricultural land use will be completed.

The applicant proposes further conditions in Appendix 18 to:

- Undertake Project site decommissioning activities in accordance with the approved Site Decommissioning Plan; and
- Notify the Manager Resource Consents, at least 10 working days before completion of the decommissioning to allow Council staff to carry out site inspections to determine compliance with the approved Site Decommissioning Plan.

It is considered that conditioning the provision of a draft Site Decommissioning Plan at least six months prior to decommissioning commencing, the approval process CHBDC will undertake, and notifying the Manager Resource Consents prior to completion of the decommissioning

[2] The Rangiriri and Waerenga Solar Farms approved under the Covid 19 Fast Track process in December 2023 required as a condition of consent a Decommissioning Plan to be provided four weeks prior to the cessation of the solar farms operation.

works to allow Council staff to inspect the site to determine compliance, is sufficient to manage the effects of decommissioning activities. Further, we consider this will also be sufficient to provide assurance to Council that reinstatement of the site will facilitate the ongoing productive use of the land.

4 Statutory Framework

The following provides an assessment of the proposal against the relevant statutory framework to determine what resource consent(s) are required.

4.1 National Environmental Standard for Assessing and Managing Contaminants in Soil to Project Human Health Regulations 2011 (NESCS)

The NESCS 2011 applies to land that currently has, or historically had, an activity or industry undertaken on it that is included in the Hazardous Activities and Industries List (HAIL). There is no known history of an activity on the HAIL list occurring on the site and the site is not identified on the Regional or District Council's database as being on the HAIL list.

In addition, there is nothing to suggest that previous historic activities and use of the site would result in the land being potentially contaminated. As such, the proposal does not require consideration under the NESCS 2011.

4.2 Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (NES-FW 2020)

The NES-FW 2020 sets the standards for certain activities that pose a threat to freshwater and freshwater ecosystems. Regional Councils are responsible for issuing resource consents for activities that are not able to meet the standards defined in the NES-FW 2020.

The Hawke's Bay Regional Council has confirmed that their mapping systems do not identify any wetland areas on the site. In addition, drone imagery does not identify any wetland areas. As such, the proposal does not trigger consent under the NES-FW 2020.

4.3 Central Hawke's Bay Proposed District Plan

The site is zoned Rural Production under the Central Hawke's Bay Proposed District Plan.

The following notations are listed on the site (refer to Figure 15):

- Flood Risk Hazard Area (Zone 1 covers the eastern and central portions of the site, and Zone 2 covers the entire site).
- The National Grid Corridor is located along the eastern portion of the site.
- A Statutory Acknowledgement Area (Tukituki River).
- Water Storage Designation (CHBDC-71).

- Frontage to Taylor Road (the north-western portion of this road is classified as a Rural Road and the eastern portion is not classified).

Figure 15: Excerpt of Proposed District Plan zoning and overlays applying to the subject site and surrounding environment.

The surrounding environment is also contained within the Rural Production Zone, with the following features identified:

- To the north of the site, the Ongaonga Golf Club is located, and this is designated as CHBDC-17.
- The Tukituki River is located directly south of the site. This is noted as a Significant Natural Area and Priority Waterbody.
- State Highway 50 is located approximately 700 metres north of the site.
- The Ongaonga town centre is located approximately 800 metres north-east of the site. This town centre area is contained within the Settlement Zone.

4.4 Rules Assessment

In May 2021, the Central Hawke's Bay Proposed District Plan was publicly notified. The submissions period closed in October 2021. In May 2023 the public notification of the decisions on submissions of the Proposed District Plan took place, and the period for resolving potential appeals to the Environment Court is currently taking place. As such, the Proposed District Plan is now to be treated as operative, but any provisions that are subject to appeal must also be evaluated against the equivalent rule in the Operative District Plan.

The proposal is considered to meet the definition of 'Renewable Electricity Generation Activities' under the Proposed District Plan, which is defined as:

"the construction, operation, maintenance and upgrading of structures associated with renewable electricity generation. Includes small and community-scale distributed renewable electricity generation activities and the system of electricity conveyance required to convey electricity to the distribution network and/or the national grid and electricity storage technologies associated with renewable electricity."

The proposal can also meet the definition of 'Renewable Energy', which is defined as:

"… energy produced from solar, wind, hydro, geothermal, biomass, tidal, wave, and ocean current sources."

Chapter RE – Renewable Energy

The Proposed District Plan provides for the construction and commissioning of new Renewable Electricity Generation Activities under RE-R4 as a Discretionary Activity, where the following conditions are met:

New renewable electricity generation activities:

- Must not be located within an Outstanding Natural Feature or Landscape, or a High Natural Character Area, identified on the Planning Maps and in NFL-SCHED6 and CE-SCHED7; or
- Must not be located within 20 metres of any Heritage Item as identified in HH-SCHED2, or wāhi tapu, wāhi taonga and sites of significance to Māori identified in SASM-SCHED3.

The site is not contained within an Outstanding Natural Feature or Landscape, or a High Natural Character Area. The site is also not located within 20 metres of any Heritage Item, or wāhi tapu, wāhi taonga, or sites of significance to Māori.

As such, the proposal meets the criteria of RE-R4, and can be processed as a Discretionary Activity. It is also noted that RE-R4 is not subject to appeal, therefore it can be treated as operative.

Chapter RE – Renewable Energy notes the following:

"the provisions in this chapter override the respective Zone provisions in Part 3 Area-Specific Matters, unless otherwise specified in this chapter."

As such, the provisions in Chapter RE – Renewable Energy override the rules and standards in Chapter RPROZ – Rural Production Zone.

Chapter NH – Natural Hazards

The buildings on the site have the following Building Importance Categories (BIC):

- Office: BIC 2b.
- Solar panels, substation, and transformers: BIC 3.

The following provisions also apply, as the site is contained within the Flood Hazard Area (Zone 1 and 2).

Rule	Rule Criteria	Comment	Compliance
NH-R2 Any new, or alteration to existing, buildings and structures within the Natural Hazard area. Flood Hazard Area (Zone 1)	Restricted Discretionary Activity, where the building or structure is a BIC 2a, 2b or 3 category structure.	The office (BIC 2b), panels, substation and transformers (BIC 3) will be constructed in the Flood Hazard Area (Zone 1).	**Consent is required as a Restricted Discretionary Activity.**
NH-R2 Any new, or alteration to existing, buildings and structures within the Natural Hazard area. Flood Hazard Area (Zone 2)	Restricted Discretionary Activity, where the building or structure is a BIC 3 or 4 category structure.	The panels, substation and transformers (BIC 3) will be constructed in the Flood Hazard Area (Zone 2).	**Consent is required as a Restricted Discretionary Activity.**

Chapter NH is under appeal, however the specific provisions noted above are not under appeal, therefore they can be treated as operative and applicable.

4.5 Activity Status Conclusion

In conclusion, resource consent is required for the construction and operation of the proposed solar farm under the following rules of the Central Hawke's Bay Proposed District Plan:

- Rule RE-R4 – Construction and commissioning of new renewable electricity generation activities in all zones – **Discretionary Activity.**
- Rule NH-R2 – Any new buildings and structures within the Natural Hazard area (Zones 1 and 2) – **Restricted Discretionary Activity.**

Overall, the proposal requires resource consent under the Central Hawke's Bay Proposed District Plan as a **Discretionary Activity**.

4.6 Scope of Application

This application seeks resource consent under the Central Hawke's Bay Proposed District Plan to establish all aspects of the proposed development, including the installation and operation of the solar farm.

If Council is of the view that resource consent is required for alternative or additional matters to those identified in Section 4.5 of this report, it has the discretion to grant consent to those matters as well as, or in lieu of those identified in this AEE.

Additionally, if Council is of the view that the activity status of any of the matters requiring consent is different to that described in Section 4.5 of this report, Council has the ability under Section 104(5) of the Act to process the application, regardless of the type of activity that the application was expressed to be for.

5 Assessment of Environmental Effects

In accordance with section 88(2)(b) of the Resource Management Act 1991 (the Act) and Clause 1(d) of Schedule 4 of the Act, this assessment of environmental effects of the proposed activity has been prepared in such detail as corresponds with the scale and significance of the effects that it may have on the environment.

5.1 Permitted Baseline

In forming the opinion for the purposes of s95 and s104(1)(a) of the Act, adverse effects on the environment can be disregarded if the Plan permits an activity with that effect.

Permitted activities (subject to compliance with the relevant standards listed in RPROZ-S1-S16) in the Rural Production Zone, under the Proposed District Plan, are as follows:

- Residential activities (limited to one residential unit with an area less than 12 hectares, and one additional residential unit per site within an area of 12 hectares or greater, and one minor residential unit per site).
- Seasonal workers accommodation.
- Primary production activities.
- Artificial crop protection structures.
- Agricultural aviation activities.
- New, or expansion of existing, rural airstrips and/or helicopter landing areas.
- Post-harvest activities (limited to 2,500m^2 gross floor area).
- Home businesses.
- Visitor accommodation.
- Retail sales limited to produce reared or produced on the site.
- Community facilities (limited to 100m^2 gross floor area).
- Educational facilities (limited to 200m^2 gross floor area).
- Emergency service activities and emergency aviation movements (limited to 100m^2 gross floor area).

- Relocated buildings.

The Renewable Energy Chapter of the Proposed District Plan provides for small-scale renewable energy generation activities as a Permitted Activity in any zone, subject to compliance with Standards RE-S1 to RES5. Small-scale renewable electricity generation activities are defined as:

> *"Small scale and community scale renewable electricity generation at a capacity of no greater than 20 kW for the purpose of using or generating electricity on a particular site, or supplying an immediate community, or connecting into the distribution network, and includes generation using solar, wind, hydro and biomass energy resource."*

The Rural Production Zone provides for and anticipates a wide range of activities which are dependent on the rural zone resource. While electricity generation activities are provided for within the parameters of small-scale activities (20kW, which equates to approximately 50 solar panels), solar farms are still identified as being a suitable and anticipated activity within any zone in the District. As such, the effects of permitted activity boundary treatments for small-scale electricity generation activities, including fencing, shelterbelts and indigenous vegetation plantings along site boundaries and resultant effects on the environment (visual, character and amenity) are considered to be relevant to the proposal. In addition, it is also noted that the proposed treatment around the solar farm are also a permitted activity.

The solar farm will be connected to the Waipawa substation via a new 110kV overhead transmission line. The construction of new electrical lines and poles are a Permitted Activity under Rule 10.4.1(a) of the Operative District Plan and Rule NU-R3 of the Proposed District Plan.

In undertaking the effects assessment below, reference has been made and actual and potential effects compared to that of this permitted baseline development.

5.2 Existing Environment

The following assessment of actual and potential adverse effects is undertaken in the context of the existing environment which has been described in detail in Section 2 above and in the Landscape Assessment in Appendix 10.

By way of summary, the existing environment is characterised by working rural land uses predominantly, including pastoral land to the east and west, the Ongaonga Golf Club to the north, and a cluster of smaller rural-residential properties (and some smaller vacant properties) directly adjoining the site to the north. The Tukituki River is located directly south of the site. Beyond this, forming part of the wider environment is the Ongaonga township and State Highway 50.

5.3 District Plan – Assessment Criteria

As the application is for a Discretionary Activity, Council's assessment is not restricted to any matter, but it may consider the assessment matters under RE-AM1-5.

The assessment to follow in sections 5.4 – 5.19 has been informed by the assessment criteria under RE-AM1 of the Proposed District Plan. While these provisions are currently under appeal (ENV-2023-AKL-000114), the appeal relates to RE-AM1(5)(a) which concerns Significant Amenity Features that are identified on the Planning Maps. As the site does not contain any Significant Amenity Features, the assessment criteria under RE-AM1-5 can be considered for this application, and is detailed below for reference purposes:

RE-AM1 General Matters

1. The contribution the proposal will make towards achieving energy policy objectives and/or renewable electricity generation targets of the New Zealand Government.

2. The local, regional, and national benefits to be derived from the use and development of renewable energy resources, including the contributions the proposal will make to the:

    a) Security of electricity supply for current and future generations.

    b) Increased energy independence for the communities of the District.

    c) Reduced dependency on imported energy sources.

    d) Reduction in greenhouse gases.

    e) Reduction of exposure to fossil fuel volatility.

3. Any other benefits or positive effects that the project can demonstrate. This may include adding to and diversifying the District's generation base, increased network resilience, reduced grid investment, local industry development, and price security for the local community.

4. The extent to which the location and design of the activity is constrained by environmental, functional, operational and technical requirements, and the extent to which alternative locations and methods have been considered.

5. The actual and potential effects of the proposal, with particular consideration of the following:

    a) Where the proposal is located within High Natural Character Areas, Outstanding Natural Features and Landscapes or Significant Amenity Features identified on the Planning Maps and in scheduled in NFL-SCHED6 and CE-SCHED7 of the Plan.

    b) The extent to which the proposal will affect the natural character of the coastal environment and rural environment.

    c) The extent to which the proposal will adversely affect cultural values, including wāhi tapu, wāhi taonga and sites of significance to Māori identified in HH-SCHED2 and SASM-SCHED3 of the Plan.

    d) The extent to which the proposal will adversely impact on dwellings, sensitive activities, key public places including roads and recreation areas, and existing and future urban growth areas.

e) The extent to which any aspects of the proposal can be sited or designed to reduce the visibility of any structures, including the potential to locate facilities underground where practicable.

6. The effect of the overall scale of the proposed development, including the number of structures, their height, the visual effect of the development as a whole, staging of the development and temporary effects as a result of construction.

7. The extent to which the proposal will affect amenity values of the surrounding environment with particular regard being given to the effects of the development on residential dwellings, including consideration of any potential adverse effects on amenity values discernible at the dwelling including:

    a) If wind turbines are involved, blade glint resulting from the reflection of the sun from turbine blades.

    b) If wind turbines are involved, shadow flicker resulting from sunlight on the rotating blades casting a shadow that rapidly moves across the windows of a dwelling within 10 rotor diameters distance of a turbine.

    c) The extent of the ecological effects of the proposal, in particular:

        - The extent to which areas of significant indigenous vegetation and/or significant habitats of indigenous fauna are affected, including Significant Natural Areas identified in ECO-SCHED5 of the Plan.

        - The potential effects on indigenous birds or other indigenous fauna, either migratory species or resident populations on site.

        - The sensitivity of the site to disturbance.

        - The extent of any proposed earthworks and the degree to which stormwater runoff and the effects on local catchments can be managed.

8. The effects on archaeological sites (including the need for archaeological authorities under the Heritage New Zealand Pouhere Taonga Act), heritage and cultural values, including any heritage items identified in HH-SCHED2, SASM-SCHED3 and TREE-SCHED4 of the Plan.

9. The extent to which adverse effects will be avoided, remedied or mitigated by the proposed siting, colour and design of structures, including ancillary structures.

10. The electromagnetic effects of the proposal, including on existing telecommunications, broadcast and other signals.

11. Cumulative effects of the proposal in the context of wider and ongoing renewable energy development, and the use of review conditions to manage these effects.

12. Where the adverse effects of renewable electricity generation activities cannot be practically avoided, remedied or mitigated, the relevance and appropriateness of any offset measures

and/or environmental compensation that is of benefit to the local environment and affected community.

13. Where particular adverse effects of renewable energy are not fully known or are uncertain, the relevance and appropriateness of any adaptive management measures to avoid, remedy or mitigate any such effects.

RE-AM2 Noise

1. The actual and potential noise effects of the proposal, and the ability (if relevant) to meet *NZS 6806:2010 Acoustics Wind Farm Noise*, and other relevant standards such as *NZS 6802:1991 Assessment of Environmental Sound and* NZS *6803:1999 Acoustics – Construction* noise.

RE-AM3 Traffic

1. The effects of the proposal on traffic safety.

2. The effects of traffic and vehicle movements as a result of the proposal and the extent that traffic or site management plans can be implemented to mitigate effects.

RE-AM4 Natural Hazards

1. The extent to which the activity may exacerbate or be adversely affected by natural hazards.

RE-AM5 Earthworks

1. The extent of any earthworks, including access tracks, roads and building platforms and the rehabilitation proposed.

5.4 Positive Effects

The proposed solar farm will result in significant positive effects, including the following:

- The proposal would create clean, renewable electricity to power the equivalent of 29,000 typical New Zealand homes annually. This increased resilience and diversification in type of power supply is significant and needed, especially given New Zealand is forecasted to need 70% more renewable electricity by 2050.
- The project will make a significant contribution to New Zealand's ambitious national commitments of 100% renewable energy, 50% of total energy consumption from renewable sources by 2035, and net zero carbon emissions by 2050.
- Increasing New Zealand's solar energy resource will support the national economy during periods when power from other renewable energy sources (such as wind and hydropower) is not sufficient to meet demand. For example, during periods of low wind and rainfall, which would impact hydropower or wind sources.
- The proposed BESS will enable the project to support the National Grid by providing energy outside of normal solar power production periods.
- There will be significant economic benefits from the proposal, as the proposed solar farm will result in approximately $150 million investment to the region. The approximate 12-month

construction period is anticipated to generate significant employment opportunities, as well as a smaller number of full time equivalent roles during the solar farm operational period.

- The project will deliver environmental enhancement via approximately 3.5km of new native species, boundary screening planting, and riparian planting with a focus on indigenous vegetation types such as manuka, kahikātoa and harakeke. The proposal will also retain existing mature vegetation wherever possible.
- The solar farm is complementary to agricultural use (which is present throughout the wider environment). Sheep can be grazed under and around the panels, so co-use of the land can take place.
- Helios Energy also proposes to establish a local investment trust associated with the solar farm project. The trust would allow for yearly funding for the lifespan of the project for other local projects and initiatives that make a material and enduring contribution to the local community. The intention is for the fund to facilitate meaningful local community investment and leave a positive legacy, focused on the following four broad areas:
    - Enhancing local environmental sustainability
    - Enhancing community cohesion, support, and participation
    - Providing education and training opportunities for community members
    - Supporting initiatives to address local energy hardship.

Overall, the proposal will generate significant positive effects to the local community, and to New Zealand.

5.5 Site Selection

The subject site is considered a suitable option for the proposal as it has sufficient flat land with some existing boundary vegetation screening, it is within close proximity to the Waipawa Substation, and the landowner partners are willing to establish the solar farm on the site. In addition, the site is clear of planning overlays, waahi tapu sites identified on the District Planning maps.

Following multiple site visits, including detailed drone mapping, the project boundaries were refined to exclude

- The northern portion of the site, to limit views of the solar farm from the wider environment.
- The south-western and western portions of the site, to avoid flood hazards.
- The south-western and northern portions of the site, to avoid large areas of highly productive land.

Overall, it is considered that the site is a suitable location as it is not constrained by environmental, functional, operational and technical requirements, and it can accommodate the activity in a manner that results in less than minor effects on the surrounding environment.

5.6 Building Bulk and Dominance Effects

The proposed buildings on the site will be the solar panels, substation, 26 inverters, a site office, and storage shed and transmission poles.

The proposed substation will be constructed on the western portion of the site, along the Taylor Road frontage. The components of the substation will include a 33kV switch room, a transformer and gantry structure and filter, with the maximum height of 15.5 metres for the two lightning masts and the gantry. However, it is noted that the majority of the substation will have structures such as the 33kV switch room with a maximum height of 3.7 metres, filter banks with a height of five metres, the transformer with a height closer to seven metres, which are all less than the Rural Production Zone's maximum height of 10 metres (refer to Figure 16).

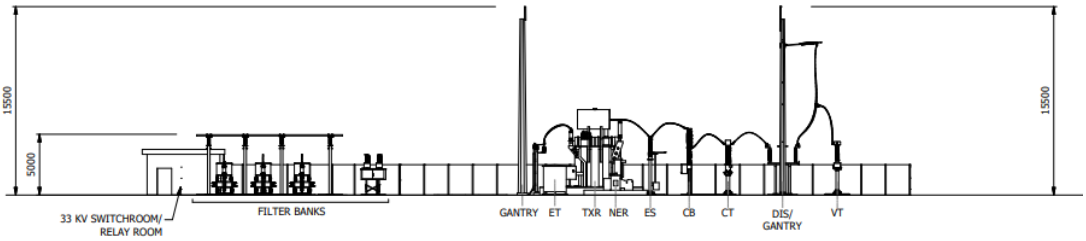

Figure 16: Image showing the proposed height of the substation.

It is necessary to place this substation on the eastern side of the site, as it is best to have the substation close to the point of connection to the Waipawa Substation to the north-east, to minimise the amount of new line.

Views of the new site substation will generally be from Taylor Road, which is a quiet dead-end road. Rural land is located directly across the road from the substation (and this land is held in the same title as the subject site), and the closest dwelling (179 Taylor Road) is located over one kilometre away. For these reasons, as well as the majority of structures not having bulk effects due to the typical profile of unenclosed substation infrastructure, it is anticipated that the substation will have less than minor adverse bulk and dominance effects.

The 26 inverters are a similar size and bulk to 20 foot shipping containers, and will have a maximum height of approximately four metres, which is well below the maximum height limit for the Rural Production zone. In order to conceal their bulk from the surrounding environment, they will be located centrally within the site, away from the shared boundaries. As such, the views of these inverters will not be dominant and any effects will be less than minor.

The solar panels will have a maximum height of 2.8 metres, meaning that they are well under the height limit of the Rural Production Zone. In addition, the rows of solar arrays will be spaced apart by between six to eight metres and will be surrounded in pasture land. These features, combined with the proposed mitigation planting (discussed below) will ensure that the bulk and dominance effects associated with the solar panels will be less than minor.

The 20-metre transmission pole and associated overhead transmission lines will be viewed in conjunction with the existing transmission lines on the site and the transmission line route to the Waipawa Substation, and as such will be absorbed into the environment.

Overall, for the reasons noted above, the bulk and dominance effects of the proposal are considered to be less than minor.

5.7 Landscape Character and Visual Amenity Effects

A Landscape Assessment has been prepared by Isthmus to support this application. A copy of the Landscape Assessment is in Appendix 10. The Landscape Assessment uses terminology of 'very low' to 'very high,' which corresponds to less than minor to more than minor, as shown below in Table 2:

Table 2: Landscape Assessment terminology.

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

The Landscape Assessment notes that the site is currently 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, but there is a cluster of exotic shelterbelts located centrally in the site. There is a small grouping of native trees in the north-eastern portion of the site, and a sporadic area of standalone trees in the south-eastern corner. Transpower 110kV lines run across the south-eastern portion of the site. The wider environment consists of planting along the Tukituki River, and a view of the Ruahine Ranges to the west.

The proposal will result in minimal earthworks and changes to the site topography. The proposal will also result in the removal of a limited amount of vegetation on the site, including the five shelterbelts that are located centrally within the site. While this vegetation is to be removed, comprehensive planting is proposed around the boundaries of the site, and along the intermittent stream within the site. Overall, the proposed landscape planting will result in a net gain of vegetation cover within the site boundaries, and this is considered to be a positive effect.

The largely flat topography, combined with the comprehensive landscaping proposed, will allow the solar farm to be visually contained within the site. Once the planting is mature, it will screen views into the site from the adjacent roads and properties, with views of the solar farm limited to breaks between vegetation.

There will be passing and fleeting views of the proposed overhead powerlines, however these will be seen in conjunction with the existing 110kV lines, and will therefore be in keeping with the existing environment. These overhead lines are a Permitted Activity, and are therefore anticipated in this rural setting.

Overall, the rural setting will be retained, as the panels will be low-lying and the proposed planting will screen the panels when mature, and add to the existing rural setting, while maintaining the views to the Ruahine Ranges. As such, the Landscape Assessment concludes

that the proposal will result in low adverse effects on landscape character during both the short term and long term. A condition of consent in relation to landscaping is proposed to ensure the proposed landscaping is implemented (refer to Appendix 18).

Viewpoints

When considering visual amenity effects, a series of viewpoint photographs with the proposed structures and planting have been prepared, and are attached as Graphic Attachments in Appendix 11. The viewpoints have been taken from the following areas:

- Taylor Road;
- Taylor Road, by the Herrick Street intersection;
- Herrick Street;
- Ongaonga Waipukarau Road;
- Ongaonga Waipukarau Road and Fairfield Road; and
- State Highway 50.

Viewpoints from private properties have also been considered. These will be discussed below as part of the s95B assessment in Section 6.

The following is a summary of the findings and conclusions from the Landscape Assessment from each of the viewpoints.

Views from Taylor Road and Herrick Street

The proposed solar farm is located over 200 metres from Taylor Road and Herrick Street. The proposed panels will be set low on the ground, and the proposed substation and inverters will not be visible from this location.

Only those travelling south along Taylor Road will have direct views of the solar farm, and these views will be transient and seen in conjunction with the existing rural residential activities on this road. The proposed planting, when mature, will visually contain the proposal (refer to Figure 17).

Figure 17: Image showing how the proposed development, with the proposed mitigation planting, will be viewed from the Herrick Street and Taylor Road intersection.

Overall, the Landscape Assessment concludes that the proposal will have low effects on the visual amenity of users of Taylor Road in the short term. These effects will reduce to very low in the long term.

Views from Ongaonga Waipukarau Road

The Ongaonga Waipukarau Road is located 300 metres north and 950 metres east of the site. The Ongaonga Stream is located between this road and the site and includes mature tree and shrub planting.

The proposed mitigation planting will visually integrate the solar farm into the environment, and it will be visually contained once planting matures.

The proposed power lines will follow the existing transmission alignment, and as such it will be absorbed into the environment.

Due to the distance between the Ongaonga Waipukarau Road and the site, the existing and proposed planting, and the existing powerlines, it is considered that the proposal will be unnoticeable to this area. As such, the Landscape Assessment concludes that there will be very low effects on the visual amenity of users of this road in the short term, reducing to no effect in the long term.

Views from State Highway 50

State Highway 50 is located approximately one kilometre to the north-west of the site.

The landscape north-west of the site includes shelterbelts, which will assist in visually containing views of the site from State Highway 50, with only passing views available in between the shelterbelt rows. As such, the solar panels will be barely noticeable to users of this road.

Overall, the Landscape Assessment concludes that the proposal will have very low effects on the visual amenity of users of this road in the short term and long term.

For the reasons discussed above, it is considered that landscape character and visual amenity effects on the environment will be less than minor.

5.8 Ecological Effects

The site currently contains pastoral land, exotic grass species and it lacks large areas of indigenous planting. No natural inland wetlands are present on the site, nor any waterbodies of significance. The proposed buildings and structures will be setback sufficiently from the Tukituki River and intermittent stream.

The proposal consists of significant indigenous planting around the boundary of the site, and within the site, including riparian planting along the intermittent stream. There will be an overall net increase of indigenous planting on the site.

For these reasons, the ecological effects of the proposal will be less than minor

5.9 Reverse Sensitivity Effects

As part of the site selection process, in-depth consideration is given to understanding the legally established activities within the environment, as well as understanding what is permitted to establish as of right.

The solar farm activity is not considered to be a sensitive activity, nor are any of its active components. As such, the proposal will be compatible with the existing rural and rural residential environment, and it is anticipated that the solar farm will not result in the potential for reverse sensitivity effects on the surrounding environment or existing established activities. Overall, reverse sensitivity effects on the environment will be nil.

5.10 Operational Noise Effects

Construction noise will be considered under Section 5.14 below.

An operational solar farm consists of passive technology and as such, there is very little noise associated with the day-to-day functions.

The solar farm will primarily operate between the hours of 7am to 10pm. In summer, the solar farm may also operate before 7am, as the sun will rise before then.

The solar panels are on tracker frames which tilt slowly to align the panels to the direction of the sun. The frames are rotated around a central horizontal axis by a small motor (approximately 300 watts). The tracker motors make very low levels of noise and operate intermittently during daylight hours, for a short period of time, as they make small incremental adjustments to the frames to follow the path of the sun.

The main noise sources from the solar farm will be the 26 inverters (placed centrally throughout the site) and the 28 BESS. When the solar farm is generating electricity, it is expected that the inverters will work at lower power during times of solar gain (early morning and evening) and at full power during times of high solar gain. The Acoustic Assessment concludes the following regarding operational noise:

- During the daytime, noise levels are within range of the existing measured ambient noise levels. It is expected that daytime noise levels will be reasonable and will have minimal effect on the existing acoustic environment.

- During the nighttime (and under a worst-case operation scenario), noise levels will be up to three decibels higher than the existing nighttime ambient noise levels, and up to six decibels above the existing background noise levels.

- The proposed noise levels will be within the national and international guidelines for environmental noise that are typically applied within New Zealand.

- The proposal will comply with the relevant noise standards of both the Operative (Standard 4.9.11) and Proposed (Standard NOISE-S4) District Plans for all periods of the day, and in all assessed scenarios of operation. Conditions of consent are proposed to ensure that the noise level from the solar farm will meet the relevant noise limits (refer to Appendix 18).

Overall, for the reasons discussed above, operational noise effects on the environment are considered to be less than minor.

5.11 Glint and Glare Effects

Glint is defined as a momentary flash of bright light, of less than one minute. Glare is defined as a continuous source of excessive brightness relative to ambient lighting. Glint lasting for less than one minute is unlikely to occur due to the slow movement of the panels, therefore it is glare (a continuous source of brightness) that is to be considered with regards to the proposal.

The severity of glare can be divided into three levels:

1. Green glare, which has low potential to cause temporary afterimage.

2. Yellow glare, which has potential to cause temporary afterimage.

3. Red glare, which can cause retinal burn.

Solar panels are designed to absorb as much sunlight as possible. To limit reflection, solar panels are constructed from dark, light-absorbing material and are treated with anti-reflective coating.

Due to the nature and scale of the activity, a Glint and Glare Study prepared by ITP Renewables has been provided to assess the potential for glare effects on the surrounding environment, which includes the road network and residential properties (refer to Appendix 12).

A summary of the daily glare potential for the surrounding roading network is noted below (glint and glare effects on the surrounding properties is discussed in Section 6 of this report):

- Taylor Road: Up to 5 minutes of yellow glare between 6:00pm and 7:30pm, from 1 February to 12 March and from 1 October to 8 November. The portion of Taylor Road experiencing this glare is where it turns to a paper road.

- Ongaonga Waipukarau Road: Up to 1 minute of yellow glare between 6:30pm and 6:45pm, on 13 March.

- Fairfield Road: Up to 1 minute of yellow glare between 4:45pm and 6:00pm, from 7 April to 1 May, from 9 May to 16 May, from 1 August to 13 August, on 21 August, and on 8 September.

- Burnside Road and Ongaonga Road are all expected to experience green glare for periods between 45 minutes and an hour, for approximately two months (May to July for Burnside Road, and November to January for Ongaonga Road).

The ITA (Appendix 8) agrees with the findings of the Glint and Glare Study, and that the risk and impact of glare is very low on the roading network.

The Glint and Glare Study also notes the following with regard to the adjoining properties (this is also discussed in Section 6, below):

- 162 Taylor Road: there is potential for up to two minutes of green glare between 4.45am and 5.15am from 5 December to 29 December during year one at this property, no potential for glare from the proposal toward this property in year 5, once the planting has matured.

- Part Lot 61 Deeds 380: there is potential for up to nine minutes of green glare between 4.30pm and 5.30pm, from 9 May to 3 July, and 11 July to 3 August on Section 2 SO 435495 during the first year of the solar farm, which will be reduced to up to three minutes of green glare between 4.30pm and 5.30pm 9 May to 3 July, and 18 July to 3 August.

This is considered to be a very low level of green glare (which has low potential to cause temporary afterimage). As such, the effects associated with glare on this property are considered to be less than minor.

Overall, based on the findings of the Glint and Glare study, ITA, and provided mitigation planting is completed and maintained, it is considered that the actual and potential glint and glare effects will be less than minor on the road network and residential properties in the surrounding environment. This applies to both pre- and post- mitigation planting.

5.12 Electromagnetic Effects

Electromagnetic fields (EMF) are produced by current carrying components of a solar farm and decrease rapidly as the distance from the source increases. Electricity from solar panels and their connection to the power grid emit extremely weak electromagnetic fields.

Solar panels themselves do not emit any radio frequency waves, therefore they do not cause any radio frequency interference (RFI). Inverters and transformers are main sources of RFI at solar farms and are manufactured to comply with the European and IEC standards for Electromagnetic Compatibility (EMC). Compliance testing of solar farm equipment such as EMC and wireless radio tests will ensure it does not affect other products in the surrounding environment.

Solar farm and telecommunication equipment are installed compliant with AS/NZS 2772.1 and Radio Spectrum Management (RSM) in New Zealand. Radio Frequency (RF) emissions at solar farms are deemed negligible across the spectrum when compared to AS/NZS 2772.2:2016 limits of greater than 100 kHz.

Overall, based on the information above, the electromagnetic effects of the proposal will be less than minor.

5.13 Transport Effects

Gray Matter Ltd's ITA (Appendix 8) assesses the actual and potential adverse traffic effects associated with both the construction and operation of the solar farm.

The proposal is able to meet all transport-related standards of both the Operative and Proposed Plan, as confirmed in Appendix B of the ITA.

The anticipated operational traffic volume will be low. There will be approximately 5 to 6 staff member visits to the office once per week, equating to approximately 12 trips per week. This is only 1-2 trips per day which is less traffic movements that would be generated by a residential dwelling. As such, this level of traffic will have a less than minor effect on the road network.

The construction traffic effects are considered to be short term, lasting approximately 12 months. At the peak of construction, the worst-case number of trips per day is likely to be 62. In order to manage the effects of this volume of traffic on the roading network, the following mitigation measures are proposed as conditions of consent (refer to Appendix 18):

- A reduced speed limit of 30km per hour along Taylor Road for the duration of the construction activity.
- New temporary signage (refer to Figure 18). This signage will consist of a give way sign on Taylor Road, and two 'concealed' curve warning signs on Taylor Road and Herrick Street.
- A white centreline around the curve of Taylor Road and Herrick Street (refer to Figure 18).
- The construction of two 30-metre long, pull-over bays on Taylor Road, between the eastern site entrance and the Herrick Street intersection. These bays will have a width of 5.5 metres.
- The preparation and provision of a Construction Management Plan to Council to outline the proposed construction works to be undertaken on the site, and how it is intended to manage the project to minimise the impacts on environment and nearby residents during the works.
- Sealing a section of Taylor Road, east of the Herrick Street intersection.
- Carrying out pre and post-construction inspection of the road condition, with the affected roads returned to at least their pre-construction condition after completion of construction.

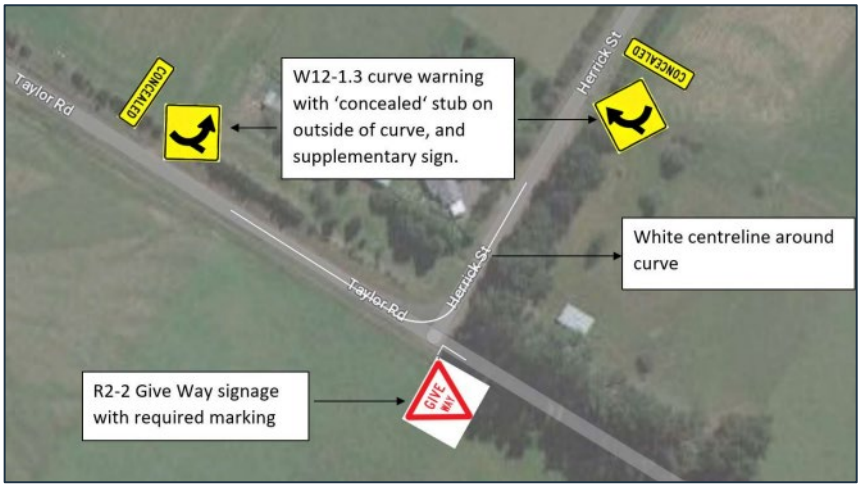

Figure 18: Excerpt of the ITA, showing the proposed signage and centreline on Taylor Road and Herrick Street.

While community consultation raised that pedestrians sometimes use Taylor Road, Gray Matter considered the potential for conflict is low given the low pedestrian and traffic volumes. The construction of a pedestrian pathway along Taylor Road as a mitigation measure was considered excessive and impractical given the low pedestrian and traffic volumes post-construction.

The ITA also notes that there have been no reported crashes on Taylor Road or Herrick Street over the last five years.

The ITA concludes that the mitigation measures, combined with the road network's low crash history, will result in low effects on the efficiency or safety of the roading network. Provided that the proposed mitigation is adhered to, adverse traffic safety effects are considered to be low.

Overall, based on the assessment and recommendations made in the ITA, it is considered that the actual and potential transportation effects will be less than minor.

5.14 Health and Safety Effects

No adverse risk to human health and safety has been identified in relation to both the construction and operation of the solar farm. A security fence will be erected around the site prior to construction and works will be undertaken in accordance with the Construction Methodology. Further, a Site Manager will be present on-site throughout the construction period during the hours of construction.

The site will not be accessible to the general public, and given the rural nature of the site, there is considered to be a low risk of pedestrians trying to access the site during construction. Signage will be erected on the fence in accordance with Health and Safety Regulations.

The health and safety effects are considered to be less than minor.

5.15 Natural Hazard Effects

The eastern portion of the site is contained within the Flood Hazard Risk Area (Zone 1) and the entire site is contained within the Flood Hazard Risk Area (Zone 2) (refer to Figure 19).

Figure 19: Image showing the flood hazards on the site.

In consideration of the potential flood hazard risks, a Flood Hazard Assessment was undertaken by Beca (refer to Appendix 14), which noted that the south-western corner of the site is expected to be inundated in a 100 year event, and the western side of the site would be inundated if stop banks fail. As a result, no panels have been proposed on the south-western portion of the site adjacent to the stop banks on the Tukituki River to avoid the highest flood risk.

Throughout the remainder of the site, the solar panels will be installed above ground level, on piles, with wide spacing between them (between six to eight metres). In addition, the proposed solar farm will result in a maximum site coverage of 35% (this is the sum of all solar components and considers the panels at the point of largest site coverage at noon, when the panels are flat). The ground beneath the panels is grassed, permeable farmland and the ground around the substation will be gravelled, which is also permeable. This means the site will remain permeable for stormwater or flood waters to soak into, and as such there will be no increase in flood hazards to the site and surrounding sites.

Other buildings, including a substation and 26 inverters, will be constructed on the site. These buildings will only take up a small portion of the overall site, and the site coverage will remain low. No buildings on the site will be habitable, and the location of the majority of the buildings will be within the central portion of the site, so it is unlikely that they will redirect flood water in a manner that would result in additional impacts on neighbouring properties.

There is an operational need to locate the structures in the flood hazard area as the site sits within close proximity of the Waipawa Substation and contains flat land, free from heritage, ecological and cultural constraints. It is also noted that within a 5-kilometre radius of the Waipawa Substation, there is no land which is free of Flood Hazard Zone 2 in the area.

Overall, the proposal is considered to have less than minor effects in terms of natural hazards.

5.16 Temporary Construction Effects

Earthworks

A total of approximately 30,072m³ of earthworks will be undertaken across an approximate 5.26 hectare area. The volume of earthworks will be a mix of cut and fill, and all material is to be reused on-site.

The following methods are proposed to manage erosion and sediment control through construction:

- Any exposed earth will be backfilled as soon as practicable.
- The trenching will be completed in stages to minimise the area of exposed earth at any one time.
- All excavated soils will be kept on site and re-used or backfilled, if any material is unable to be re-used on site it will be transported to an appropriate facility.
- Sediment run-off will be managed within the site by the contractor.
- The flat topography of the site and relatively free draining nature of the soils mean construction phase stormwater can be managed appropriately onsite by the contractor.

The preparation of a Construction Management Plan will outline the proposed construction works to be undertaken, and measures to minimise the impacts on the environment and nearby residents during the construction period. This is proposed as a condition of consent (refer to Appendix 18).

Construction Noise

Construction noise is likely to involve the following:

- Delivery of panels, inverters and other infrastructure, requiring trucks and small cranes.
- Trucks, loaders and excavators associated with the small amount of earthworks.
- A Vermeer PD10 Pile Driver to impact drive the support piles into the ground.

Construction is expected to take approximately 12 months between the hours of 7.30am and 5pm, Monday to Saturday. The proposed piling is anticipated to take approximately 20 weeks, and it is noted that this will take place on different parts of the site throughout this timeframe. The noise associated with this piling may be loud for nearby dwellings, but it will also be brief and temporary in nature.

The Acoustic Assessment by Marshall Day Acoustics (Appendix 13) notes that the proposed construction and transport activities during the construction period will comply with the relevant noise limits outlined in the District Plan and NZS 6802:2008 Acoustics – Environmental Noise. A condition of consent is offered to ensure compliance with these standards (refer to Appendix 18).

Overall, the effects associated with construction noise are anticipated to be less than minor.

Dust and Odour

Due to the nature of the activity, no odour effects are anticipated during the construction or operation of the solar farm.

Earthworks will be completed in stages to minimise the amount of soil exposed at any one time. All primary access tracks will be finished in an all-weather metalled surface, to avoid excessive dust effects.

The contractor will deploy appropriate measures during construction to manage any dust within the boundaries of the site. Appropriate measures may include deploying water carts (or alternative dust suppression mechanism).

Overall, the effects associated with dust and odour are anticipated to be less than minor.

5.17 Effects on Highly Productive Land

The proposal is located on land that has been identified as highly productive under the National Policy Statement for Highly Productive Land. Specifically, the south-eastern portion of the site contains LUC Class 2 soils, and the north-western and north-eastern portions of the site contains LUC Class 1 soils (refer to Figure 2). This land is currently utilised for sheep and beef farming, with small amounts of cropping. The remainder of the soils are classed as LUC Class 4 (not highly productive).

While there are areas of LUC Class 1 and 2 soils included within the proposed development site, only a small portion of the LUC Class 1 land will be constructed on. In addition, these soils are the edges of larger areas, so the proposal will not dissect or divide the existing larger cohesive areas of LUC Class 1 soils.

The layout of the solar farm has carefully considered highly productive land, through a review of the LUC Class maps and discussions with the landowners providing anecdotal evidence. This has resulted in the following key layout amendments:

- The southern boundary of the solar farm has also been stepped back to exclude 26ha of land with LUC Class 2 soils, and farming activities will continue on these fields (largely cropping and beef). The layout of the solar farm also includes a wider access track to this area for on-going landowner access and movement of stock.

- The field to the east of 162 Taylor Road has been excluded from the final design (shown as ‘residential setback’ on the preliminary layout). This field is roughly 50% LUC Class 1 soils and 50% LUC Class 4 soils. Farming activities will continue on this field, most likely sheep grazing, meaning there will be no loss of productive capacity of the land.

- Land in the ownership of the landowner partners between the Ongaonga Golf Club and Taylor Road was excluded from the solar farm proposal given its LUC Class 1 soil classification. The solar farm has been designed to avoid land defined as ‘highly productive’ wherever possible while still maintaining a viable project size and taking into consideration other key factors such as landscape impact.

With regard to land within the solar farm, the portion of the site that will have solar panels positioned on LUC Class 1 and 2 soils will be designed to allow for land based primary

production (sheep grazing) to occur simultaneously under the panels. A Land Management Plan has been provided that outlines the proposed sheep grazing management practice on the site (refer to Appendix 16).

The area of LUC Class 1 and 2 soils that will be occupied by the solar farm equates to 0.07% of the total land classified as LUC Class 1 to 3 within the Central Hawke's Bay District (refer to Table 3). It is noted that this area, plus the area of land utilised for the Sky Solar resource consent application (RM220083), equates to only 0.24% of the LUC Class 1-3 land in the District.

Table 3: Highly productive land in the Central Hawke's Bay District.

Land Type	Central Hawke's Bay District (Ha)	Helios Solar Farm as a % of LUC land within the Central Hawkes Bay District	All solar submitted for consent in the Central Hawkes Bay District
Highly Productive Land (LUC 1-3)	86,021	0.07%	0.24%

A Productive Capacity Assessment has been prepared by AgFirst (refer to Appendix 15). This Assessment notes that while LUC Class 1 and 2 soils are present, constraints are present in terms of the soil typology. Site investigations (test pits) found that approximately 25.38 hectares of LUC Class 2 land on the site is subject to significant constraints due to a lack of topsoil and very gravelly conditions. These investigations also identified that approximately 3.17 hectares of the LUC Class 1 soil on the site is subject to a very shallow gravel pan. In addition, soils throughout the centre of the site are prone to drought impacts due to their gravel composition. The high levels of gravel at the surface, and lack of topsoil, restricts the use of these areas as machinery cannot be used effectively, and the lack of topsoil limits the duration in which high quality pasture can be grown.

Overall, the Productive Capacity Assessment notes that the proposal comprises a maximum of 10.21 hectares of LUC Class 1 land and 18.05 hectares of LUC Class 2 land that is largely free of constraints. Within this 28.26 hectares of constraint-free land (which equates to approximately 11% of the site) there will be a maximum shading area of 35% due to the placement of the solar panels when they are parallel to the ground, meaning a total of 9.89 hectares (less than 5% of the site) of highly productive land may see a reduction in sunlight. The Productive Capacity Assessment notes that pasture quality can actually be improved under shaded areas, and research shows that the average liveweight gains of lambs per head are no different between land shaded by solar panels, and open pasture. Overall, this shows that sheep can be successfully grazed within the site, and the solar farm operation will not result in any loss or potential loss of the availability of highly productive land.

Proposed mitigation planting will be established along all external boundaries. This is to provide a buffer which will aid in the retention of moisture in the soil, and reduce the soil's exposure to wind and potential erosion.

The proposal does not include the subdivision of land, and as such the land will continue to be three large land holdings that are able to support rural productive activities through ongoing sheep grazing co-located with the generation of renewable energy.

At the end of the solar farm's life cycle, it will be a requirement of the lease agreement that Helios Energy removes all buildings and structures and reinstates the land to its original pre-construction state.

Overall, the Productive Capacity Assessment concludes that the proposal diversifies an existing land based primary production activity, to provide greater resilience within an area subject to soil constraints. It is concluded that any actual or potential loss of productive capacity is considered to be negligible.

5.18 Effects on Heritage Values

The site is not located in, nor does it contain, any heritage items or areas.

Heritage items located near the site include the following:

- Forest Gate Station Homestead and associated buildings at 1730 State Highway 50 (1.5 kilometres west of the site).
- Heritage buildings in the Ongaonga township including the former Ongaonga Town Hall and Church of the Good Shepherd (one kilometre north-east of the site).

The proposed structures associated with the solar farm will not be noticeable to heritage sites due to their distance from the site and the proposed mitigation planting. The proposed powerlines may be visible from these heritage sites, but they will be viewed in the context of the existing transmission lines. In addition, the heritage sites cannot be seen in conjunction with the solar farm, and as such the proposal will not impact the appearance or value of the heritage items or detract from the heritage values of any heritage item located within proximity of the site.

For these reasons, the proposal will have less than minor effects on heritage values.

5.19 Effects on Cultural Values

The site is located in the rohe of Ngāti Kahungunu and Heretaunga Tamatea.

Helios Energy met with Te Mana Taiao o Tamatea (the collective voice with regard to the environment) on 1 August 2023. The online meeting was facilitated by CHBDC's Pou Whātuia (Māori Relationships Manager) Pam Kupa. Jeff Schlichting (Helios Energy Founder and Managing Director) and Sarah Brooks (Helios Energy Senior Environmental Planner) introduced Helios Energy and outlined the project. A summary of key discussion points and feedback from the hui was:

- The importance of community resilience for future weather events and climate change was acknowledged by both parties and the role solar can play in increasing electricity resilience.
- It was queried whether there is anything harmful which could come off the panels. Helios Energy confirmed that by weight, more than 80 per cent of a typical PV solar panel is glass

and aluminium. The remaining 20 per cent is silicon and metal and there are no toxic materials within the panels.

- Helios Energy provided a summary of the criteria required for a solar site (strong solar resource, adequate land, capacity at the substation in close proximity) which all serves to limit the number of projects which can feasibly be built in an area.

- Helios Energy invited members of Te Mana Taiao o Tamatea to visit the site. This was not considered to be required by meeting attendees, but the offer remains going forward.

- Separate to the resource consent discussions, Helios Energy is committed to further discussion with Te Mana Taiao o Tamatea to build a framework for an alliance in regard to a funding structure to support the local community in relation to education, energy hardship and sustainability.

Helios Energy provided a copy of the consultation brochure (discussed further below) on 7 August 2023 via email and invited members and whanau of Te Mana Taiao o Tamatea to attend a community drop-in event in Ongaonga in August 2023.

Additional correspondence with Pam Kupa (Māori Relationships Manager) was as follows:

- 27 August 2023 – Helios Energy sent a proposed framework for a local trust to provide funding to support local community initiatives, projects, and developments.

- 3 November 2023 – Helios Energy sent a project update, including an overview of the resource consent application and key documents (draft site layout, elevation plan of the panels, draft planting plan, frequently asked questions and a more comprehensive overview of the local trust framework).

- 14 December 2023 – Introductory call with Environmental Planner working within the Te Taiao o Tamatea ropu. Helios Energy committed to providing a copy of the draft resource consent application and undertaking a site visit in early 2024.

- 17 January 2024 – Helios Energy completed a site walkover with Environmental Planner from Tamatea Pōkai Whenua. It was confirmed a Cultural Impact Assessment (CIA) would be required due to the presence of awa in proximity and this process would enable a name to be provided for the currently unnamed intermittent tributary which runs through the site (and will be planted with additional natives as outlined in the planting plan). A CIA was subsequently commissioned and it was confirmed by Tamatea Pōkai Whenua that the preparation of a CIA can run concurrently with lodgement of the application. The CIA will be completed and provided in May 2024.

Helios Energy is committed to open and transparent communication with Te Mana Taiao o Tamatea throughout the Project, and our project's development will be guided by ongoing discussions and the CIA.

When considering the cultural effects of the proposal, it is noted that there will be an overall net increase in planting of the site, many of these plants will be indigenous, and much of this planting will screen views of the solar farm to the wider environment. Views in the area to the Ruahine

Ranges will be retained, and the proposal will be set back from the Tukituki River with additional native planting proposed along the intermittent stream.

The solar farm is a passive use of the site, and there will be many positive benefits such as the creation of more renewable electricity for New Zealand and the increased economic investment to the region. Sheep grazing can continue to take place under the panels, and the solar farm will be decommissioned at the end of its operational life and the land returned to its original condition. Further, from a review of the District Plan Maps and discussions to date with Te Mana Taiao o Tamatea Helios is not aware of any wāhi tapu, wāhi taonga and sites of significance to Māori.

Overall, for the reasons above, it is noted that the cultural effects of the proposal will be less than minor.

5.20 Cumulative Effects

When considering the cumulative effects of the proposal, it is noted that resource consent was granted in 2020 for a 144 hectare solar farm by Sky Solar at 189 Plantation Road, 1.3 kilometres north-east of the site (RM220083) (refer to Figure 20). Resource consent has also been lodged (no decision yet) by Centralines for a 54 hectare solar farm at 921 Ongaonga Road, 3.6 kilometres north-east of the site (RM230109) (refer to Figure 20).

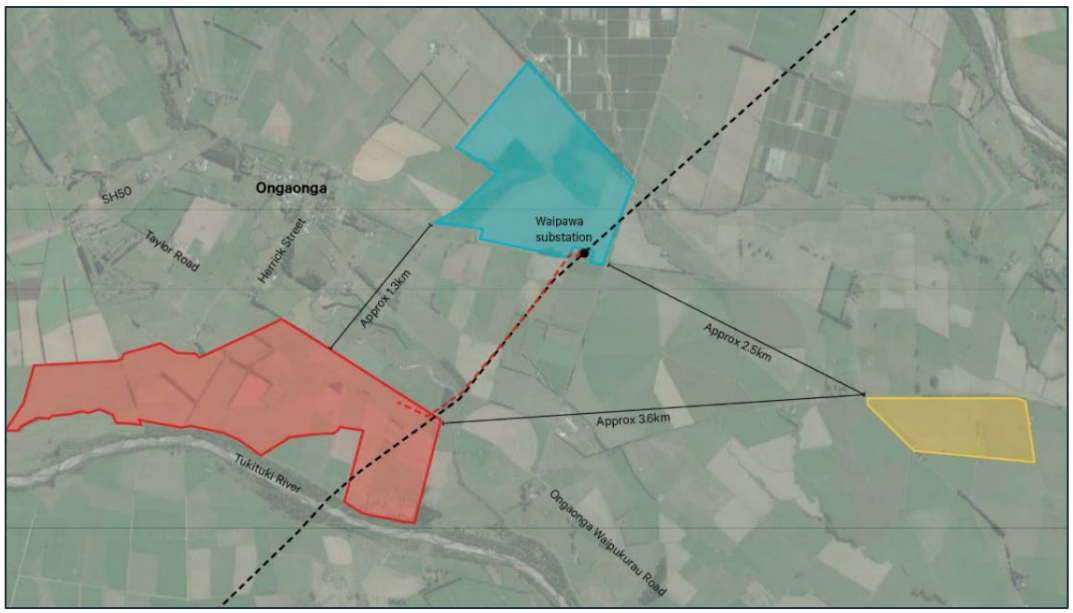

Figure 20: Image showing the subject site (red) Sky Solar site (blue) and Centralines site (yellow).

The Landscape Assessment notes that due to the flat topography of the area, the existing vegetation, the distances between the three sites, and the proposed vegetation at the subject site, there is no specific location in the area where all three solar farms could be seen in combination. In addition, the proposed planting will ensure that views of the solar panels and other buildings will be minimal.

No State Highways run adjacent to the solar farms, with the closest being State Highway 50. As noted above, views of the subject site will be fleeting from this road, and users of this road will not have views toward the other solar farms. Furthermore, road users are more likely to travel along either Ongaonga Waipukarau Road or Ongaonga Road, not both roads on the same journey. As such, road users are not likely to see more than one solar farm per journey.

For the reasons above, it is considered that the existing landscape has the capacity to accommodate an additional solar farm with the rural values of the area being maintained. As such, the cumulative effects of the proposal will be less than minor.

5.21 Conclusion

Overall, for the reasons discussed in detail above, and supported by the corresponding technical specialist assessments, the actual and potential adverse effects of the proposal on the environment are considered to be less than minor.

6 Notification assessment

6.1 Public Notification – Section 95A

The matters to be considered by the consent authority when deciding whether or not to publicly notify an application are set out in Section 95A of the RMA. In October 2017, Section 95A was amended to have a four-step process to determine whether to publicly notify an application.

Step 1 – Mandatory Public Notification in certain circumstances (sections 95A (2) and (3)):

Mandatory public notification is not required as the applicant does not request public notification [s95A(3)(a)], and the application has not been made jointly with an application to exchange recreation reserve land under section 15AA of the Reserves Act [s95A(3)(c)].

Step 2 – Preclusion to Public Notification:

Public notification is not precluded because the activity is not subject to any rule in the District Plan that precludes public notification [s95A(5)(a)] and the activity is not for a controlled activity [s95A(5)(b)(i)], a residential activity or subdivision of land [s95A(5)(b)(ii)], a boundary activity [s95A(5)(b)(iii)], or a prescribed activity [s95A(5)(b)(iv)].

Step 3 – Public Notification – Rule/Adverse Effects:

Public notification is not required as the application does not include an activity that is subject to any rule in the District Plan or NES that requires public notification, and in accordance with section 95D adverse effects on the environment will not be more than minor [s95A(8)(a) and (b)]. Refer to assessment in Section 5 of this report.

Step 4 – Special circumstances:

There are no special circumstances that warrant public notification under section 95A(9) because none of the circumstances of the application are exceptional or unusual.

Accordingly, it is considered that this application should be processed without public notification.

6.2 Limited notification – section 95B

Section 95B relates to limited notification of consent applications and (in summary) directs that, where notification of an application for resource consent is not required under Section 95A, the consent authority must give limited notification of the application to any affected person. Section 95B is also a four-step process to determine whether to limited notify an application.

Step 1 – Customary Rights and Marine Title Groups, and Statutory Acknowledgements:

There are no protected customary rights groups or customary marine title groups that will be affected by the proposal, and the proposal is not on, adjacent to, or likely to affect land subject to a statutory acknowledgement [s95B(2)(a) and (b) and s95B(3)].

Step 2 – Preclusions to Limited Notification:

There is no preclusion to limited notification as there is no rule in the District Plan that precludes limited notification of the application [s95B(6)(a)] and the application is for neither a district land use consent with controlled activity status or an activity prescribed by regulations made under section 360H(1)(a)(ii), which precludes limited notification [s95B(6)(b)].

Step 3 – Limited Notification – Affected Persons:

No persons have provided their written approval to this application.

The owners and occupiers of the adjoining/adjacent properties are shown in Figure 21 and Table 4 below.

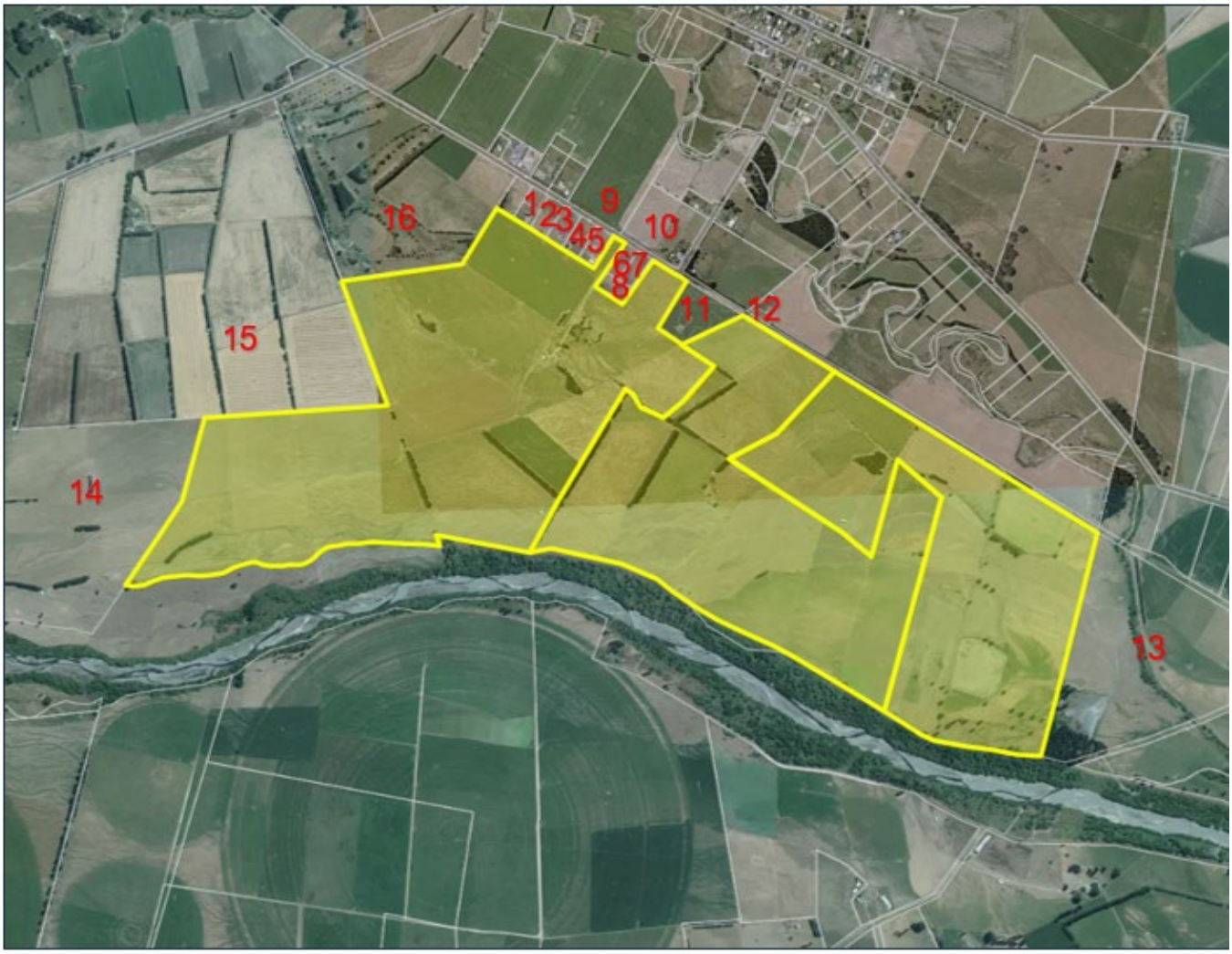

Figure 21: Aerial image showing adjacent properties.

Table 4: Adjacent Properties.

Identifier	Address	Legal Description	Owners as per the Certificate of Title
1	92 Taylor Road	Lot 2 DP 542761	Ana Alison Deckard, Benjamin Henry John Swinburne
2	96 Taylor Road	Lot 3 DP 542761	Arthur I Merlin Budvietas, Sophie Jane Budvietas

3	100 Taylor Road	Lot 4 DP 542761	Anja Trstenjak Innes, William John Rosie Innes
4	110 Taylor Road	Lot 5 DP 543761	Nicola Petris Van Pelt, Ronald Van Pelt
5	112 Taylor Road	Lot 6 DP 542761	Claire Bernice Beachen, Samuel Tom Cutbush
6	128 Taylor Road	Lot 1 DP 568563	Amy Bernadette Edmonds, Jarod Robert Turfrey
7	130 Taylor Road	Lot 2 DP 568563	Tinopai Properties Limited (Ali and Paul Beachen)
8	138 Taylor Road	Lot 3 DP 568563	Damien Paul Crook, Kimberley Maureen Crook
9	N/A	Section 11 Block VIII Ruataniwha DP	Deborah Judith Andersen
10	98 Herrick Street	Section 12 Block VIII Ruataniwha DP	Deborah Judith Andersen
11	162 Taylor Road	Lot 14 DP 538839	Grant Alexander Bickley, Lisa Maree Boderick
12	179 Taylor Road	Lot 1 DP 410959	Daniel Ross Milne
13	N/A	Part Lot 61 DEEDS 380	James Patrick Gallagher, Angus Collis Mabin, James Gregory Wilson
14	1815 Highway 50	Lot 1 DP 9186	Howard John Ashby, Stuart Neill Ashby, Martin Venn Rockel
15	1713 Highway 50	Lot 1 DP 7765	Barnsdale Farming Co. Limited

16	1647 Highway 50	Section 32 Block VIII Ruataniwha SD	Waipawa District Council

While it is not proposed to construct any buildings on the following properties, they are under the same ownership as the subject site and therefore do not form part of the adjacent environment. It is considered support for the project is given through leasing the land to Helios Energy:

- Lot 1 DP 538839 (owned by Alison Jade Baldwin and Anthony Paul Beachen)
- Section 15 Block VIII Ruataniwha DP (owned by Samuel Charles Bradley, William Mark Bradley).
- Lot 2 DP 410959 (owned by Duncan Dudley Holden, Margaret Holden and Sainsbury Greer Trustee Company Limited).

The following is an assessment on the actual and potential adverse effects of the proposal on each of the above properties.

There are common effects in terms of construction noise, operational noise, earthworks and transport across these properties, which can be described as follows:

- The Acoustic Assessment (Appendix 13) notes that operational noise levels will be within the range of the existing measured ambient noise levels. As such, it is expected that daytime operational noise levels will be reasonable and will have minimal effect on the existing acoustic environment.
- Construction is expected to take approximately 12 months between the hours of 7.30am and 5pm, Monday to Friday. The proposed piling is anticipated to take approximately 20 weeks, and this will take place on different parts of the site throughout this timeframe. As such, the piling, and noise associated with this activity, near these properties will be brief and temporary. The Acoustic Assessment concludes that the proposed construction noise will comply with the relevant noise standards of both the Operative and Proposed District Plans, as well as NZS 6802:2008 Acoustics – Environmental Noise.
- The ITA (Appendix 8) notes that the risk of pedestrian conflict on the roading network is low due to the low traffic volume of the road, low pedestrian volume, and the short time period where pedestrians are expected (before and after school). Further, there is no crash problem on the road, and the sight distances along the road are considered more than adequate.
- A conservative total of 62 traffic movements are expected along Taylor Road per day during construction, and a number of mitigation measures are proposed to ensure the road, near these properties, remains safe (refer to Section 5.11).
- The operational traffic of the solar farm will be low, as only five to six staff members will visit the site office once per week. This volume of traffic is less than what would be generated by a residential dwelling. As such, the operational traffic effects on these properties will be less than minor.

- The proposed earthworks will be appropriately managed and mitigated through erosion and sediment controls and a Construction Management Plan to avoid effects on these properties.

Any site-specific effects in relation to construction noise, operational noise, earthworks, glint and glare, and transport effects are identified below.

92, 96, 100, 110, 112, 128, 130 and 138 Taylor Road (Properties 1-8 in Figure 21)

These properties are located directly north of the site. The majority of these properties contain a residential dwelling, and the remainder are vacant or are undergoing construction of a residential dwelling. The properties that are vacant have the potential to construct one dwelling per site as a Permitted Activity under RPROZ-R1, subject to compliance with the relevant standards.

The orientation of the dwellings on these properties is generally north-facing, and some planting is established along the southern boundaries of these properties. As such, south facing views, toward the site, are still available.

The proposed solar farm, and associated landscaping, will be set back approximately 300 metres from southern most properties in this cluster (128, 130 and 138 Taylor Road), and approximately 600 metres back from the northern properties on this cluster (92, 96, 100, 110 and 112 Taylor Road). These setbacks are considered to be substantial and will allow for the open rural views from these properties to be retained. Further, the substation and BESS will be located toward the west of the site and the inverters will be located centrally, which are setback in excess of 200 metres from the boundaries of the solar farm.

The Landscape Assessment (refer to Appendix 10) notes that mitigation planting is proposed along the northern boundary of the site. This planting includes native plants at depths of two to four metres. This planting will mature to entirely screen the proposal from these properties. Overall, the Landscape Assessment concludes that the proposal will result in low short-term effects in relation to visual amenity to these properties, and very low effects in the long term once the planting matures. As such, the short- and long-term effects in relation to visual amenity on these properties will be less than minor.

The Glint and Glare Study, prepared by ITP Renewables (refer to Appendix 12) notes that there is no potential for glare from the proposal toward any of these properties in both years 1 and 5 years and beyond.

Refer above for comments on construction noise, operational noise, earthworks and transport effects.

Due to the nature of the solar farm, it is not anticipated that any reverse sensitivity effects will arise, as the residential activities will not generate any adverse effects that will impact the solar farm operations.

When considering the cumulative effects of the proposal, it is noted that the other solar farms in the area will not be visible to these properties, as they will be located over one kilometre and three kilometres away.

For the reasons noted above, it is considered that any actual or potential effects on these properties will be less than minor.

Section 11 Block VIII Ruataniwha DP (Property 9 in Figure 21)

This property is located north of the site, across Taylor Road. This property contains no physical buildings, and it is used for rural purposes. As the site does not contain any residential buildings, it is not anticipated that any residential amenity, visual amenity, and glint and glare effects from the proposal will result in any adverse effects toward persons residing at this property.

While this property is vacant, there is potential to construct one dwelling per site as a Permitted Activity under RPROZ-R1, subject to compliance with the relevant standards. There is potential for a future dwelling to face south toward the subject site, however views of the site would be obscured due to the residential lots on Taylor Road. Further, the proposed solar farm will be set back approximately 400 metres from this property, and the site will be screened by planting with depths of between two to four metres. This planting will mature to entirely screen the proposal from these properties. Overall, it is considered that the potential for future visual amenity effects toward this property are low throughout year 1, and once the planting is matured.

The Glint and Glare Study (refer to Appendix 12) notes that there is no potential for glare from the proposal toward this property in both years 1 and 5 years and beyond.

Refer above for comments on construction noise, operational noise, earthworks and transport effects.

Due to the nature of the solar farm, it is not anticipated that any reverse sensitivity effects will arise, as the existing rural activity will not generate any adverse effects that will impact the solar farm operations.

When considering the cumulative effects of the proposal, it is noted that the other solar farms in the area will not be visible to these properties, as they will be located over one kilometre and three kilometres away.

For the reasons noted above, it is considered that any actual or potential effects on this property will be less than minor.

98 Herrick Street (Property 10 in Figure 21)

This property is located north of the site, across the road, on the corner of Herrick Street and Taylor Road. This property contains a residential dwelling and associated buildings on its southern side, and the remainder of the site is vacant.

The dwelling on this property is orientated north, away from the site. Planting is established along the southern boundary, so existing views of the site are distorted.

The proposed solar farm will be set back approximately 300 metres from this property, which is considered substantial. Further, the substation and BESS will be located toward the west of the site and the inverters will be located centrally. As such, these features will not be visible to this property.

The Landscape Assessment provided by Isthmus (refer to Appendix 10) notes that mitigation planting is proposed around the exterior of the site. This planting includes natives at depths of 2 metres to four metres. This planting will mature to entirely screen the proposal from these properties. Overall, it is expected that the proposal will not be visible to this property and as such, there will be less than minor effects in terms of visual amenity to this property in both years 1 and 5.

The Glint and Glare Study, prepared by ITP Renewables (refer to Appendix 12) notes that there is no potential for glare from the proposal toward this property in both years 1 and 5.

Refer above for comments on construction noise, operational noise, earthworks and transport effects.

Due to the nature of the solar farm, it is not anticipated that any reverse sensitivity effects will arise, as the residential and farming activities will not generate any adverse effects that will impact the solar farm operations.

When considering the cumulative effects of the proposal, it is noted that the other solar farms in the area will not be visible to this property, as they will be located over one kilometre and three kilometres away.

For the reasons noted above, it is considered that any actual or potential effects on these properties will be less than minor.

162 Taylor Road (Property 11 in Figure 21)

This property is located directly north of the site and contains water tanks and a shed. This property does not contain a residential dwelling.

Following an on-site meeting between Helios Energy and the owners of this property, the layout (as presented at the meeting) was amended. The following changes have been made to the solar farm's design in response to a request for a larger setback from the property boundaries of 162 Taylor Road:

- The exclusion of approximately 5.8 hectares of the north-eastern portion of the site, near this property. This exclusion area consists of the entire paddock closest to 162 Taylor Road, which results in panels being at least 65 metres from the property boundary (refer to Figure 22).
- The existing shelterbelt on the southern boundary of the field was intended to be removed. This will now be retained, and additional planting will be established in front of this shelterbelt to further screen views.

Figure 22: Image showing the exclusion area, adjacent to 162 Taylor Road.

While this property does not contain any residential development, there is potential to construct one dwelling on the site as a Permitted Activity under RPROZ-R1, subject to compliance with the relevant standards. As such, the following assessment considers the effects of the proposal on a dwelling at this property.

The proposed solar farm will be set back approximately 65 metres from this property's southern boundary and 195 metres from this property's eastern boundary. Further, the substation and BESS will be located toward the west of the site and the inverters will be located centrally. As such, these larger buildings will not be visible to this property.

The Landscape Assessment (refer to Appendix 10) notes that mitigation planting is proposed along the northern boundary of the site, and (as noted above) the existing shelterbelt on the northern portion of the site will be retained. The proposed planting includes natives at depths of two to four metres. This planting will mature to entirely screen the proposal from this property's boundary. Overall, the Landscape Assessment concludes that the proposal will result in low effects in terms of visual amenity to this property in the short term, and very low effects in the long term once the planting matures, as the rural outlook for this property will be retained. As such, the visual amenity effects on this property will be less than minor.

The Glint and Glare Study, prepared by ITP Renewables (refer to Appendix 12) notes that there is potential for up to two minutes of green glare between 4.45am and 5.15am from 5 December to 29 December during year one, no potential for glare from the proposal toward this property in year 5, once the planting has matures. This is considered to be a very low level of green glare (which has low potential to cause temporary afterimage), which will be reduced to no glare once the proposed planting matures. As such, the effects associated with glare on this property are considered to be less than minor.

Refer above for comments on construction noise, operational noise, earthworks and transport effects.

Due to the nature of the solar farm, it is not anticipated that any reverse sensitivity effects will arise, as the rural activity (and any potential residential activity) will not generate any adverse effects that will impact the solar farm operations.

When considering the cumulative effects of the proposal, it is noted that the other solar farms in the area will not be visible to this property, as they will be located over one kilometre and three kilometres away.

For the reasons noted above, it is considered that any actual or potential effects on this property will be less than minor.

179 Taylor Road (Property 12 in Figure 21)

This property is located north-east of the site, across Taylor Road and contains a residential dwelling. The orientation of this dwelling is north-facing, away from the site, and some planting is established along the southern boundary of this property. South-west facing views, toward the site, are still available for this property. The existing shelter belts on the subject site generally obscure long-distance views south.

The proposed solar farm has been specifically designed to provide a substantial setback of approximately 260 metres from this property. This setback will allow for the open rural views from these properties to be retained. Further, the substation and BESS will be located toward the west of the site and the inverters will be located centrally. As such, these larger buildings will not be visible from this property.

The Landscape Assessment (refer to Appendix 10) notes that mitigation planting is proposed along the external boundaries of the site, and a shelterbelt along the northern portion of the property will also be retained. This planting will have depths of two to four metres and will mature to entirely screen the proposal from this property (refer to Figure 23). Overall, the Landscape Assessment concludes that the proposal will result in low effects in terms of visual amenity to this property, and very low effects in the long term once the planting matures. As such, the effects associated with glare on this property are considered to be less than minor.

Figure 23: Image showing the proposed solar farm with mitigation, when viewed from 179 Taylor Road.

The Glint and Glare Study, prepared by ITP Renewables (refer to Appendix 12) notes that there is no potential for glare from the proposal toward this property in both years 1 and 5.

Refer above for comments on construction noise, operational noise, earthworks and transport effects.

Due to the nature of the solar farm, it is not anticipated that any reverse sensitivity effects will arise, as the residential activity will not generate any adverse effects that will impact the solar farm operations.

When considering the cumulative effects of the proposal, it is noted that the other solar farms in the area will not be visible to this property, as they will be located over one kilometre and three kilometres away.

For the reasons noted above, it is considered that any actual or potential effects on this property will be less than minor.

Part Lot 61 DEEDS 380 (Property 13 in Figure 21)

This property is located east of the site and contains three severed parcels. This property is held in a title with Section 2 SO 435495 (located south and east of this parcel). Section 2 SO 435495 contains two dwellings, and the remainder of the property (Part Lot 61 DEEDS 380) contains no buildings.

As this property is greater than 12 hectares and already contains two dwellings, additional dwellings cannot be constructed as a Permitted Activity. A minor dwelling may be constructed as a Permitted Activity under RPROZ-R1, subject to compliance with the relevant standards, however this minor dwelling must be constructed within 25 metres of the principal dwelling on the site. As such, any minor dwelling would be located over 800 metres from the subject site.

Due to the proposed planting, and the setback of approximately 850 metres from the dwellings on this property, it is not considered that there will be any adverse residential amenity and visual amenity effects from the proposal on persons at this property. All potential noise, traffic and earthworks associated with the construction of the solar farm will be managed and mitigated appropriately to avoid adverse effects on any person. Further, this property does not utilise Taylor Road for access.

The Glint and Glare study notes that there is potential for up to nine minutes of green glare between 4.30pm and 5.30pm, from 9 May to 3 July, and 11 July to 3 August on Section 2 SO 435495 during the first year of the solar farm, which will be reduced to up to three minutes of green glare between 4.30pm and 5.30pm 9 May to 3 July, and 18 July to 3 August. This is considered to be a very low level of green glare (which has low potential to cause temporary afterimage) for a short period of time. As such, the effects associated with glare on this property are considered to be less than minor.

Due to the nature of the solar farm, it is not anticipated that any reverse sensitivity effects will arise, as the residential and rural activities at this property will not generate any adverse effects that will impact the solar farm operations.

When considering the cumulative effects of the proposal, it is noted that there will not be a point at this property where the proposed solar farm and any other solar farms will be visible at the same time.

For the reasons noted above, it is considered that any actual or potential effects on this property will be less than minor.

1815 Highway 50 (Property 14 in Figure 21)

This property is located west of the site and contains a residential dwelling that is situated approximately 1.3 kilometres west of the site. The remainder of the site is used for rural purposes.

There is potential to construct one additional dwelling on this property as a Permitted Activity under RPROZ-R1, subject to compliance with the relevant standards. While an additional dwelling could be constructed, it is likely that this dwelling would be constructed closer to the road frontage, to avoid fragmentation of the existing farmland (that is considered to be LUC Class 1 land).

The setback from the existing dwelling on this property is considered to be substantial, and views toward the subject site will be limited. Further, the substation and BESS will be located toward the west of the site and the inverters will be located centrally. As such, the open rural views from this property will be retained and it is not considered that there will be any adverse residential amenity, visual amenity, glint and glare effects from the proposal on persons at this property.

All potential noise, traffic and earthworks associated with the construction of the solar farm will be managed and mitigated appropriately to avoid adverse effects on any person. Further, this property does not utilise Taylor Road for access.

Due to the nature of the solar farm, it is not anticipated that any reverse sensitivity effects will arise, as the residential and rural activities at this property will not generate any adverse effects that will impact the solar farm operations.

When considering the cumulative effects of the proposal, it is noted that the other solar farms in the area will not be visible to this property, as they will be located over one kilometre and three kilometres away.

For the reasons noted above, it is considered that any actual or potential effects on this property will be less than minor.

1713 Highway 50 (Property 15 in Figure 21)

This property is located north of the site and contains a residential dwelling that is situated approximately 750 metres north of the site. The remainder of the site is used for horticultural purposes.

There is potential to construct one additional dwelling on this property as a Permitted Activity under RPROZ-R1, subject to compliance with the relevant standards. While an additional dwelling could be constructed, it is likely that this dwelling would be constructed closer to the road frontage, to avoid fragmentation of the existing farmland (that is considered to be Highly Productive LUC Class 1 land).

The setback from the existing dwelling on this property is considered to be substantial, and views toward the subject site will be limited due to the existing vegetation on this property, and the proposed two-metre-wide landscaping on the northern boundary of the subject site. Further, the substation and BESS will be located toward the west of the site and the inverters will be located centrally. As such, the rural character of this property will be retained and it is not considered that there will be any adverse, visual amenity or glint and glare effects from the proposal on persons at this property.

All potential noise, traffic and earthworks associated with the construction of the solar farm will be managed and mitigated appropriately to avoid adverse effects on any person. Further, this property does not utilise Taylor Road for access.

Due to the nature of the solar farm, it is not anticipated that any reverse sensitivity effects will arise, as the residential and rural activities at this property will not generate any adverse effects that will impact the solar farm operations.

When considering the cumulative effects of the proposal, it is noted that the other solar farms in the area will not be visible to this property, as they will be located over one kilometre and three kilometres away.

For the reasons noted above, it is considered that any actual or potential effects on this property will be less than minor.

1647 Highway 50 (Property 16 in Figure 21)

This property is located north of the site which the Ongaonga Golf Club operates from.

The proposed solar farm will be set back by approximately 400 metres from the southern boundary of this property. The Landscape Assessment (refer to Appendix 10) notes that the southern boundary of this property is planted in mature larch trees, and large shelterbelts are located in the middle of this property, which also obstruct views toward the south. This existing planting visually contains wider views to the south, toward the site. As such, the rural character of this property will be retained and it is not considered that there will be any adverse visual amenity effects from the proposal on persons at this property.

The Glint and Glare Study concludes that the simulations on areas near this property all resulted in no levels glare from the proposal in both years 1 and 5.

All potential noise, traffic and earthworks associated with the construction of the solar farm will be managed and mitigated appropriately to avoid adverse effects on any person. Further, this property does not utilise Taylor Road for access.

Due to the nature of the solar farm, it is not anticipated that any reverse sensitivity effects will arise, as the golf club activity at this property will not generate any adverse effects that will impact the solar farm operations.

When considering the cumulative effects of the proposal, it is noted that the other solar farms in the area will not be visible to this property, as they will be located over one kilometre and three kilometres away from the site.

For the reasons noted above, it is considered that any actual or potential effects on this property will be less than minor.

Conclusion on Limited Notification

For the reasons assessed above, and for those further assessed in the s95A assessment, the actual and potential adverse effects of the proposal on any persons are considered to be less than minor.

As such, in accordance with s95B of the RMA, this application is able to proceed on a non-notified basis.

Step 4 – Special circumstances:

There are no special circumstances that exist relating to the application that warrant limited notification to any persons who have not been excluded as affected persons by the assessment above [s95B(10)]. There are no special circumstances that warrant limited notification under section 95B(10) because none of the circumstances of the application are exceptional or unusual.

Accordingly, it is considered that this application should be processed without limited notification.

6.3 Notification Conclusion

Section 95 of the Act sets out the requirements for the Council to consider when determining whether an application for resource consent should be notified.

The assessment has found at Section 5 of this AEE that any effects on specific parties and the wider environment will be less than minor. Therefore, in accordance with the steps outlined above, notification of the proposal is not required.

7 Objectives and policies

7.1 Central Hawke's Bay Proposed District Plan

The following objectives and policies of the Central Hawke's Bay Proposed District Plan are relevant to this proposal.

Chapter RE – Renewable Energy

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.*

Comment:	The proposal will enable the sustainable use and development of renewable energy resources in the district through the provision of a new renewable electricity generation activity on the site. As detailed throughout this report, the proposal will avoid and mitigate adverse effects. Adverse effects of the proposal are avoided due to the site's proposed location and layout. Examples of mitigation include comprehensive landscape planting around the boundaries of the site, the preparation of a Construction Management Plan, and multiple transport mitigation measures, such as sealing Taylor Road, providing new temporary signage and a centreline on the road and reducing the speed limit along the road to 30km per hour. For the reasons outlined above, the proposal is considered to be consistent with these objectives.
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.*
Comment:	The proposal provides for the use of solar for electricity generation, and it will result in significant benefits, including the following: • The solar farm is a clean energy source that can replace fossil fuels, which will reduce harmful emissions in the atmosphere. This will have clear local, regional and national benefits in relation to climate change. • The creation of clean, renewable electricity which will make a significant contribution to New Zealand's national commitments in relation to renewable energy and climate change. • Significant economic benefits, as the proposal will result in an approximately $150 million investment to the region. The 12-month (approximate) construction period is anticipated to generate significant employment opportunities, as well as a smaller number of full-time equivalent roles during the solar farm's operational period.
RE-P2	*To provide for the identification, investigation, establishment, development, upgrading, operation and maintenance of new and existing renewable electricity generation activities in a manner that supports the protection of the District's:* • *High Natural Character Areas (in CE-SCHED7);* • *Outstanding Natural Features and Landscapes (in NFL-SCHED6); and* • *Historic Heritage as identified in HH-SCHED2 and Sites and Areas of Significance to Māori as identified in SASM-SCHED3.*
Comment:	The proposal will provide for the establishment and operation of a new renewable electricity generation activity on a site that does not contain any High Natural Character

	Areas, Outstanding Natural Features and Landscapes, Historic Heritage and Sites and Areas of Significance to Māori. The proposed development has been designed to avoid these features, and the proposal will be visually contained with proposed boundary planting, so it will not be viewable from these features and will not detract from their importance or significance.
RE-P3	*To recognise the environmental, functional, operational and technical constraints of managing new and existing renewable electricity generation activities.*
Comment:	The proposal will result in effects related to transport, glint and glare, rural amenity, landscape character, visual, noise, and construction. While these components of the proposal will be managed to ensure the effects will be less than minor, it is acknowledged that these effects are part of the reality of establishing a new renewable electricity generation activity.
RE-P4	*To provide for small-scale renewable electricity generation activities.*
Comment:	Small-scale renewable electricity generation activities can be established in any zone as a Permitted Activity (subject to compliance with Standards RE-S1 to RES5). While the proposal cannot meet the definition of 'small-scale,' it will generate effects that are of a similar nature to a small-scale proposal (such as visual, rural character, amenity), and this shows that electricity generation activities, similar to the proposal, are anticipated and provided for throughout the District.
RE-P5	*To protect renewable electricity generation activities from reverse sensitivity effects.*
Comment:	In depth consideration has been given to understanding the legally established activities surrounding the site, as well as understanding what is permitted to establish as of right. The solar farm activity is not considered to be a sensitive activity, nor are any of its active components. As such, the proposal will be compatible with the existing rural and rural residential environment, and it is anticipated that the solar farm will not result in the potential for reverse sensitivity effects.
RE-P6	*To recognise that in some circumstances not 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.*
Comment:	As noted above, a range of mitigation measures have been offered in order to ensure the proposal is consistent with the sustainable management purpose of the RMA. Examples of mitigation include comprehensive landscape planting around the boundaries of the site as well as riparian planting, the preparation of a Construction Management Plan, and multiple transport mitigation measures, such as sealing Taylor Road, providing new temporary signage, a centreline on the road, reducing the speed limit along the road to 30km per hour.

	Overall, the assessment above has noted that the effects of the proposal on the environment will be less than minor.

Overall, the proposal is consistent with the objectives and policies contained in the Chapter RE – Renewable Energy.

Chapter RPROZ – Rural Production Zone

RPROZ-O1	*The Rural Production Zone is predominantly used for primary production activities (including intensive primary production) and associated ancillary activities.*
Comment:	The proposal will establish a renewable electricity activity while supporting the continued undertaking of a primary production activity in the form of sheep grazing underneath the solar panels. As discussed in detail above, the proposal will ensure the rural amenity and character of the environment will be retained.
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.*
Comment:	The proposal will not result in any fragmentation of the land, as the large parcels are to remain, with no subdivision proposed. As such, the rural land resource will remain. No ad hoc urban expansion is proposed. As such, the buildings and development will be appropriate for the rural environment.
RPROZ-O3	*Activities do not reduce the potential for the highly productive land of the District to be used in a productive and sustainable manner.*
Comment:	The western and eastern parts of the site contain land that is classified as highly productive under the National Policy Statement for Highly Productive Land. This land is currently utilised for sheep and beef farming, with small amounts of cropping. This land can continue to be utilised for sheep grazing underneath the solar panels, which means this land can continue to be utilised in a productive manner. In addition, the LUC Class 1 and 2 soils will not be fragmented, and they will be accessed via tracks on the site. After 35 years, when the activity is decommissioned, the soils will return to their current state. As such, the highly productive land will be used in a productive and sustainable manner, with no loss or impact on productive capacity.
RPROZ-O4	*The predominant character of the Rural Production Zone is maintained, which includes:* • *overall low-density built form, with open space and few structures;* • *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;*

	• *the sounds, smells, and traffic associated with primary production activities, and established rural industries, anticipated from a working rural environment;* • *existing rural communities and community activities, such as rural halls, reserves and educational facilities;* • *a landscape within which the natural environment (including farming and forest landscapes) predominates over the built one;* • *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).*
RPROZ-O5	*Activities are managed to ensure that rural character and amenity are maintained.*
Comment:	Overall, the proposal will retain the predominant character and amenity of the Rural Production Zone for the following reasons: • The proposed solar panels, BESS and inverters will all be low-lying. While some of substation structures and transmission line pole will exceed the height limit for this zone, these exceedances will only take up a very small portion of the site and will be absorbed by the proposed landscaping. These structures have a minimal footprint. Further, transmission poles are a permitted activity and are therefore an anticipated structure in the rural environment. • The proposed mitigation planting around the boundaries of the site will be two to four metres wide and will visually contain the development within the site when mature. As such, views of the proposed buildings will be fleeting and limited, and the proposed planting will ensure that the environment will appear more natural than built. • Setbacks have been provided from adjacent neighbouring residential properties, to ensure that the open rural views from these properties can be retained. • The solar farm has been designed to enable sheep grazing to continue throughout the site, which will ensure that primary production will be retained. • The sounds, smells and traffic associated with primary production activities will continue as the solar farm layout and design will enable sheep grazing to continue on the site. In addition, the proposal (when operational) will generate low levels of sound and traffic, and no odours. The noise levels associated with traffic will be compliant. • No urban infrastructure such as street lights, footpaths and solid fences are proposed, meaning the clear contrast between town and country will continue in the area.
RPROZ-06	*The primary productive purpose and predominant character of the Rural Production Zone are not compromised by potentially incompatible activities establishing.*

Comment:	The proposal is compatible with the Rural Productive Zone as the solar farm layout and design will enable sheep grazing to be continued throughout the site (around and under the solar panels), which will ensure the primary productive purpose of the Rural Production Zone to be retained. The proposal will ensure the creation of access tracks to the high-quality soils within the site. In addition, the proposed mitigation planting around the exterior of the site will ensure that the proposal will be contained within the site and the rural character of the wider area will be retained.
PRPOZ-07	*The Waipukurau Aerodrome is protected from noise sensitive activities establishing within the air noise boundary.*
Comment:	The site is not located within proximity of the Waipukarau Aerodrome or air noise boundary.
RPROZ-P1	*To enable primary production (including intensive primary production) and ancillary activities, recognising the primary productive purpose and predominant character and amenity of the Rural Production Zone.*
Comment:	The proposal recognises the primary production purpose of the Zone, as sheep grazing will be enabled within the site (around and under the solar panels). The flat topography of the site, combined with the comprehensive landscaping, will allow for the solar farm to be visually contained within the site, and this will retain the amenity of the Zone. Once the planting is mature, it will screen views into the site from the adjacent roads and properties, with views of the solar farm limited to breaks between vegetation. The reverse sensitivity effects of the proposal have been assessed above, and it is noted that the proposal will not limit primary production activities on neighbouring properties.
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:* • *their scale, intensity and built form are in keeping with the rural character of the Rural Production Zone;* • *they maintain a level of amenity in keeping with the rural character of the Rural Production Zone;* • *they minimise reverse sensitivity effects on activities otherwise anticipated within the Rural Production Zone; and* • *adverse effects are avoided, remedied or mitigated*
Comment:	There is a functional and operational need for the proposal to be located in a rural location, as this location provides for large open areas with no potential for shading

	from mountains or ranges, generous setbacks from neighbouring properties, and the space for dense landscaping to be established. As noted above, the proposal will be at a scale and intensity that is in keeping with the rural character and amenity of the Zone. Reverse sensitivity effects will be minimised as the solar farm activity is not considered to be a sensitive activity. The proposed mitigation measures (noted above) will ensure that the effects from the proposal will be appropriate. The proposal will contribute to the resilience of the economy by generating a $150 million investment to the region with short term employment opportunities through construction and a small number of full time positions for the operational life of the solar farm.
RPROZ-P3	*To manage the scale of post-harvest facilities, rural industry and commercial activities to ensure that they remain compatible with the primary productive purpose of the Rural Production Zone, and potential adverse effects on the character and amenity of the rural area are avoided, remedied or mitigated.*
Comment:	Post-harvest facilities, rural industries and commercial activities are not proposed as part of the project.
RPROZ-P5	*To manage the bulk, scale and location of buildings to maintain the character and amenity of the rural area, while recognising that it is a rural working environment.*
Comment:	The majority of the proposed buildings will sit below the maximum height for this zone. The inverters and BESS will be located centrally within the site, so they are not overly visible to neighbouring properties. The remainder of the buildings will be screened by the proposed mitigation planting that is to be established around the exterior of the site. As such, the proposed buildings will not be overly visible to the surrounding area and the proposal will maintain the character and amenity of the rural area.
RPROZ-P5	*To require sufficient separation between sensitive activities and existing primary production and intensive primary production activities, and between new intensive primary production activities and property and zone boundaries, in order to avoid, remedy or mitigate potential adverse effects, including reverse sensitivity and land use conflict.*
Comment:	No new primary productive activities are proposed on site, as the site is currently used for sheep grazing and the continuation of this activity will be enabled through the layout and design of the solar farm. Sufficient separation has been provided between the existing adjoining residential activities and the placement of solar panels and other infrastructure.

RPROZ-P6	*To manage location of trees so that adjoining public roads and properties are not adversely affected by shading.*
Comment:	The proposed planting will be set back from neighbouring properties, so the open rural views from these properties can be retained, and so they are not affected by shading. The proposed planting near the Taylor Road frontage (noting that the buildings will be set back from the street frontage) will be approximately one to two metres high. This height is lower than the shelterbelts present along Taylor Road, north of the site. As such, the proposed planting will not adversely affect the adjoining public roads by shading.
RPROZ-P7	*To ensure activities do not locate in the Rural Productive Zone where the activity:* • *has no functional or operational need for a rural location;* • *is inconsistent with the primary productive purpose and predominant character of the Rural Productive Zone;* • *constrains the establishment and use of land for primary production;* • *exhibits no exceptional or unusual features that would differentiate it from possible later applications, which in combination would lead to incremental creep of urban activities and/or sporadic urban activities onto the highly productive land of the District; and/or* • *results in reverse sensitivity and/or leads to land use conflict.*
Comment:	As discussed above, the proposal has a functional and operational need for a rural location, as this location provides for large, vacant, flat parcels of land, within proximity to electricity infrastructure with capacity, with adequate sunlight hours (solar resource). Primary production activities will continue to occur on the site, and there are no urban activities proposed which will ensure there will be no creep of urban activities to the site. Reverse sensitivity effects will be minimised as the solar farm activity is not considered to be a sensitive activity.
RPROZ-P8	*To avoid residential and rural lifestyle subdivision that results in fragmentation of land within the Rural Production Zone and/or that limits the use of land for primary-productive purposes (including through the potential creation or exacerbation of reverse sensitivity effects).*
RPROZ-P9	*To avoid establishment of commercial or industrial activities that are unrelated to the primary productive purpose of the Rural Production Zone, or that are of a scale that is incompatible with the predominant character and amenity of the rural area.*
RPROZ-P10	*To avoid the establishment or intensification of noise sensitive activities within the airnoise boundary of the Waipukurau Aerodrome, and to require appropriate sound insulation of noise sensitive activities between the airnoise boundary and outer control boundary.*

Comment:	No residential or rural lifestyle subdivisions, commercial or industrial activities are proposed as part of the application. As such, there will be no fragmentation of the site. The site is not located near the Waipukarau Aerodrome or located within the airnoise boundary. The design and layout of the solar farm will enable primary production to continue on the site as panels are pile driven and the design allows for sheep grazing to continue around the site.
RPROZ-P11	*To ensure activities within the Rural Production Zone are self-sufficient in the provision of a suitable on-site wastewater treatment and disposal system, stormwater disposal system, and water supply, unless an appropriate alternative system is available to connect to.*
Comment:	No wastewater or stormwater infrastructure is required as part of the application. The site office may have a toilet and water facilities. The provision of water supply and wastewater disposal to service the site office will be self-sufficient, and a new water take from a water source will not be required. Six above ground water tanks are proposed on-site for firefighting purposes.

Overall, the proposal is considered to be consistent with the objectives and policies contained in Chapter RPROZ – Rural Production Zone.

Chapter NH – Natural Hazards

The following objectives and policies are relevant to the proposal:

NH-O2	*The significant risks from natural hazards and the effects of climate change on the community are minimised.*
NH-O3	*Any increase in risk to people, property, infrastructure and the environment from the effects of natural hazards should be avoided, remedied or mitigated, reflecting the level of risk posed by the hazard.*
NH-P9	*To ensure that subdivision, land use activities or other new development is located and designed so natural hazard mitigation activities are not required.*
NH-P10	*To promote the use of natural features, buffers and appropriate risk management approaches in preference to hard protection structures in mitigating natural hazard risk.*
Comment:	The south-western corner of the site is expected to be inundated in a 100-year event, and the western side of the site would be inundated if stop banks failed. As such, buffers are proposed on the south-western and western portions of the site to limit structures and buildings to reduce flood risk effects.

	Throughout the remainder of the site, the solar panels will be installed above ground level, on piles, with wide spacing between them (between six to eight metres). The largest site coverage (35%) will occur when the panels lie flat. The site below the panels will be permeable, meaning that the site will remain permeable for stormwater and flood waters to soak into, and as such natural hazard mitigation is not required. The other proposed buildings (substation switch room, inverters, site office) will not be permanently habitable, and their location is away from the site boundaries adjacent to other landowners, so it is unlikely that they will redirect flood water in a manner that would result in additional impacts on neighbouring properties. Due to the reasons above, the proposed development is to be undertaken in a manner that will minimise the effects of significant risk from natural hazards and the effects of climate change.

Overall, the proposal is considered to be consistent with the objectives and policies contained in Chapter NH – Natural Hazards.

7.2 Weighting Between Operative District Plan and Proposed District Plan

As noted above, the Proposed District Plan is now treated as operative, but any provisions that are subject to appeal must also be evaluated against the equivalent provision in the Operative District Plan. NH-O3 and NH-P9 are under appeal, so the equivalent objective and policy will be evaluated below. The remainder of the objectives and policies in the Proposed District Plan are not subject to appeals and are therefore operative.

There is no objective or policy contained in the Operative District Plan that relates to land use activities being located or designed so natural hazard mitigation activities are not required (NH-P9). The appeal in relation to NH-P9 (ENV-2023-AKL-000121) notes that 'this policy fails to recognise that mitigation is an appropriate means of managing potential significant risks from natural hazards…' As no flooding mitigation is proposed as part of the application, the appeal does not impact the proposed assessment above. The equivalent objective and policy in relation to NH-O3 is assessed below.

7.3 Central Hawke's Bay Operative District Plan

3.4 Natural Hazards

Objective 3.4.1.1	*Avoid loss of life, and minimise damage to assets or infrastructure, or disruption to the community of the District, from natural hazards.*
Policy 3.4.2.1.3	*To ensure buildings are constructed appropriately to avoid or mitigate the risks associated with flooding, earthquake and fire, and hazards at the coast.*
Comment:	The south-western corner of the site is expected to be inundated in a 100-year event, and the western side of the site would be inundated if stop banks failed. As such, buffers have been proposed on the south-western and eastern portions of the site to

	avoid loss of life, to minimise damage to assets and infrastructure, and to avoid disruption to the community, from natural hazards. The solar panels will be installed on piles with wide spacing between them (between six to eight metres). The maximum site coverage will occur at noon, and this will be 35%. As such, the buildings will be constructed throughout the site appropriately to avoid the risks associated with flooding.

Overall, the proposal is consistent with the relevant objective and policy contained in Chapter 3.4 of the Operative District Plan.

7.4 Overall Objectives and Policies Conclusion

For those reasons outlined above, it is considered that the proposal is consistent with all relevant objectives and policies of both the Central Hawke's Bay Proposed and Operative District Plans.

7.5 Hawke's Bay Regional Policy Statement

The Hawke's Bay Regional Policy Statement (RPS) provides an overview of the resource management issues of the region, and the ways in which management of the region's natural and physical resources will be achieved. It provides policy direction through objectives, policies and methods but does not contain rules.

There are no provisions in the RPS that relate specifically to renewable electricity generation. There is a section on physical infrastructure that notes that while most of the region's physical infrastructure relies on the use of the land resource, making the effects a matter for District Council's to manage, the RPS can provide support when there are regional benefits. As such, the following objectives are relevant to the proposal:

- Objective 32: The ongoing operation, maintenance and development of physical infrastructure that supports the economic, social and/or cultural wellbeing of the region's people and communities and provides for their health and safety.

- Objective 33: Recognition that some infrastructure which is regionally significant has specific locational requirements.

- Objective 33B: Adverse effects on existing land use activities arising from the development of physical infrastructure are avoided or mitigated in a manner consistent with Objectives 16, 17, 18, 32 and 33.

As noted above, there will be significant economic benefits from the proposal, as the solar farm will result in an approximate $150 million investment to the region. The 12-month (approximate) construction period is anticipated to generate significant employment opportunities, as well as a smaller number of full-time equivalent roles during the solar farm's operational period.

Also noted above, there are specific locational requirements of the proposal as the solar farm needs to be close to a substation or transmission network, have adequately flat land, significant sunshine hours, be of a sufficient size, and be free of any ecological, historical and cultural constraints.

The proposal will include mitigation measures to ensure the effects on existing land use activities are mitigated. As such, the subject site is an appropriate location for the proposal.

Overall, the proposal is considered to be consistent with the Regional Policy Statement.

7.6 National Policy Statement for Renewable Energy Generation 2011

The National Policy Statement for Renewable Energy Generation 2011 (NPS REG) sets out the objective and policies for renewable electricity generation under the RMA. The NPS REG came into effect on 13 May 2011.

The NPS REG notes:

- Renewable electricity generation, regardless of scale, makes a crucial contribution to the well-being of New Zealand, its people and the environment, and any reductions in existing REG will compromise achievement of the Government's renewable electricity target of 90% of electricity from renewable sources by 2025; and
- The development, operation, maintenance and upgrading of new and existing renewable electricity activities throughout New Zealand, and the associated benefits of REG, are matters of National Significance.

The NPS REG contains one 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.

Policies A, B, C and D of the NPS REG are relevant to the proposal:

a. Recognising the benefits of renewable electricity generation activities.

b. Acknowledging the practical implications of achieving New Zealand's target for electricity generation from renewable resources.

c. Acknowledging the practical constraints associated with the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities.

d. Managing reverse sensitivity effects on renewable electricity generation activities.

When considering the objective and policies, the following is noted:

- The proposal will support New Zealand's national commitments of 100% renewable electricity by 2030, 50% of total energy consumption from renewable sources by 2035 and net zero carbon emissions by 2050.
- The proposal will result in an array of benefits as it will create enough clean, renewable electricity to power the equivalent of 29,000 typical New Zealand homes annually. This increased resilience and diversification in power supply is significant and needed, especially

given New Zealand is forecasted to need 70% more power by 2050, given the rapid electrification in private vehicles, transport and industry sectors.

- Increasing New Zealand's solar energy resource will support the economy during periods when power from other renewable energy sources (such as wind and hydropower) is not sufficient to meet demand. For example, during periods of low wind and rainfall, which would impact hydropower or wind sources.
- It is acknowledged that to achieve the Government's national target, there is a need for new renewable electricity generation activities to be incorporated into the landscape and District.
- There are many constraints associated with the development of new electricity generation activities. However, the subject site has been selected due to its solar resource, proximity to the Waipawa substation, flat topography and availability of land. Further, there are no cultural or natural constraints identified through site assessments that impact the ability of the site to be utilised for this purpose.
- The solar farm activity is not considered to be a sensitive activity. As such, the proposal will be compatible with the existing rural and rural residential environment, and it is anticipated that the solar farm will not result in the potential for reverse sensitivity effects.

Overall, the proposal is considered to be consistent with the objective and policies of the NPS REG.

7.7 National Policy Statement for Highly Productive Land 2022

The National Policy Statement for Highly Productive Land 2022 (NPS HPL) seeks to protect highly productive land for use in land-based primary production both now and for future generations. To achieve this objective, the NPS HPL provides a framework that protects highly productive land from inappropriate subdivision, land use and development.

Highly Productive Land is currently classified as LUC Class 1, 2, or 3, as mapped by the New Zealand Land Resource Inventory. Class 1 is the most versatile, productive and has the fewest limitations.

The south-eastern portion of the site contains LUC Class 2 soils, and the north-western portion of the site contains LUC Class 1 soils (refer to Figure 2). This land is currently utilised for sheep and beef farming, with small amounts of cropping. The remaining soil is classed as LUC Class 4, and is therefore not defined as highly productive.

Part 2 of the NPS HPL contains an objective and policies. An assessment of the proposal against the objective and relevant policies of the NPS-HPL is below.

Objective	*Highly productive land is protected for use in land-based primary production, both now and for future generations.*
Policy 1	*Highly productive land is recognised as a resource with finite characteristics and long-term values for land-based primary production.*

Policy 2	*The identification and management of highly productive land is undertaken in an integrated way that considers the interactions with freshwater management and urban development.*
Policy 4	*The use of highly productive land for land-based primary production is prioritised and supported.*
Policy 8	*Highly productive land is protected from inappropriate use and development.*
Policy 9	*Reverse sensitivity effects are managed so as not to constrain land-based primary production activities on highly productive land.*
Comment:	Only a small portion of the proposal will take place over LUC Class 1 land. The proposal has been stepped in along the south-eastern portion of the site to avoid 26ha of LUC Class 2 land which will remain in traditional farming use, predominantly cropping and beef. In addition, the land area adjacent to 162 Taylor Road has been removed from the site layout as it is 50% LUC Class 1 soils. The solar site has been designed to allow for this ongoing activity with a wider access track through the site for stock movement and machinery. The site currently supports an existing primary production activity (sheep and beef grazing with small areas of cropping). The addition of the solar farm to the site will retain the ability for sheep grazing, as this activity will be able to co-exist with the operation of the solar farm. As such, the highly productive land will continue to be used for primary production as part of the wider farming operations of the landowners. The solar panels are installed by pile driving and can be removed easily, as there is no concrete foundation. Helios has commitments in the lease agreement that as part of the solar farm decommissioning, the land is returned to its original state. This means that the potential for alternative highly productive land uses by future generations is not limited.

Part 3 of the NPS HPL sets out a non-exhaustive list of things that local authorities must do to give effect to the objective and policies.

Section 3.9 relates to 'protecting highly productive land from inappropriate use and development'. Under Section 3.9 (1) Territorial Authorities must avoid the inappropriate use or development of highly productive land that is not land-based primary production. Section 3.9 (2) sets out the circumstances in which a use or development of highly productive land is inappropriate except where at least one of the criteria is met.

In the context of the proposal, it is considered that criteria 3.9(2)(j)(i) is applicable. An assessment of this criteria is undertaken in the following table.

Table 5: Assessment of proposal against Criteria 3.9 (2) of the NPS HPL.

Clause 3.9(2) Criteria	Assessment of Criteria
3.9(2)(j) it is associated with one of the following, and there is a functional or operational need for the use or development to be on the highly productive land: (i) the maintenance, operation, upgrade, or expansion of specified infrastructure	Specified Infrastructure is defined under the NPS HPL as '*…Infrastructure that delivers a service operated by a lifeline utility: Infrastructure that is recognised as regionally or nationally significant in a National Policy Statement, New Zealand Coastal Policy Statement, Regional Policy Statement or Regional Plan…*' The need to develop, operate, maintain and upgrade renewable electricity generation activities throughout New Zealand is recognised as being nationally significant under the NPS for Renewable Electricity Generation 2011. As such, the proposal is for the construction and operation of a solar farm which is considered to be 'specified infrastructure'. As discussed throughout this application there is a functional and operational need for the solar farm to be developed and operate in this location. A summary of these reasons is below: • There is a need for the proposal to be close to a substation or transmission network with available capacity. • Adequate flat land is required. • Sufficient area available to lease to develop a solar farm of a size which is viable and will make a meaningful impact to the generation of renewable energy. • Free of ecological, heritage or cultural constraints with suitable geology for the steel piles upon which the solar panels are installed. • High solar resource[3] and limited shading from natural features such as mountains is required.

For the reasons assessed above, it is considered that the proposal is an appropriate use of highly productive land.

Further, it is noted that the Ministry for the Environment (MfE) are currently consulting on potential amendments to the NPS HPL. Of particular relevance to this application is the potential amendment to Clause 3.9(2)(j)(i) (assessed above), which currently considers that use or development of highly productive land is inappropriate unless one of the exceptions is met. One of these exceptions is 'the maintenance, operation, upgrade or expansion of specified

[3]Solar resource relates to the amount of renewable energy that can be generated. The site has an expected annual average global horizontal irradiance (GHI) of 1394 kMw/m^2 which is considered to be a strong solar resource. Source of solar resource data: Solargis.

infrastructure', which has in some instances been interpreted by decision makers to not include '**new'** specified infrastructure.

The potential amendments seek to clarify that Clause 3.9(2)(j)(i) is intended to capture 'new' specified infrastructure with the insertion of the word '**construction'** into this clause. MfE's discussion document identifies that there is significant demand for additional renewable electricity generation in New Zealand. While it is acknowledged that this is a discussion document that has no legal weighting, we do consider that the feedback being sought on the proposed changes to the NPS HPL demonstrates that intent for a consent pathway for 'new' specified infrastructure on highly productive land could be forthcoming.

In addition to the above, Section 3.9(3) of the NPS HPL sets out that Territorial Authorities must take the following measures to ensure that any use or development on highly productive land:

a. *minimises or mitigates any actual loss or potential cumulative loss of the availability and productive capacity of highly productive land in their district; and*

b. *avoids if possible, or otherwise mitigates, any actual or potential reverse sensitivity effects on land-based primary production activities from the use or development*

While there are areas of LUC Class 1 and 2 soils included as part of the proposal, only a small portion of LUC Class 1 land will be constructed on, and this class has the highest grading under the NPS HPL. The proposed southern boundary has also been stepped back to avoid construction over the entire LUC Class 2 soils. The design of the solar farm has also allowed for access to these areas, to avoid fragmentation of these soils.

The solar farm activity will allow for the continuation of a primary production activity on the site, as sheep will be able to graze around and underneath the solar panels. A Productive Capacity Assessment has been prepared by AgFirst (refer to Appendix 15). This Assessment notes that site investigations found that approximately 25.38 hectares of LUC Class 2 land on the site is subject to significant constraints due to a lack of topsoil and very gravelly conditions, and approximately 3.17 hectares of the LUC Class 1 soil on the site is subject to a very shallow gravel pan. In addition, soils throughout the centre of the site are prone to drought impacts due to their gravel composition. The high levels of gravel at the surface, and lack of topsoil, restricts the use of these areas as machinery cannot be used effectively, and the lack of topsoil limits the duration in which high quality pasture can be grown.

The Productive Capacity Assessment notes that the proposal comprises a maximum of 10.21 hectares of LUC Class 1 land and 18.05 hectares of LUC Class 2 land that is largely free of constraints. Within this 28.26 hectares of constraint-free land (which equates to approximately 11% of the site) there will be a maximum shading area of 35% due to the placement of the solar panels when they are parallel to the ground, meaning a total of 9.89 hectares of highly productive land may see a reduction in sunlight, which is less than 5% of the site.

The Productive Capacity Assessment notes that pasture quality can actually be improved under shaded areas, and research shows that the average liveweight gains of lambs per head are no different between land shaded by solar panels, and open pasture. Overall, it is concluded that sheep can be successfully grazed within the site, and the solar farm operation will not result in any loss or potential loss of the availability of highly productive land.

Sunlight and rainwater will still reach the soil given the panels rotate throughout the day. In addition, the panels can be removed given they are pile driven into the ground and the land will be returned to its original state, making it available for use by future generations.

No reverse sensitivity effects are anticipated on the existing adjacent primary production activities, and the solar farm will not compromise the use of adjacent land for land based primary production activities. The proposal is considered to meet 3.9(3) of the NPS HPL.

Overall, for the reasons assessed above, the proposal is not considered to be an inappropriate use or development of the highly productive land within the subject site and therefore is not contrary to the objective of the NPS HPL.

7.8 National Policy Statement for Freshwater Management 2020

The National Policy Statement for Freshwater Management 2020 (NPS FM) sets out the objectives and policies for freshwater management under the RMA.

The Hawke's Bay Regional Council has confirmed that their mapping systems do not identify any wetland areas on the site. In addition, drone imagery does not identify any wetland areas. As such, further assessment against the NES FW is not considered to be required.

7.9 National Policy Statement for Indigenous Biodiversity 2023

The National Policy Statement for Indigenous Biodiversity 2023 (NPS IB) came into effect on 4 August 2023 and applies to all indigenous biodiversity throughout New Zealand, other than indigenous biodiversity in the coastal marine area and aquatic indigenous biodiversity.

The subject site does not contain any known indigenous biodiversity or significant natural areas. As such further assessment of the proposal against the NPS IB is not considered to be required.

8 Statutory Assessment

8.1 Section 104(1)(c)

Under Schedule 4 of the RMA, a consideration of alternatives is required where there is the potential for a project to have significant adverse effects on the environment. As assessed at sections 5 and 7 above, the proposal is considered to have less than minor effects on the environment, and less than minor effects on any persons.

For completeness, the following provides additional context to the selected project location and an overview of how alternative locations have been considered.

Solar farms of a scale that will make a meaningful contribution to New Zealand's renewable energy supply have specific technical and commercial criteria which dictate where they can be feasibly developed, including but not limited to the following:

- Medium to high solar resource and limited shading from natural features such as mountains.
- Flat land (less than a 5-degree slope) of a sufficient area to construct a solar farm.

- Proximity (<5km) to a cost effective and unconstrained point of grid connection.
- A site which enables a solar design free of ecological, heritage or cultural constraints.
- Consideration of surrounding land uses and the potential visibility of the site from existing residential properties.
- Landowners who are willing to lease all or part of their property (which satisfies the criteria described above) to host a solar farm.

The subject site is considered a suitable option for the proposal as it benefits from the following:

- Sufficient flat land with some existing boundary vegetation screening which will be retained through the project.
- Close proximity to the Waipawa Substation.
- Willing landowner partners for the solar farm, which can operate alongside ongoing agricultural uses of the wider farm.
- No planning overlays or waahi tapu sites identified on the District Planning maps or through conversations to date with Te Mana Taiao o Tamatea.
- A sufficient size to support a solar project which will utilise the capacity Helios has secured through Transpower at the Waipawa substation, in order to make a meaningful contribution to New Zealand's energy targets as supported by the National Policy Statement for Renewable Energy Generation.

Following multiple site visits, including detailed drone mapping, the project boundaries were refined further to exclude:

- The northern portion of the site, to limit views of the solar farm from the wider environment.
- The south-western and western portions of the site, to avoid flood hazards.
- The south-western and northern portions of the site, to avoid large areas of highly productive land.

The type of solar panel system (one panel in portrait orientation) has been selected to allow for significant spacing between rows (six to eight metres) while also maintaining a low profile with a maximum height of less than three metres. The solar arrays are specifically designed to allow sheep grazing between and underneath the solar panels as part of the long-term maintenance plan.

There are no other matters that the consent authority should consider in the determination of this application.

8.2 Resource Management Act 1991 – Part 2 Assessment

In achieving the purpose of the Act (Section 5) all persons exercising functions under it, shall recognise and provide for matters of national importance including the protection of historic heritage (Section 6), have particular regard to any other relevant matters (Section 7), and take into account the principles of the Treaty of Waitangi (Section 8).

Under Section 5 of the RMA, the proposed activity is a sustainable use of the existing rural land resource. Whilst not a primary production activity itself, the solar farm has a legitimate functional and technical need for its rural location. Furthermore, the proposal will allow for the continuation of sheep grazing on the site, which is a primary production activity. The solar farm will assist in the generation of renewable energy which will provide for current and future generations, without adversely affecting the life supporting capacity of the rural land resource.

The proposal will not adversely affect any matters of national importance listed under Section 6 of the RMA. The site is not within an area mapped as an outstanding natural feature or landscape and it has been established that the proposal is appropriately located within the existing rural landscape.

Section 6e requires recognition and provision for Māori relationships, culture and traditions with their ancestral taonga, in decision-making. Consultation has been undertaken and is ongoing with Te Mana Taiao o Tamatea to their inclusion and recognition and protection of cultural values in this environment.

Section 7 sets out other matters that must have particular regard to. Of relevance to this application are the maintenance and enhancement of amenity values (s7(c)), the quality of the environment (s7(f)), the effects of climate change (s7(i)) and the benefits to be derived from the use and development of renewable energy (s7(j)). As concluded above, it is considered that amenity values will be maintained while concurrently realising the benefits of renewable energy generation.

Section 8 requires that the principles of Te Tiriti o Waitangi are taken into account. As part of the project development Helios Energy has consulted and engaged with Te Mana Taiao o Tamatea (the collective voice for nine of the Tamatea). A copy of the consultation summary is included in Appendix 17 and has been discussed above.

Having weighed these matters, it is considered that the proposal is consistent with the sustainable management purpose of the Act.

9 Proposed Conditions

Appendix 18 contains a list of proposed conditions to be implemented on the resource consent decision. These conditions have been discussed in the assessment of effects above.

We request the opportunity to review the draft conditions prior to the decision being issued.

10 Conclusion

This application is being made by Helios HKB Op LP (Helios Energy) for resource consent from Central Hawke's Bay District Council to construct and operate a solar farm at 126 Taylor Road (Lot 4 DP 568563), Lot 1 DP 27344 and Lot 2 DP 21496, Ongaonga ('the site').

Section 5 of this application provides a detailed assessment of the actual and potential effects of this proposal on the environment. The conclusions reached in this assessment are that all actual and potential effects on the environment will be less than minor.

Section 6 of this application provides a detailed assessment of the actual and potential effects of this proposal on all adjoining persons. The conclusions reached in this assessment are that all actual and potential effects on any person will be less than minor.

Sections 7 and 8 of this application undertakes a detailed assessment of the proposal against relevant strategic planning framework including the provisions of the District Plan, higher order policy documents, and Part 2 of the RMA. It is considered that the proposal is consistent with

Appendix 1

Records of Title

Appendix 2

Records of Title Summary

Appendix 3

Site Development Plans

Appendix 4

Solar Panel Elevations

Appendix 5

Substation Building Plans

Appendix 6

BESS Specification

Appendix 7

Pole Design

Appendix 8

Integrated Transport Assessment

Appendix 9

Construction Methodology

Appendix 10

Landscape Assessment

Appendix 11

Graphic Attachments

Appendix 12

Glint and Glare Study

Appendix 13

Acoustic Assessment

Appendix 14

Flood Risk Assessment

Appendix 15

Productive Capacity Assessment

Appendix 16

Land Management Plan

Appendix 17

Consultation Summary

Appendix 18

Proposed Conditions of Consent