

8 October 2022

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Dear Aimee

Re: Proposed Mangamaire Road Solar Farm by Energy Bay Ltd Peer Review of Landscape Assessment Report by Rough Milne Mitchell Ltd

Further to your instructions, I have undertaken a peer review of the proposed Solar Farm to be located at 410 Mangamaire Road, Pahitatua, in regard to potential landscape and visual effects.

My review has principally considered the Landscape Assessment Report prepared by Rough Milne Mitchell Ltd (the "LAR"), dated 8th September 2022, but I have also considered commentary within the AEE prepared by Planz Consultants, dated 23rd September 2022.

I have undertaken this review in accordance with guidance published by the New Zealand Institute of Landscape Architects, Te Tangi a te Manu¹, specifically sections 6.57 to 6.63 that are relevant to Peer Reviews. My peer review has been a desktop review only, although I am familiar with the general area and have visited this part of the landscape previously for other project related work.

LAR Methodology

Section 1 of the LAR provides a detailed overview of the methodology adopted for the assessment, noting that it follows the 'final draft' of Te Tangi a te Manu – principally this is because the guidelines were formally published about the time that the LAR was completed. I can confirm that the published

¹ Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines, Tuia Pio Ora New Zealand Institute of Landscape Architects, July 2022.

version is the same as the final draft version, and that the author and both reviewers of the LAR are noted as contributing to the development of the guidelines.

The seven-point scale adopted is consistent with best practice, including the conversion to RMA terminology for the purposes of notification or non-complying activities.

It would have been useful to provide examples of how the rating scale is applied – this would help understand the parameters around the assessment process. As I will outline below, I have some concerns about the way in which the report assesses the types of effects, and how this relates to the scale used (in this peer review I have used the same seven-point rating scale as the LAR). Therefore, I will provide later in my report my own examples of how the rating scale can be applied.

The LAR notes that a site visit was undertaken by the author on the 9th of January, 2022.

Overall, I am of the opinion that the LAR has generally followed a best practice methodology, but I find that it becomes confused over the difference and assessment of landscape and visual effects. I will address this further below.

The Proposal

Section 2 of the LAR provides a thorough overview of the solar farm proposal, and it is supported by a detailed Graphical Attachment which contains plans and images. The intricacies of the proposal are clear, specifically the manner in which the panels will move to follow the sun, and how this potentially leads to variable effects. It would have been useful to more clearly identify the road names in the maps.

The graphical material is well structured and easy to follow, although it is a little confusing having photographic images both within the body of the document and separately in an appendix. Nevertheless, the images are clear and helpful at illustrating the points discussed within the document.

I note that no visual simulations have been prepared, however, based on the assessment these would only provide images of the proposed screening, rather than any of the solar panels. In this instance, I consider there is enough discussion within the assessment to understand the level and nature of effects, and visual simulations are not necessary.

Overall, I consider that the author of the LAR has sufficient knowledge of the proposal to make an accurate assessment of effects.

Planning and Policy Provisions

Section 3 of the LAR provides a relatively detailed overview of the relevant planning provisions, specifically those within the Tararua District Plan ("the Plan"). It notes the rural zoning and that the



site is not identified as an Outstanding Natural Landscape, and various policies within the Plan that are relevant to the landscape effects assessment of a solar farm.

The LAR does not refer to other statutory policy which potentially has relevance, notably the National Policy Statement for Renewable Energy Generation (2011), the National Policy Statement on Electricity Transmission (2008), and National Environment Standards for Freshwater Regulations (2020). However, these are broadly covered in the AEE and the assessment provides enough of a commentary that responses to these statements can be easily inferred.

Overall, I consider that the author of the LAR has sufficient knowledge of the planning and policy basis under which the proposal will be assessed.

Existing Landscape

Section 4 of the LAR provides a very detailed overview of the existing landscape around the proposal. This initially provides a descriptive overview of the landscape character, but the landscape is then assessed at a deeper level in terms of its underlying values. It notes the high overall rural character values, contributed to by associated values of openness, expansiveness, lack of built form, natural character and legibility, and describes the site as part of a much larger "working landscape".

I concur with this assessment. The site and surrounds epitomise the Waiararapa rural landscape, this being the green pastures, fenced paddocks, the presence of exotic vegetation, and the relatively low built density. Long, open views are common, although within the Mangatainoka valley I note that these are more often broken up by shelterbelts and the gently rolling topography.

Overall, I consider that the author of the LAR has sufficient knowledge of the site and locality, and its landscape values and sensitivities, to make an informed assessment of the proposal.

Assessment of Landscape and Visual Effects

Potential Issues

Section 5 of the LAR addresses potential landscape and visual effects of the proposal, beginning with an overview of the "Potential Issues". I find this section a little misleading, as it is not an assessment per se, but rather an introductory statement or summary of potential effects.

Nevertheless, this section draws attention to what I consider are the key potential considerations in terms of landscape and visual effects, these being:

- Impacts on the open rural landscape values, which are identified to have very low absorption capacity;
- ▶ The potential "industrialisation" of the landscape;
- ▶ The introduction of built form and the impact of this on natural character values;

- Glint, glare and reflectivity (noting this is largely considered in another report by other experts);
- ▶ How to manage site security; and
- ▶ The proximity of 8 residential dwellings to the site.

I broadly agree that these are the key issues to be explored.

The assessment then goes on to outline that solar farms are relatively new activity within New Zealand, and as such the proposal may be considered by some as a positive outcome, or beneficial due to their nature as a source of renewable energy. I accept that this could be the case, however I also note that in more recent months there has been negative press about solar farms, especially on productive grazing land. I recommend that the somewhat uniqueness of the proposal should not be a matter that is factored into the assessment of actual effects.

I'm also not certain it is helpful to consider the panels to have a similar effect to an expanse of glasshouses. I can understand the similarities of form, when the panels are tilted, but the colouring and spacing of the panels is somewhat different to a row of glasshouses, plus also the function of glasshouses is evidently connected to primary production. As the LAR notes, there are no such expanses of glasshouses in the rural landscape anywhere in the vicinity of the site, and so it is not something that is familiar. Therefore, although glasshouses are generally considered to be a permitted activity under the Plan, in my opinion, it should not be directly inferred that this could be a baseline of effects for a solar farm.

Effects Assessment

The LAR considers landscape effects after the assessment of visual effects, however I usually find it more useful to consider these the other way around (as visual effects are a subset of landscape effects). I find that there is quite a degree of repetition in the report as a result of the way in which it has been structured. Also, I find the report somewhat confused between the two types of effects, even though it provides definitions.

My experience and understanding of Te Tangi a te Manu is that landscape effects, in essence, result in from a change in the character or value of a landscape. Thus, interpreting a seven-point scale in regard to landscape effects of a solar farm, a very-high rating (in my opinion) would represent a situation where a proposal would result in direct, extensive change to landform or land-cover (such as extensive land modification to create platforms for the panels), particularly within a landscape that has limited existing modifications. In addition, a very-high rating would be applied if the proposal fundamentally changed the underlying character of a place – for example introducing a strongly industrial or urban character to a rural landscape. A very-low rating would represent a situation where a proposal would have only a small impact on landform or land-cover, was situated in a landscape that was already highly modified and relates to works that are generally in character with the existing landscape.

As the LAR identifies, visual effects are related to the way in which people view or visually experience the landscape. Interpreting the seven-point scale in terms of visual effects, a very-high rating would (in my opinion) represent a situation where the proposed solar farm would become the key, dominating element in the primary view from a particular viewpoint, likely in the foreground, making the appreciation of other aspects of the view difficult to achieve (that is, a viewer would find themselves always looking towards the solar farm and having to consciously look away). A very-low rating would represent a situation where the proposed solar farm might be partially visible from a particular viewpoint, but it would be subservient to other aspects of the view and likely partially (or largely) obscured by foreground elements (or could be obscured using vegetation on the site).

It's important to recognise that visual effects need to be considered in terms of the whole view – during an assessment process it is easy to focus solely on the proposed site only, and not consider views in other directions which may be more interesting or captivating.

Generally, visual effects are best described from key viewpoints, such as public roads or from private dwellings. This is not to say that visual effects are not experienced from privately owned farmland, but such effects are usually captured by the assessment of change to the landscape. In terms of visual amenity, effects from working parts of a farm should (in my opinion) be given a lower weighting that views from, say, a person's living room or outdoor living area.

Landscape Effects

The LAR identifies that the "absorption capacity" of the landscape is *low*. This means that any changes to the character of the landscape are likely to be easily noticed and not easily mitigated. I agree, the landscape has a generally open character with production based on grazing, with few built forms. Introducing structural forms will be at odds to the underlying character.

In my opinion, the proposal will result in a change in landscape character by introducing a large area of built forms. Whilst there are other built in the wider landscape, the solar farm will become a noticeable, eye-catching, and unique element of the wider landscape. As identified above, I don't consider it will look anything like rows of glasshouses, but I do accept that if glasshouses were present in the surrounding area (noting they are potentially permitted under the Plan), then the degree of change in landscape character would be reduced.

I also consider that such a change is not necessarily considered adverse or inappropriate. I agree with the LAR that the wider landscape is highly modified, used extensively used for primary production. The built forms relate to the working environment, and electricity infrastructure in the form of the adjacent Transpower switchyard and various overhead lines.

I agree with the LAR that, at a conceptual level, the proposal represents an additional type of primary production activity that features built forms and electricity infrastructure. However, rather than using

the land and soil for productive use, the proposal uses the sky and climate – a defining and integral element of this landscape – so, rather than farming food, the proposal farms energy.

And, much like surrounding activity, the solar farm specialises in its task, like the way paddocks and stock-lanes are carefully arranged, the solar farm is an optimised method of achieving the best yield from the site. These are not natural patterns; they represent ways in which people have manipulated the landscape resource to maximise productivity. The solar farm is, as its name suggests, a method of farming a resource.

The difference, of course, is that the solar farm will diminish the undeveloped nature of the site, introducing extensive built form. Whilst the site will continue to be grazed, ultimately the pastural character will be impacted.

Further, although the farm itself appears to be large, it sits within a very expansive landscape, located in an area that is not heavily populated or widely traversed. The low height of the panels means, as the LAR identifies, that it is only likely to be visible from the road corridors and properties opposite or immediately adjacent. For the casual traveller, this represents a small portion – less than a minute – of a wider journey across the landscape that takes in other productive rural land-uses and outward views.

The perimeter deer fencing and the flax shelterbelts will have a distinctly rural character. Although deer fencing is not common in the surrounding landscape, it does exist, and the construction of deer fencing is a permitted activity. As the LAR identifies, the flax shelterbelt is similar to others in the surrounding landscape. I make the observation from the Landscape Mitigation Plan that the proposed deer fence will be located inside the flax shelterbelt (that is the shelterbelt will be directly adjacent to the road). This is, in my opinion, the correct response, as this would be how a typical fence around a grazed property would be established. However, I recommend that this is confirmed, as installing the other way around (the shelterbelt inside the fence) is likely to increase the level of landscape effects.

The LAR report identifies that signage will need to be added to the fence, but does not identify the extent of such signage. Electrical hazard signage will, unfortunately, detract from the rural character (fences are not typically covered in signs) but it is understood that this is required. It is recommended that a signage plan be submitted for review prior to construction.

The opportunity to enhance the wetland is a positive landscape outcome. This will be fully fenced to prevent stock access to the waterway, with low-level riparian planting providing shade cover and habitat (tall trees can't be used as these will impact the efficiency of the solar panels).

Pulling all of these factors together, in my opinion the landscape effects (after full establishment of the flax shelterbelts) will be *low-moderate*. The farm represents a change in the activity and character of the site and will certainly be perceived as different and unique. It contains built form that will diminish the pastoral character of the site. However, it is located in an expansive, generally flat rural landscape

that has been highly modified to achieve optimised production. At its core, it is no different to other farming activity, utilising the environmental resource as efficiently as possible, with the exception of the retention of grass under the panels to help retain a pastoral connection. The proposal also contains some positive landscape outcomes, including the wetland restoration.

I disagree with the LAR that landscape effects will diminish over time as people become familiar with it. The landscape effect remains, irrespective of whether it is accepted (or not) – the proposal has and will continue to result in a change to the underlying character of the landscape. Landscape effects will only diminish as a result of the establishment of the flax shelterbelt, which has a character similar to other shelterbelts in the wider area. The LAR does not appear to provide a timeframe around this establishment, noting only that it is to be planted "within the first winter season once the resource consent has been approved and the security fence erected".

My assessment of the growth of similar shelterbelts in the Waiararapa landscape is that it will take approximately 4-5 years for the it to establish. On this basis, I consider that if the proposal is constructed within this time, then landscape effects are likely to be greater during this period, due to a greater extent of the solar farm being visible (and also its more industrial characteristics, the supporting brackets). In this regard, I concur with the LAR that landscape effects during this period will be *moderate*, reducing as the shelterbelt grows to *low-moderate*.

I disagree that beyond this landscape effects will continue to diminish (the LAR asserts they will eventually land at *low*). In my opinion, this can only be returned by future removal of the panels.

Visual Effects – Private Locations

The General Arrangement Plan contained in the Graphic Attachment provides a list of 8 properties that are potentially visually affected by the proposal. It notes that some of these have provided written approval for the development, but the list provided does not match up with the written approvals contained within an Appendix 5 to the AEE. There is also is some discrepancy between the addresses identified and Council GIS data; and two properties opposite the proposal (albeit with no residential dwellings) are not listed.

Therefore, below, I have provided a table that cross-references the numbering on the GA Plan, the Council's GIS reference, and whether approval has been provided:



On the basis of the above, and the approvals provided, from private locations only three properties require an assessment of visual effects. I note that the LAR provides an assessment of 431 Mangamaire Road, but this is identified on the GA Plan as property "B", located at 500 Mangamaire Road. Based on my review of the Council GIS, I understand that this property is actually a second dwelling that is located on the same property as 451 Mangamaire Road (property "A") – and I note that approval has been provided from this landowner.

The LAR does not provide an assessment of 346 Mangamaire Road (Figure 1), which shares a boundary with the site. No landscape mitigation is proposed along the shared boundary. Noting that I have not visited the site (this is a desktop peer review), my assessment of the visual effects on this property is guided by Google Street View and the Council GIS Aerials. From these, it is apparent that whilst the property enjoys a relatively open landscape, with views stretching outward from the road, round to the north and to the hills on the west, the southern boundary (shared with the site) has been planted with a pittosporum shelterbelt. This shelterbelt extends approximately to the curtilage/garden edge, and appears to be 3m in height (using the height of the vehicles as a guide).

As a result, from ground level (and it is a single storey dwelling), direct views towards the site to the south are unlikely. There may be some views to the southwest, through the open paddock on the west side of the house. However, in the mornings and evenings, the 4.45m tilted angle of the solar panels is likely to be visible over the top of the shelterbelt, particularly from the garden area on the northern side of the house where the viewing angle is more acute.



Figure 1: 346 Mangamaire Road

The proposal will also be visible across Mangamaire Road to the east. The front yard in front of the dwelling is open to the road, and therefore views will be direct to flax shelterbelt proposed along the road boundary with the site. Once it is established, this shelterbelt will screen the bulk of the solar farm, but the panels will be visible in the morning and afternoons. The existing open landscape will be closed in, although potentially this could occur if a permitted shelterbelt or other permitted built form was established on the site. However, within the 4-5 years expected for the shelterbelt to fully establish (as estimated above), visual effects will be more significant as a greater extent of the solar farm will be directly visible.

The Glint and Glare report also does not provide a specific assessment on this property, however from the maps contained within that report, it appears this property will not be impacted by glint or glare. Additionally, shading of from the panels is unlikely as they are located to the south, the only chance for shading would be late afternoon in the summer, but my calculations are that the panels would be too far from the house and the sun would drop behind the western hills before a long shadow was created.

In addition, it is important to note that the property will be somewhat immersed in the development. Whilst open views will be retained to the north and west, it will be apparent to residents within the property that they are adjacent to the solar farm. The landscape effects described above will be very much experienced from this property, with resulting effects on overall visual amenity.

Based on my assessment of landscape effects, and the likely visibility of the proposal detailed above, I am of the opinion that this property will have a *moderate* level of visual effects resulting from the proposal, diminishing to *low-moderate* as the flax shelterbelt becomes established.

126 Tutaekara Road (Figure 2) is an undeveloped property (Lot 1 DP 401244) that is located opposite the property identified as H on the General Arrangement plan. A driveway connects this property with another property further to the north (Lot 2 DP401244), which suggests that the wider property has been subdivided and that Lot 1 has yet to be developed. As it hasn't been developed, it is not possible to determine where a future dwelling may be constructed, however there is a possibility it could be located directly opposite the site, on the north-western portion of the site.

From this location views to the site will be to the south, towards a flax shelterbelt to be established along the road boundary. Observations of surrounding built form within the landscape suggests that most dwellings also install shelterbelts around their property from the southerly weather, and orientate the main living spaces to the north. As such, any new dwelling on this property could be relatively easily designed to be visually screened from the bulk of the proposal. As such, I consider the visual effects on this property will be **very-low**.

268 Mangamaire Road (Lot: 1 DP: 564748, Figure 3) is part of a larger property, with a dwelling located further to the north on Mangamarie Road. Two farm sheds are located on the corner of Mangamaire and Tutaekuri Roads. From the layout of the property, I consider it unlikely that a dwelling would be constructed in the section of land that extends through to Tutaekara Road. However, if one were to be, I



Figure 2: 126 Tutaekara Road (Blue Outline)

would consider the effects to be very similar to 126 Tutaekara Road, described above.

I also note a section of the site that has been cut out, that has no address (Figure 4). From the title description (SEC 7: BLK: XIV SD: MANGAHAO) on Council GIS, it appears there is a connection between this property and the site (PtS: 150 Blk: XIV SD: MANGAHAO), however this is unclear. There is no assessment or mention of this property in the LAR or AEE. I note that the property has no dwelling on



Figure 3: 268 Mangamaire Road (Blue Outline)



Figure 4: Sec 7: Blk: XIV SD: MANGAHAO



Visual Effects – Public Locations

The LAR indicates that the proposal will be highly visible from Tutaekura and Mangamaire Roads within 300m of the proposed site. It confirms that from both roads the site will be prominent as a viewer passes by, particularly along the section of Mangamaire Road where the farm will be on both sides of the road.

The key points I note from the assessment are that the solar farm will reduce longer views across the rural landscape, there will be some "yellow glare" for short periods of time (in the evenings), and that generally the visual catchment is restricted locally. I concur with these observations and consider that also viewers from public locations will typically be moving through the landscape. Views across the wider landscape are already restricted in places, by shelterbelts, amenity planting and buildings. Nevertheless, as the LAR outlines there will be visibility of the tilted panels over the top of the shelterbelt in the mornings and evenings.

However, whilst the length of time and extent of farm that are visible are both relatively low, for local people who travel the surrounding roads regularly the solar farm is likely to become somewhat of a localised landmark. Particularly in the early stages of its development, it will likely draw specific attention away from other aspects in the landscape that might have ordinarily been the viewer's focus. In this regard, the farm will have a visual effect – it will alter how people view, and therefore appreciate the immediately surrounding landscape.

The extent of change is again, outlined in the landscape effects section of this assessment, as it relates to the change in landscape character and the introduction of built form. To mitigate this change visually, the LAR recommends the establishment of a flax shelterbelt along the road boundaries, noting that there are other such shelterbelts in the wider area. As identified, I consider that this will take 4-5 years to fully establish, and until such time visual effects of the proposal will be *moderate*.

However, I concur with the conclusion in the LAR that from a public viewing experience the visual effects will reach a *low-moderate* rating once the shelterbelt reaches full height, particularly from Mangamaire Road which splits the site in two. From further away, visual effects will be *low*.



Conclusions

I have undertaken a peer review of the Landscape Assessment Report prepared by Rough Milne Mitchell Ltd, dated 8th September 2022. In undertaking this I have also considered the AEE, the graphical material, the Glint and Glare report, and provided my own assessment of effects where I consider these have not been provided by the reports. I note that my assessment is desktop only, based on my historical knowledge of the area and imagery available from Google Maps and Council GIS Aerial Photography.

Both my peer review and the LAR have been informed by Te Tangi a te Manu, guidelines for landscape assessment that have been published by the New Zealand Institute of Landscape Architects. A seven-point rating scale has been used.

I am of the opinion that the LAR provides a solid assessment of the existing landscape baseline and the policy context, and provides a good overview of the proposal itself. The graphical material is lacking in a few places, but overall is of sufficient quality and contains enough information to inform the assessment.

However, I find that the methodology for assessing landscape and visual effects is a little confused, and I note that there are some errors in the identification of private properties adjacent to the proposal. As such, there is at least one property that will be subject to visual effects that has not been assessed and has not, to my understanding, provided written approval to the development.

Therefore, I have undertaken my own assessment using the information available, and come to the following conclusions:

- That the potential landscape effects of the proposal prior to the full establishment of the flax shelterbelts will be *moderate*. This is *consistent* with the conclusion in the LAR, and can be translated to *more than minor* if the proposal is constructed within 4-5 years of the flax shelterbelt being planted.
- ► That the potential landscape effects of the proposal following full establishment of the flax shelterbelt will be *low-moderate*. This is *consistent* with the upper rating within the LAR, and can be translated to *minor* once the shelterbelt reaches full height. I disagree with the LAR that landscape effects will continue to diminish below this rating as people become familiar with it.
- That the visual effects on 346 Mangamaire Road prior to the full establishment of the flax shelterbelt directly opposite will be *moderate*, diminishing to *low-moderate* as this shelterbelt reaches full height. translates from *more than minor* initially to *minor* over time. *The LAR has not provided an assessment of this property*, and I am not able to identify an Affected Party Approval form.

- That the visual effects on other residential properties that have not provided an Affected Party Approval will be very-low, translating to less than minor. The LAR has not provided an assessment of these other properties.
- That the potential visual effects of the proposal prior to the full establishment of the flax shelterbelts will be *moderate*. This is *not consistent* with the conclusion in the LAR which does not provide an assessment of visual effects prior to the full establishment of the shelterbelt. It can be translated to *more than minor* if the proposal is constructed within 4-5 years of the flax shelterbelt being planted.
- That the potential visual effects of the proposal following full establishment of the flax shelterbelt will be *low-moderate*. This is *consistent* with the upper rating within the LAR, and can be translated to *minor* once the shelterbelt reaches full height. From distances further away, effects will be diminished.

The LAR reaches an overall conclusion that the effects of the proposal will be *low-moderate* to *low*, however this is not consistent with the ratings it provides within the body of the report, noting that it identifies *moderate* effects before the full establishment of the shelterbelts. On this basis, I do not consider that the conclusions reached in the report can be considered consistent, and based on my own assessment I consider that they should not be relied upon to inform an effects based decision.

Taking this into consideration, and based on my own assessment based on the information made available, my opinion is that both landscape and visual effects will be *moderate*, or *more than minor*, in the initial stages of the development. Once the shelterbelts have established, these will reduce to *low-moderate* to *low*, or *minor* at the most.

These ratings can be applied to each of the objectives and policies within the Plan that refer to the maintenance and enhancement of amenity values; and avoiding, remedying or mitigating the adverse environmental effects of infrastructure.

Recommendations

Notwithstanding the above, I make the following additional recommendations:

- That, should resource consent be granted, a condition is placed that requires the establishment of the flax shelterbelt as prior to the construction of any solar panels. It may also be worth investigating if a lead-time is provided to help with the provision of this mitigation, such as "at least 3 years" prior;
- That, should resource consent be granted, a condition is placed that requires the proposed perimeter deer fence to be installed on the inside of the flax shelterbelt such that the shelterbelt is directly adjacent to the road reserve; and

► That clarification of the ownership of the land with the title PtS: 150 Blk: XIV SD: MANGAHAO is established, and if necessary an assessment of visual effects on this property undertaken.

I also note that if written approval is provided for 346 Mangamaire Road, the visual effects on this property can be discounted, but that the overall rating from public locations would be unaffected.

Aimee, should you require any further information in regard to this review, please do not hesitate to get in touch.

Yours sincerely

Shannon Bray Registered Landscape Architect

