



Noosaville Community Battery

Site Selection Report

Version: 1.0
February 2023

Acknowledgments

We would like to thank our colleagues at Yarra Energy Foundation (YEF) for generously sharing their experiences with us. We are also grateful to Annie Nolan, Carbon Reduction Officer at Noosa Council, who has been a valuable liaison between the council and the volunteers at Zero Emissions Noosa (ZEN).

Our Steering Committee members (Chris Wallin, Steve Fairless, Annie Nolan, Heather Smith, Sajeeb Saha, and Anne Kennedy) have provided us with steady oversight and knowledgeable input throughout the process, for which we are very grateful. We would also like to thank the ZEN volunteers who have given their time and energy to make this project a reality.

We would like to acknowledge the excellent work of Yarra Energy Foundation and PowerCor. Here are some links to their reports:

- PowerCor – [The Powerful Neighbours Report](#)
- Yarra Energy Foundation – [Final Report: Yarra Community Battery Project](#)
- Yarra Energy Foundation – Site Selection Criteria – private communication

We would also like to thank Energex and Energy Queensland for their help and guidance leading up to the submission and reply to a Preliminary Connection Enquiry for our 2 preferred sites. Thanks to Noosa Council staff for facilitating enquiries regarding access to council-owned land parcels, and to the four Noosa Councillors who attended our community engagement sessions and provided guidance, as well as thanks to our many volunteers.

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Version History

Version	Comment	Author	Status
0.1	First draft for review	Geoff Acton	Draft
0.2	Completed section for Kitty Noble Park and wording improvements, and included review comments from Annie Nolan and Ineke Acton	Geoff Acton	Draft
1.0	Included review comments from Ian Bell	Geoff Acton	Final

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Summary

Noosa Council as the applicant with partners the Yarra Energy Foundation consortium, and Zero Emissions Noosa, has prepared a grant proposal for the Australian Government's Community Batteries for Household Solar Program - Delivery of Election Commitments. The program's grant guidelines have nominated Noosaville as an eligible location for the installation of a community battery.

The ZEN team, on behalf of the partner organizations has prepared this report about the selection of the preferred site for the grant application.

To identify suitable locations, a thorough process has identified two preferred sites in the eligible area - McGregor Park and Kitty Noble Park. From these, McGregor Park has been identified as the preferred location for the installation of community batteries. However, the investigation suggests that Kitty Noble Park could be equally suitable.

A Preliminary Connection Request was submitted to Energex for the two locations. For each the reply advises that “our proposed connection is a ‘Negotiated Connection Service’. This means that when you make a connection application, you will need to negotiate the terms of the connection contract.”

Once the grant is awarded, more in-depth community consultations in the chosen areas and their surroundings will be undertaken. An agreement on land use and a connection agreement with Energex will be formalised. Additionally confirmation of non-assessable status for battery storage facilities will be made.

This summary should be read in conjunction with the Community Consultation Report, also written by ZEN on behalf of the bid team. The report describes the community consultation including door knocking and brochure letter box drops to all 178 houses in both catchment areas, the drop-in session held at each park, and the 28 responses to an online survey.

Background & Methodology

Introduction

Zero Emissions Noosa Inc.(ZEN) is a not-for-profit community volunteer organization that aims to achieve net-zero greenhouse gas emissions in Noosa Shire by 2026. The organization has been working closely with Noosa Council and Yarra Energy Foundation to prepare a grant proposal under the Australian Government's Community Batteries for Households Stream 1 grant program. The grant guidelines have designated Noosaville(ABS suburb/location) as an eligible location for the installation of a community battery.

This report outlines the site selection and assessment process for a possible community battery in the Noosaville 'eligible area', largely carried out by Zero Emissions Noosa. It should be read in conjunction with the report on community engagement, which outlines the process of seeking community input during one week in February 2023.

The site selection process

In the timeframe available, since the release of the grant guidelines on 17 December 2022, the team has gone through a process to identify preferred physical sites within the eligible area.

The list below shows the activities that needed to be completed leading up to the submission deadline of 24 February:

17 February

- Preferred site selected
- Preliminary connection enquiry
- Land access enquiry
- Community consultation writeup
- Site selection writeup (this document)

11 February

- Community consultation conducted in 2 preferred areas
- Door knocking, letterboxing, drop-in sessions in the 2 parks
- Posters designed and printed
- Energex PRE (Preliminary Connection Enquiry) submitted for 2 sites

4 February

- Volunteers meeting
- Areas mapped for door knocking, letterboxing
- Brochures designed and printed
- Check 2 preferred sites against Noosa Council mapping overlays – fire, flood, etc

30 January

- Shortlist 2 suitable sites
- Solar panel counts completed on potential areas (3) using Nearmap

16 January

- Methodology in place to determine houses served by a transformer and how to record solar panels counts (used Google MyMaps)
- Needed to acquire Nearmap license

9 January

- Determine broadbrush suitable areas of interest – 6 areas in the map above

Initially, the ZEN team identified six potential areas based on residential areas with high solar density, excluding industrial, commercial, tourist accommodation, and affluent residential areas.



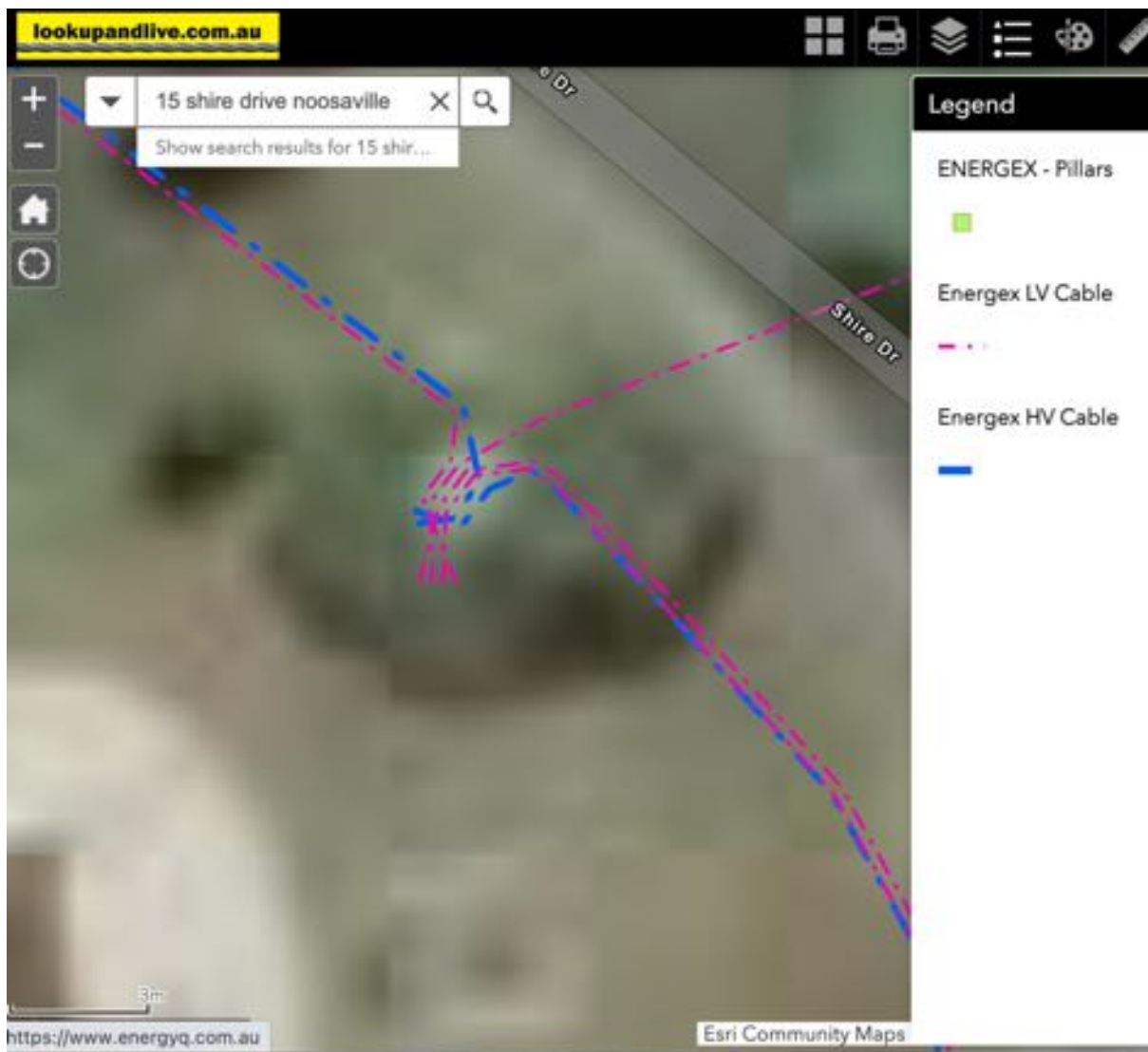
The process within the six areas was

- Locate the Energex distribution transformers (padmount or pole mount)
- Determine if there was suitable land adjacent to the transformer

Noting that our ex-Energex consultant advised that connection to padmount transformers is preferred, to simplify access to Low Voltage(LV) circuits.

We used a custom-built visualisation of publicly available Energex network infrastructure including distribution substations (add references) to identify their locations. It became apparent that the publicly available network data is incomplete.

We then used lookupandlive.com Whilst it doesn't display distribution transformers, the location of padmount transformers is relatively easy to determine by seeing where 11kV feeders end and zooming in you can visually identify the padmount and the 11kV and LV feeders that connect to it.



We then used a combination of maps (Google Maps, Google Earth & later Nearmap), Google Street View and drive-bys to identify suitably sized parcels of road reserve or Council land close to the transformers in the area. We did cursory checks for visual amenity / proximity to road or residential lot boundary. This eliminated many transformers.

Area	Comments
Bushlands Drive	All underground cabling. Drive-by confirmed some potential padmount transformer locations with potential land. There appeared to be a high penetration of solar in this area.
Lake Entrance Drive	Underground cables. Drive-by found a number of padmount transformers but many were too close to property boundaries or on narrow road reserves
Heritage Drive	Underground cables. High solar uptake. Padmount transformer in a large park. Potential to shortlist
Noosa Northrise	High solar uptake. Padmount transformer on edge of heavily vegetated area. Not further investigated due to need to remove vegetation
Weyba Road	Cables all overhead. Based on advice re padmounts would be easier, not further investigated
Lake Weyba Drive	Overhead cables. High solar uptake, but cursory observation that low numbers of houses connected to each pole transformer, so not further investigated

This narrowed the areas for consideration to Bushlands Drive and Heritage Drive. These areas all have underground power. Within these areas, we

- Identified houses that are served electricity by a padmount transformer
- Counted solar panels on every roof within the catchment area using Nearmap, refer to following example image



Due to time constraints, we continued investigating 2 padmount transformers and houses in their catchment area, based on these areas having high solar penetration, a suitable number of houses, and adjacent Council land.

Investigation activities included

- Conducting community consultation – brochures, door knocking & letterboxing, an online survey, advertised marquee/drop-in session in the parks
- Investigating with Council if parkland could be used
- Confirming with Energex if a connection agreement for a community battery could be pursued at the two locations.
- Checking against other criteria including noise, access, visual amenity, flood maps, other Noosa Plan overlays, disturbance of existing vegetation, and suitable distance from houses, playground equipment, roads (minimise risk of collision), etc

Assessment criteria

The Zero Emissions Noosa team used the assessment criteria developed by Yarra Energy Foundation to evaluate the two shortlisted locations, as mentioned in the Proposed Site sections. In a future stage these criteria could be converted into an online form to allow for other locations to be assessed by others including community groups.

Battery Storage Facilities – Planning Considerations

The Queensland Department of State Development, Infrastructure, Local Government and Planning has issued a document – “Battery Storage Facilities – Guidance for Local Government” which includes a section of Development assessment:

Schedule 6 of the Planning Regulation prescribes development that local categorising instruments are prohibited from stating is assessable development.

Schedule 6, section 26, Item 6 includes:

(6) Development for a battery storage facility if –

a) the facility is for a pad mounted battery storage device only and the total area of the premises covered by the facility is no more than 15m²; or

b) the facility is for a pole mounted battery storage device only and the total volume of the device is no more than 2m³.

The effect of this provision is that certain small battery storage facilities that meet the above requirements cannot be categorised as assessable development by a local planning instrument. It does not negate the need to comply with all other relevant laws or standards including for example, electrical safety, or workplace health and safety.

Energex Connection

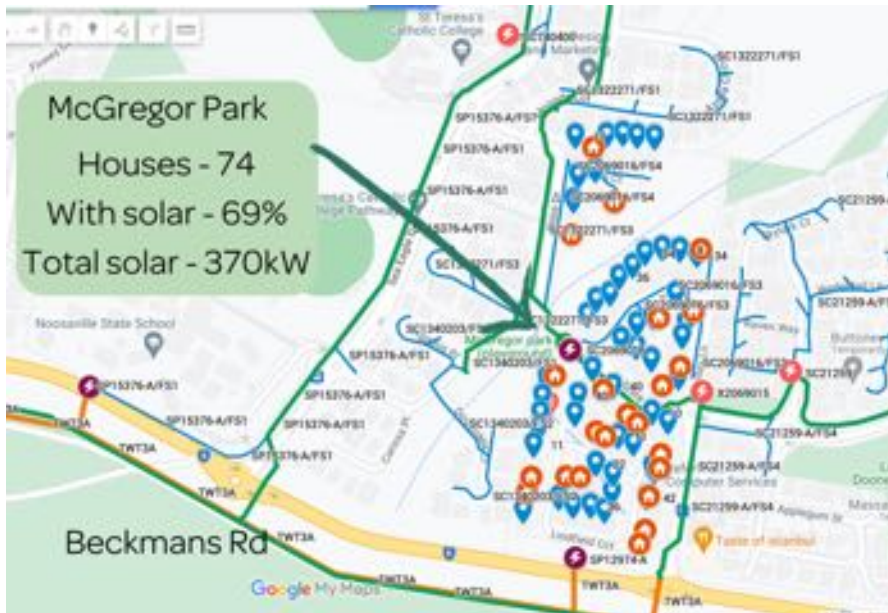
Meetings with Energex staff suggested lodgement of a Preliminary Connection Enquiry for the two sites shortlisted.

These was lodged by a trusted solar installer supporter of ZEN via the Energex portal, and prompt replies were received.

The full connection process is described in the [Embedded Generator Information Pack > 30kVA and > 5 MVA 2022-23](#).

Proposed site - McGregor Park – 15 Shire Drive

McGregor Park is located at 15 Shire Drive, Noosaville.



Evaluation Criteria

Planning

Land availability	How suitable is the portion of land or physical space available for the installation of a BESS?	Space is available adjacent to the existing padmount transformer The adjacent land (17 Shire Drive) is designated in the Noosa Plan Zones (2020) as Environmental Management and Conservation
Land ownership and lease costs	Is the potential arrangement with the landowner supportive of project success (i.e., lease costs and stakeholder support)?	The land at 15 Shire Drive is designated as Recreation and Open Space, and is owned by Noosa Council. Refer to additional information below.
Native title considerations		feedback from Council's Native Title solicitors has been requested

The following response has been received from Noosa Council Property Advisor:

"From a *property* perspective, the primary issues with locating community batteries within the Recreation Reserves at either MacGregor Park or Kitty Nobel Park are likely to be Native Title and demonstrating compliance with the Department of Resources' (DoR) Operational Policy for Secondary Use of Trust land under the Land Act. https://www.resources.qld.gov.au/?a=109113:policy_registry/secondary-use-of-trust-land.pdf

Property is relatively comfortable that Council-owned community batteries within the reserves would be a supportable use under DoR's Policy, subject to a Land Management Plan approval process. The Policy states:

Local government services and utility infrastructure - Local government may approve the placement of 'essential utility infrastructure' (as defined in Definitions) on trust land under the trusteeship of that local government provided there are no viable or practical alternatives for such infrastructure. Such uses, if approved, are to be supported by an appropriate management plan.

Property has requested feedback from Council's Native Title solicitors regarding both recreation reserves, which is pending a response. It is likely that Native Title remains over both parks, which will raise implications. There may still be the ability to site community infrastructure within the reserve subject to specific processes to address Native Title. The legal feedback will provide further direction on this.

There is the alternative option of siting in the road reserves, which are generally available for utility infrastructure installation, but would need a separate set of considerations, such as visual amenity and available space clear of existing services routes and footpaths, etc.”

Environmental/physical risks

Noise	How well can the noise of the BESS be managed to avoid disruption to surrounding stakeholders?	If the air conditioning ducts are directed towards 15 Shire Drive which is an Environmental Management and Conservation zone, there would be minimal impact on surrounding houses. Appropriate screening and acoustic treatment could also be considered.
Fire risk	What is the risk of fire of the BESS and in the immediate vicinity	The park is classified as “Bushfire” in the Noosa Plan, as are other properties in the area
Flood/inundation risk	Is the site vulnerable to flood/inundation?	Check but assume not vulnerable as EGX substation is adjacent Anecdotal from residents is that the low end of park has had water flowing during extreme rain events. Could ensure the base is above any flood height
Traffic risk	Would a BESS installed at the site be vulnerable to traffic accidents?	No. Approximately 5m from edge of Shire Drive
Vegetation disturbance	To what extent would the installation of a BESS at the site involve significant or problematic disturbance of vegetation?	There may be some disturbance of existing vegetation that has been planted close to the padmount transformer for trenching for the connection
Visibility and visual impact	To what extent would a community battery blend into the site, or	The ground is sloped so the battery panels would be less visible. No adverse comments about visual

	enhance the site through its visibility?	<p>amenity were received during the limited community consultation. Landscaping or murals could be considered by a Community Reference Group and Noosa Council, but note these phrases in the Noosa Design Principles(reference)</p> <p>Page 27 - <i>Draw attention away from public utilities with a pleasing feature in preference to screening them with barriers.</i></p>
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Stakeholders

Local community support	How interested or supportive are surrounding residents and the local community at this stage?	Limited community consultation during a one week period has been carried out. The limited feedback is largely supportive. Refer to the Community Consultation Report(ref)
Number and type of connected properties	Is there a significant number of residential properties connected to the LV network?	It is estimated 74 houses are connected to the padmount distribution transformer(SC2069016) in McGregor Park. Refer map above
Community interaction / education / placemaking potential	To what extent does the site encourage community interaction with the battery, or support educational or placemaking initiatives?	Noosaville State School and St Teresa's College are both less than 400m away so there would be opportunities for educational activities about community batteries
Accessibility	To what extent would a BESS impede the community's ability to navigate the site, particularly those with	<p>The park is grassed and on a slope with playground equipment.</p> <p>The proposed community batteries would not impede access.</p>

	diverse capabilities (e.g., using mobility supports)?	
Other benefit sharing opportunities	Are there additional, unique opportunities to deliver community benefits?	Close proximity to the two schools would provide educational opportunities

Network

Connection point specifications	How suitable is the local LV network infrastructure for the installation of a community battery?	A Preliminary Connection Enquiry(PRE) has been submitted to Energex with the reply indicating a connection can be applied for – see below
Connection/installation method and cost	Can the connection be achieved with a simple and low-cost method?	The PRE reply indicated connection would be to a new pillar, so connection via UG cable (grassed area) should be straightforward
Local solar generation capacity	What is the local solar generation capacity on the LV network?	Nearmap was used to count solar panels in the catchment area. 51 of the 74 houses have solar. Total panel count = 1478 at a conservative 250W/panel = 370kW
Network constraints	Does the LV network experience issues with high daytime voltages or peak demand constraints?	Unknown regarding high daytime voltages From Energex 2022 DAPR no demand constraints on 11kV feeder - TWT3A - Utilisation % @ 50 PoE in range 37 to 44 in the period current to 2027

Energex PRE reply

“In response to your connection enquiry, we:

- attach the Site-Specific Enquiry Response (SSER) (based on a desktop assessment of your proposed connection); and
- advise that, based on this desktop study, your proposed connection is a “Negotiated Connection Service”.

This means that when you make a connection application, you will need to negotiate the terms of the connection contract.”

For the [full response please refer to this link](#).

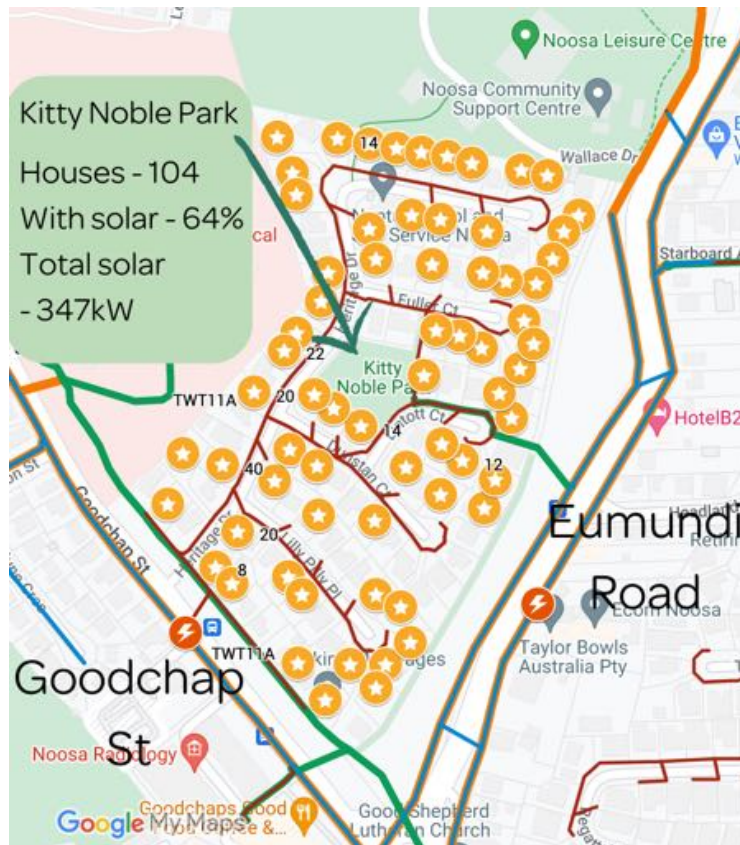
Project opportunities

Likelihood of attracting funding	How attractive is the site for current or upcoming funding opportunities?	Noosaville is “eligible area” for Australian Government Grant, so likelihood of funding is high
Opportunities for innovation	To what extent does the site possess opportunities for innovation?	Not considered at this stage, but maybe as an educational showcase for the 2 local schools

Proposed site - Kitty Noble Park - 3 Lintott Court

Kitty Noble Park is located at 3 Lintott Court, Noosaville, and extends to Heritage Drive. A padmount distribution transformer is located next to the house at 7 Lintott Court.

It is expected that the proposed battery would be located near the padmount distribution transformer, but the actual location will need to be decided in conjunction with a Community Reference Group, consisting mainly of local residents.



Evaluation Criteria

Planning

Land availability	How suitable is the portion of land or physical space available for the installation of a BESS?	Space is available adjacent to the existing padmount transformer But care will need to be taken given the proximity and line of sight from surrounding houses
Land ownership and lease costs	Is the potential arrangement with the landowner supportive of project success (i.e., lease costs and stakeholder support)?	The land at 3 Lintott Court is designated as Recreation and Open Space, and is owned by Noosa Council. Refer to additional information below.
Native title considerations		feedback from Council's Native Title solicitors has been requested

The following response has been received from Noosa Council Property Advisor:

"From a *property* perspective, the primary issues with locating community batteries within the Recreation Reserves at either MacGregor Park or Kitty Nobel Park are likely to be Native Title and demonstrating compliance with the Department of Resources' (DoR) Operational Policy for Secondary Use of Trust land under the Land Act. https://www.resources.qld.gov.au/?a=109113:policy_registry/secondary-use-of-trust-land.pdf

Property is relatively comfortable that Council-owned community batteries within the reserves would be a supportable use under DoR's Policy, subject to a Land Management Plan approval process. The Policy states:

Local government services and utility infrastructure - Local government may approve the placement of 'essential utility infrastructure' (as defined in Definitions) on trust land under the trusteeship of that local government provided there are no viable or practical alternatives for such infrastructure. Such uses, if approved, are to be supported by an appropriate management plan.

Property has requested feedback from Council's Native Title solicitors regarding both recreation reserves, which is pending a response. It is likely that Native Title remains over both parks, which will raise implications. There may still be the ability to site community infrastructure within the reserve subject to specific processes to address Native Title. The legal feedback will provide further direction on this.

There is the alternative option of siting in the road reserves, which are generally available for utility infrastructure installation, but would need a separate set of considerations, such as visual amenity and available space clear of existing services routes and footpaths, etc.”

Environmental/physical risks

Noise	How well can the noise of the BESS be managed to avoid disruption to surrounding stakeholders?	Careful consideration to placement and direction of the air conditioning ducts and possible noise attenuation measures will need to be investigated to ensure there would be minimal impact on surrounding houses. Appropriate screening and acoustic treatment could also be considered.
Fire risk	What is the risk of fire of the BESS and in the immediate vicinity	The park is classified as “Bushfire” in the Noosa Plan, as are other properties in the area. However the location would be in a grassed largely open area
Flood/inundation risk	Is the site vulnerable to flood/inundation?	Check but assume not vulnerable as EGX substation is adjacent. Could ensure the base is above any flood height
Traffic risk	Would a BESS installed at the site be vulnerable to traffic accidents?	No.
Vegetation disturbance	To what extent would the installation of a BESS at the site involve significant or problematic disturbance of vegetation?	There is no vegetation close to the existing transformer.
Visibility and visual impact	To what extent would a community battery blend into the site, or	There were some adverse comments about visual impact during the short community consultation so careful consideration to visual amenity,

	enhance the site through its visibility?	including landscaping or murals should be considered by a Community Reference Group and Noosa Council, but note these phrases in the Noosa Design Principles(reference) <i>Page 27 - Draw attention away from public utilities with a pleasing feature in preference to screening them with barriers.</i>
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Stakeholders

Local community support	How interested or supportive are surrounding residents and the local community at this stage?	Limited community consultation during a one week period has been carried out. The limited feedback is largely supportive. Refer to the Community Consultation Report(ref)
Number and type of connected properties	Is there a significant number of residential properties connected to the LV network?	It is estimated 104 houses are connected to the padmount distribution transformer(SC7868-C) in Kitty Noble Park. Refer map above
Community interaction / education / placemaking potential	To what extent does the site encourage community interaction with the battery, or support educational or placemaking initiatives?	Good Shepherd Lutheran College, a prep to year 12 school is about 800m away so there would be opportunities for educational activities about community batteries
Accessibility	To what extent would a BESS impede the community's ability to navigate the site, particularly those with diverse capabilities (e.g., using mobility supports)?	The park is grassed and on a very gentle slope with playground equipment. The proposed community batteries would not impede access.

Other benefit sharing opportunities	Are there additional, unique opportunities to deliver community benefits?	To be determined
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Network

Connection point specifications	How suitable is the local LV network infrastructure for the installation of a community battery?	A Preliminary Connection Enquiry(PRE) has been submitted to Energex with the reply indicating a connection can be applied for – see below
Connection/installation method and cost	Can the connection be achieved with a simple and low-cost method?	The PRE reply indicated connection would be to a new pillar, so connection via UG cable (grassed area) should be straightforward
Local solar generation capacity	What is the local solar generation capacity on the LV network?	Nearmap was used to count solar panels in the catchment area. 67 of the 104 houses have solar. Total panel count = 1386 at a conservative 250W/panel = 347kW
Network constraints	Does the LV network experience issues with high daytime voltages or peak demand constraints?	Unknown regarding high daytime voltages From Energex 2022 DAPR no demand constraints on 11kV feeder – NVL19A - Utilisation % @ 50 PoE in range 22 to 42 in the period current to 2027

Energex PRE reply

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Project opportunities

Likelihood of attracting funding	How attractive is the site for current or upcoming funding opportunities?	Noosaville is “eligible area” for Australian Government Grant, so likelihood of funding is high
Opportunities for innovation	To what extent does the site possess opportunities for innovation?	Not considered at this stage, but maybe as an educational showcase for the close by Good Shepherd Lutheran Collage

Preferred site for grant application

McGregor Park

It appears that McGregor Park is a strong contender for the grant application site based on several key benefits. Firstly, the park's low impact on visual amenity as it is hidden from surrounding houses, and the ability to direct noise to the adjacent Environmental Management and Conservation zone provides an advantage. Secondly, although with a smaller sample size of residents engaged, the level of support for a community battery was reported as high. The proximity to two schools within 400m provides an excellent opportunity to showcase the community battery for educational purposes.

Furthermore, the land is council-owned, and there should be a simple connection via an underground cable in the grassed area to the new proposed Energex pillar. The site is adjacent to an existing Energex Padmount Distribution Transformer, and flooding should not be a problem given Energex standards, assuming the battery panels are on the same level/elevation. The site is also raised above street level, and only one house is adjacent with a high fence.

With all these benefits, McGregor Park presents a compelling case for the grant application site.

Appendices

Additional images for the two sites are included in these appendices.

McGregor Park

lookupandlive.com - network map

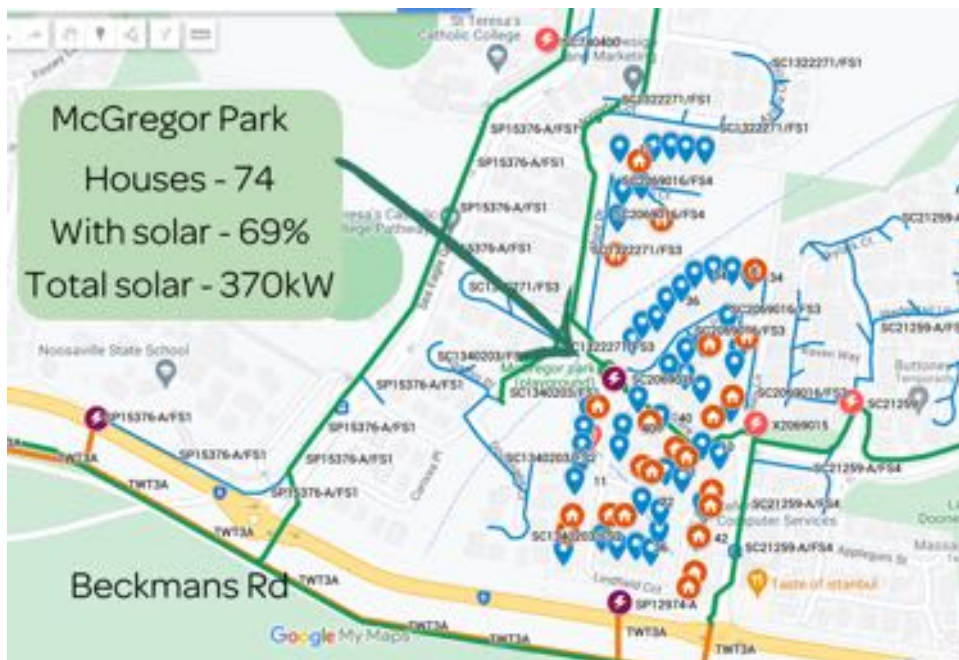


boundary map use for community consultation

Houses in this area would benefit from a community battery in McGregor Park if it was to go ahead



solar panel counts



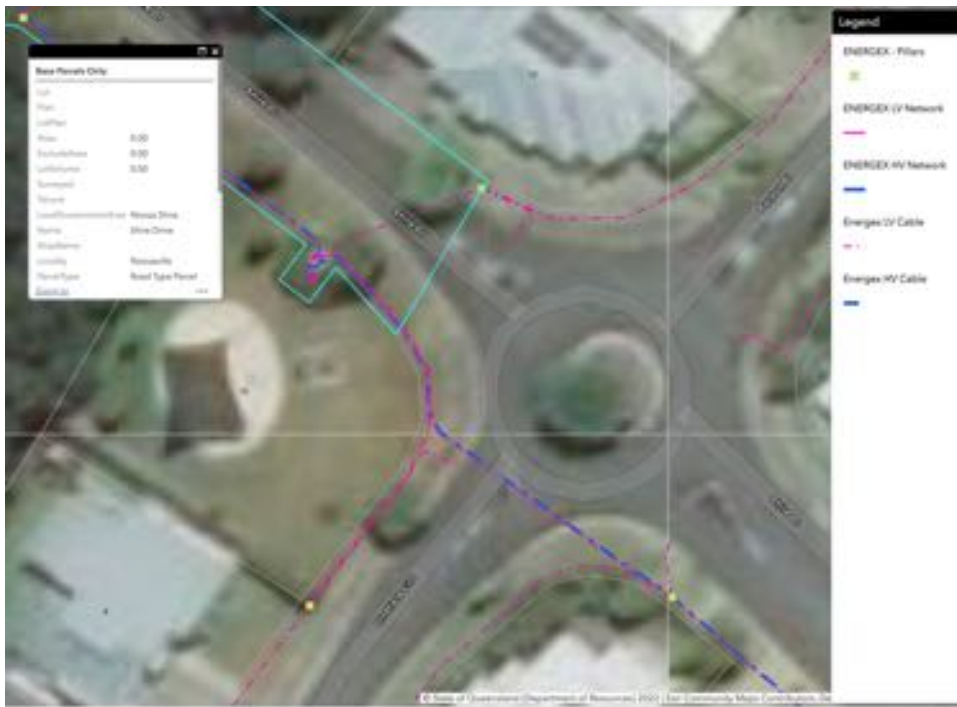
Noosa Council mapping – Noosa Plan overlay – 1



Noosa Council mapping – Noosa Plan overlay – 2



lookupandlive.com - padmount on road reserve



lookupandlive.com - padmount adjacent to park

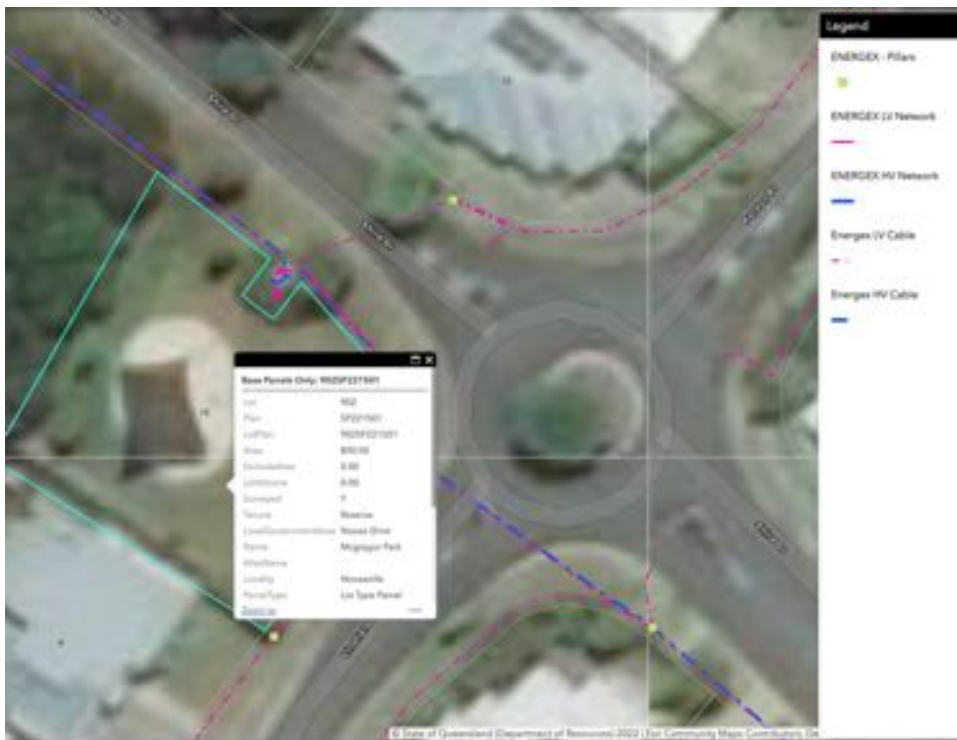


image of location – brochure image

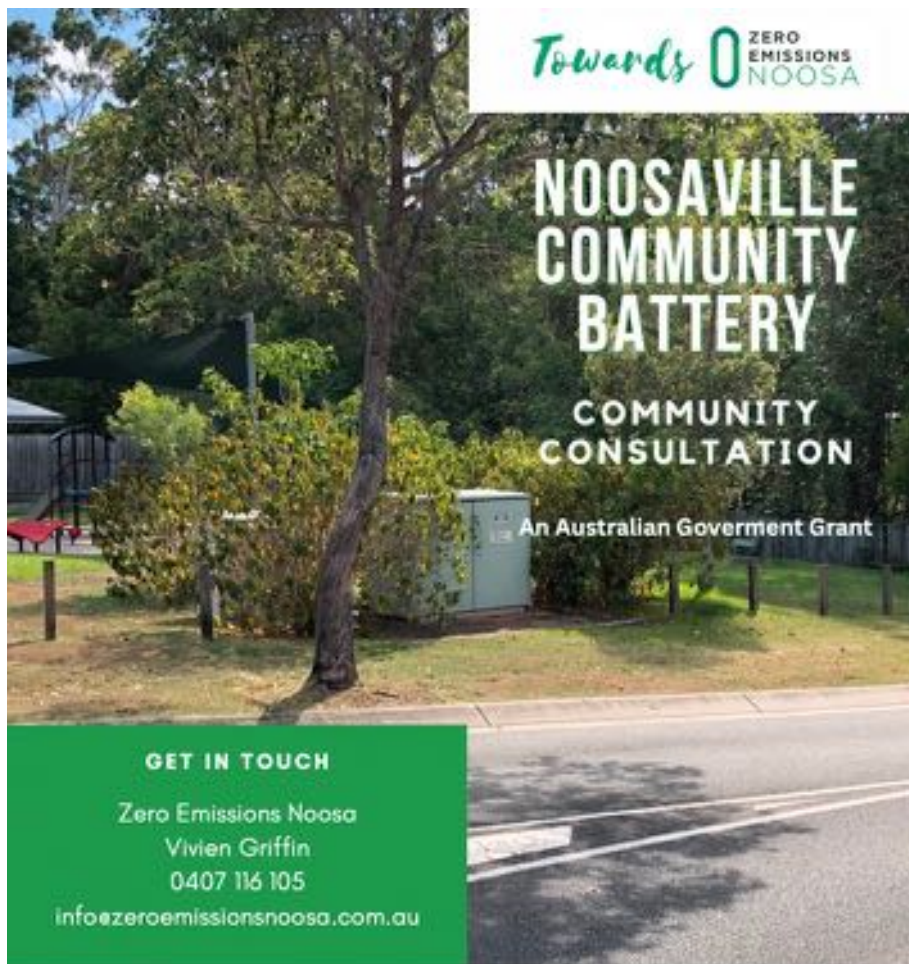


image of location – view of park



image of location – view of padmount



community consultation in the park



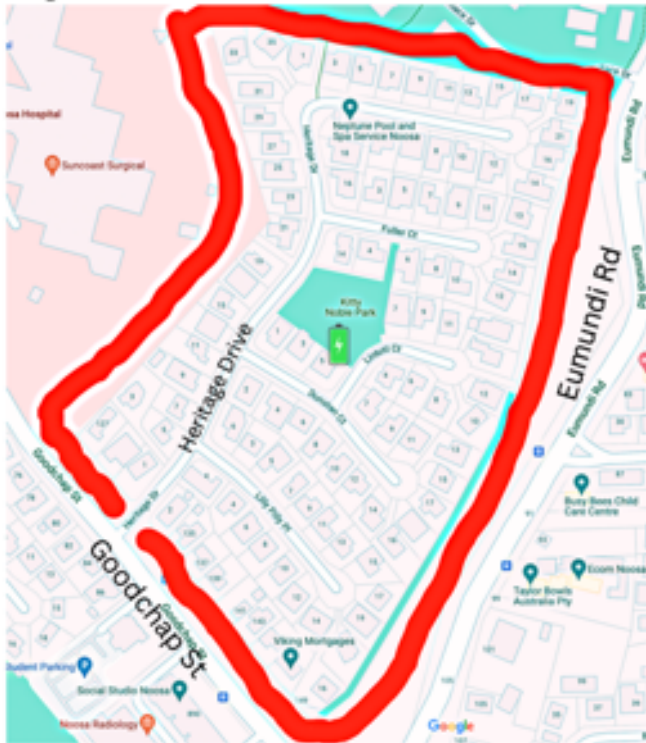
Kitty Noble Park

lookupandlive.com - network map



boundary map use for community consultation

Houses in this area would benefit from a community battery in Kitty Noble Park if it was to go ahead



Towards 0 ZERO EMISSIONS NOOSA

solar panel counts



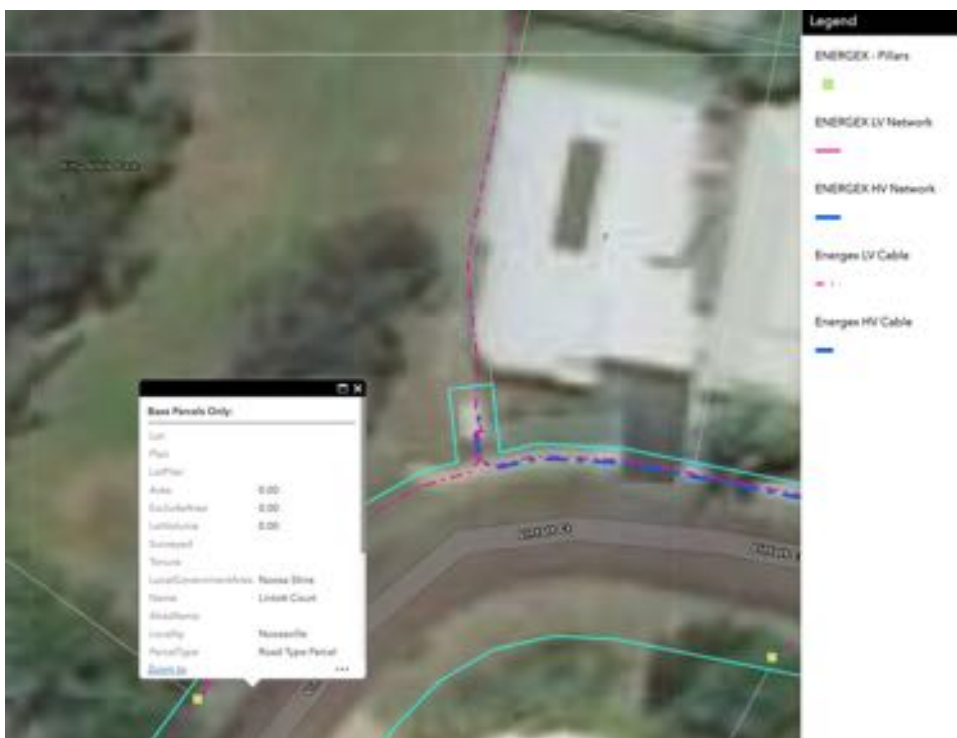
Noosa Council mapping – Noosa Plan overlay – 1



Noosa Council mapping – Noosa Plan overlay – 2



lookupandlive.com - padmount on road reserve



lookupandlive.com - padmount adjacent to park



image of location – brochure image

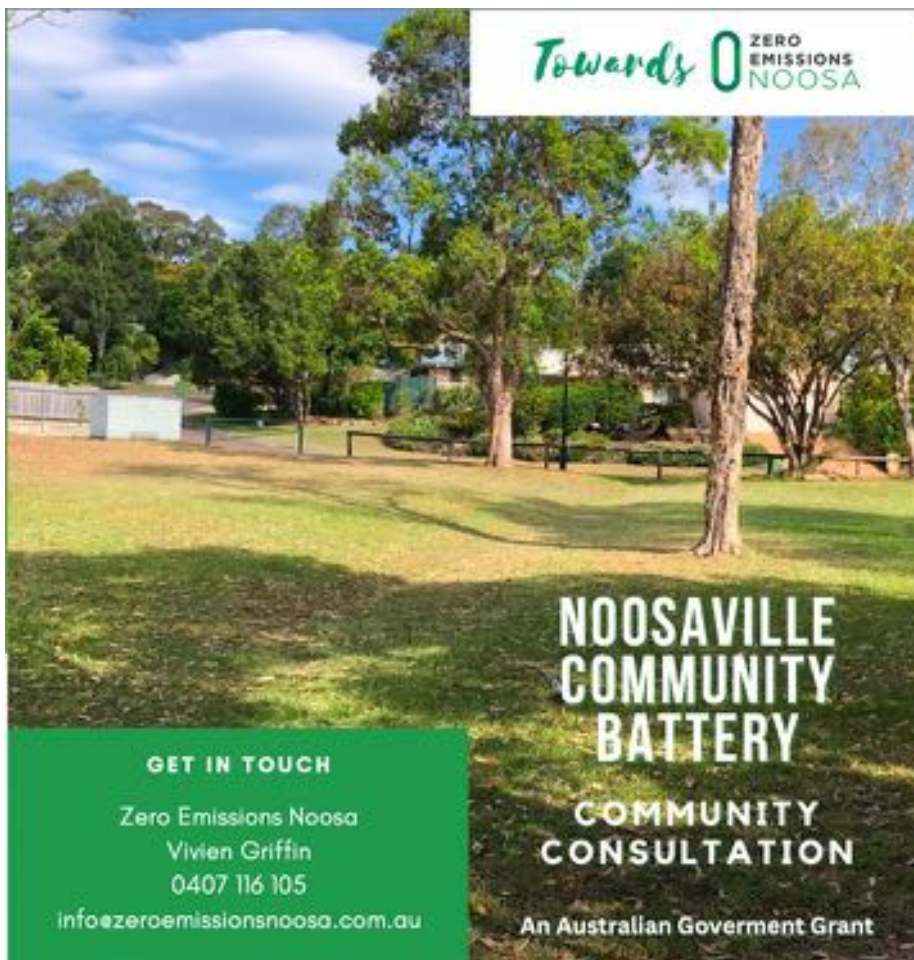


image of location – view of park



image of location – view of padmount



community consultation in the park



**Noosa
Community
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