#### 4. Potential Impacts

The following details potential impacts that may arise from construction and operational activities associated with the Project. Potential impacts from construction are more likely than for operation, due to the level of civil works involved.

Decommissioning of the Project is not considered in detail here. The equipment is expected to have an economic life of approximately 20-25 years. At the conclusion of this period, a decision will be made as to whether to decommission the Project permanently or whether to upgrade and/or replace certain equipment. If the Project is permanently decommissioned, a Decommissioning and Rehabilitation Plan (DRP) will be prepared which addresses the management of soil and water issues associated with the decommissioning work. Decommissioning is likely to involve:

- de-energising the equipment;
- dismantling and removing the battery units and all above ground electrical equipment;
- removal of infrastructure to 500 mm below the ground; and
- rehabilitation of all disturbed land (including the new access road) to a form suitable for subsequent rural use (including cropping) to a depth of 500 mm.

Rehabilitation of the land will consider the requirements of the landowners.

#### 4.1 Construction

Bulk earthworks, excavations and other civil construction activities have the potential to result in erosion, sedimentation and water quality issues if not properly managed.

Potential impacts of the Project on soil and water during construction are summarised in Table 1 below.

Table 1: Potential Soil and Water Impacts from Construction Activities

Activity	Potential Impact
Site establishment including erection of a construction compound and laydown area within the battery site	<ul> <li>Increased hardstand and impervious surfaces resulting in increased surface runoff, risk of inundation and decreased soil infiltration.</li> <li>Alteration of natural and existing flow paths and disruption of flow into existing drainage lines.</li> </ul>
Construction compound operations including fuel and chemical storage, refueling and hazardous	<ul> <li>Pollution of local waterways arising from accidental spillage, failure of control measures or inappropriate storage.</li> </ul>

Activity	Potential Impact
material/chemical handling	<ul> <li>Ground contamination.</li> <li>Damage to local aquatic ecosystems due to pollution of watercourses.</li> </ul>
Pasture and vegetation clearing and topsoil stripping	<ul> <li>Erosion and sedimentation of disturbed areas.</li> <li>Increased flow or more concentrated flows causing increased turbidity, scouring of drainage lines and downstream impacts to receiving watercourses.</li> <li>Carriage of nutrients to watercourses.</li> <li>Increased soil compaction.</li> <li>Decreased soil permeability and/or rainfall infiltration resulting in higher velocity surface runoff.</li> </ul>
Concreting	<ul> <li>Pollution of local waterways arising from accidental spillage, failure of control measures or inappropriate storage.</li> <li>Ground contamination.</li> <li>Increased surface runoff from hard surfaces.</li> </ul>
Dust generating works	<ul> <li>Increased sedimentation of local waterways impacting the natural flow.</li> <li>Sedimentation causing damage to existing drainage infrastructure.</li> </ul>
Bulk earthworks including excavation, trenching or filling	<ul> <li>Erosion of exposed soil and sedimentation of disturbed areas.</li> <li>Sedimentation of local watercourses.</li> <li>Promotion of weed growth due to improper backfilling.</li> <li>Loss of soil structure and soil organic matter.</li> </ul>
Transportation of cut or fill materials	<ul> <li>Pollution caused by dust and spillage during haulage on internal and external roads.</li> <li>Soil compaction from repeated traversing of heavy vehicles over haulage routes causing increased surface runoff and decreased soil infiltration.</li> </ul>
Movement of heavy vehicles across exposed earth	<ul> <li>Soil compaction from repeated traversing of heavy vehicles over haulage routes causing increased surface runoff and decreased soil infiltration</li> <li>Hydrocarbon and hydraulic fluid leaks causing ground contamination and/or water quality impacts</li> </ul>

Activity	Potential Impact
Material stockpiles	Pollution caused by stockpile runoff or wind erosion
	contaminated soil
	<ul> <li>Increased dust generation and temporary reductions to onsite air quality</li> </ul>
Road upgrade works, including culvert and drainage works	Erosion of exposed soil horizons
	<ul> <li>Erosion and sedimentation of disturbed areas</li> </ul>
	<ul> <li>Pollution of local waterways arising from accidental spillage, failure of control measures or inappropriate storage</li> </ul>
	Ground contamination
	Increased surface runoff from hard surfaces

Mitigation measures for soil and water impacts that may be adopted at the Project site are detailed in Section 5.

Note that this is a Preliminary Soil and Water Management Plan and more specific management measures will be detailed in the Construction Environmental Management Plan which will be informed by the outcomes of geotechnical assessment of the site and detailed civil design.

#### 4.2 Operations

Potential soil and water impacts from the operation of the battery are expected to be minimal. The civil design of the battery site (including internal accessways and parking areas<sup>7</sup>) and the access road will specify appropriate drainage based on soil characteristics and local hydrology, and management and monitoring of any soil and water issues will be detailed in the site Operation Environmental Plan.

The quantities of chemicals and hazardous materials stored on the battery site during operations are expected to be minimal and will be mainly limited to cleaning products. All these chemicals and liquids will be stored in a dedicated, impervious bunded area. The bund must be able to contain of 150% of the volume of the largest single volume stored.

The battery site will have a fenced substation compound near the northern boundary with Palmerston Substation and this will hold two 180 MVA power transformers. One transformer will be installed for Stage 1, and another will be installed in Stage 2.

 $<sup>^7</sup>$  In compliance with Standard C2.6.1 (c) of the Parking and Sustainable Transport Code of the Planning Scheme.

Each of these transformers holds up to 55,000 L of insulating oil. The oil is mineral oil and is PCB-free.

Each transformer will be designed in line with the relevant Australian Standards for power transformers. Each will have a catchpit and an oil-water separation facility capable of holding approximately 1.1 times the oil volume of the transformer, designed to standards AS1940 and Standard AS2067. The oil-water separators ensure oil does not move outside the confines of the catchpits.

#### 5. Potential Mitigation

The objectives of managing soil and water during construction are to minimise erosion, limit sediment transfer and prevent impacts on water quality and nearby watercourses. These objectives are consistent with those stipulated under Performance Criteria P1.1 and Performance Criteria P3 of the Planning Scheme.

The Project aims to be compliant with all applicable legislation, regulations, standards, codes licenses and the State Policy on Water Quality Management 1997 and will prepare detailed civil design drawings for the battery site and the access road that include drainage, erosion and sediment control measures.

Additionally, the upgrade works on the existing TasNetworks substation access road carried out as part of the Project will consider the requirements of TasNetworks' Standard – Substation Civil Design and Construction Standard R590634, Version 1.0, June 2018, particularly in relation to Site clearance, excavation and earthworks (Section 5), Roads and surfacing (Section 6) and Site drainage (Section 8).

#### 5.1 Site Practices

Potential soil and water issues can be mitigated through best practice sediment and erosion control methods, safe storage of chemicals, management of heavy vehicle movements and surfacing and revegetation of disturbed areas quickly.

Construction practices relevant to the Project include:

- minimising the extent of ground disturbance during construction activities (particularly
  in the vicinity of drainage channels and watercourses) by staying within the
  construction area and minimising the construction buffer to that which is absolutely
  necessary.
- minimising the disturbance and exposure of the dispersive clay subsoils.
- undertaking bulk earthworks in periods of low rainfall, where feasible.
- minimising the duration and scale of disturbance resulting in an overall reduction to erosion and sedimentation potential.
- managing the flow of stormwater through and around construction areas via dedicated water pathways and temporary diversion structures.
- conveying runoff from disturbed areas to sediment traps and silt fences to capture sediment and minimise water pollution.

- installing, monitoring and maintaining erosion and sediment controls in accordance with relevant guidelines and standard industry practice (e.g. minimal weekly monitoring and cleaning out the devices when capacity is reduced by 30%).
- minimizing the gradient and lengths of batters and other sloped earthworks in civil designs.
- ensuring temporary material stockpiles are in dedicated stockpile areas close to the construction footprint but at least 40 metres from watercourses and clear of drainage channels.
- quickly compacting and covering any exposed dispersive clay subsoils.
- covering stockpiles with appropriate cover should they be required for more than 28 days.
- ensuring that loads on bulk delivery vehicles are covered, where practicable.
- installing drainage and top-surfacing the new access road as a priority to facilitate heavy vehicle movements.
- being aware of potential dust sources and managing each appropriately should dusting become an issue.
- ensuring storage and handling of fuels and hazardous chemicals is in accordance with best practice to prevent the release of hazardous materials to the environment.
- undertaking progressive rehabilitation of the site as soon as practicably possible.

Stage 1 construction will be able to make use of the Stage 2 area for equipment storage, stockpiling and other construction requirements, thus consolidating potential impacts into one dedicated area and reducing the need to use off-site locations.

Prescriptions outlined on the Tasmanian EPA's website for large construction sites will be adopted by Contractors as appropriate<sup>8</sup>, as will those in the Wetlands and Waterways Works Manual<sup>9</sup>. These documents include information on minimising soil disturbance, preserving vegetation, use of erosion control mats and blankets, scour protection, sediment fences, sediment basins, stockpile management and site revegetation.

<sup>&</sup>lt;sup>8</sup> www.epa.tas.gov.au/epa/water/stormwater/soil-and-water-management-on-building-sites

 $<sup>^9\,</sup> https://nre.tas.gov.au/conservation/flora-of-tasmania/tasmanias-wetlands/wetlands-waterways-works-manual$ 

#### 5.2 Staff Responsibilities and Environmental Works Plans

Management of environmental issues is an integral component of the construction management process.

The principal construction contractor, subcontractors, and the details of the construction contracts will be decided post-approvals, in the financing and pre-construction phase of the Project. However, based on site management systems generally used on other large infrastructure Projects, the following is applicable.

**Contractors' Environmental Officer** – each Contractor will appoint an Environmental Officer <sup>10</sup> for the duration of the Project. The Environmental Officer shall have the authority and resources to meet their responsibilities.

Daily construction works management, including soil and water issues, will be managed by:

- the Construction Environmental Management Plan;
- internal processes specified under the Contractor's Environmental Management System;
- any requirements and processes agreed with the landowners and adjacent landowners; and
- Environmental Works Plans.

#### **Environmental Works Plans**

Prior to work commencing at a specific location the Contractor will prepare an Environmental Works Plan (EWP)<sup>11</sup> for each new work area and activity, ensuring the EWP is a location and activity-specific document.

- The Activity will be the type of work to be undertaken (e.g. earthworks, refuelling, rehabilitation etc).
- The Location will have specific characteristics that define the environmental sensitivity of the location or parts of the location and may be represented on a map.
- Each EWP is to address all environmental considerations for that activity and location including:
  - Full scope of work activities covered by the EWP.
  - Identification of activities that may impact on the environment and the type of impacts. This may include identification of potential sources of contamination and receptors.

Preliminary Soil and Water Management Plan, Great Lakes Battery, June 2023

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<sup>&</sup>lt;sup>10</sup> The title 'Environmental Officer' is a generic term and the actual job title may differ according to each Contractors' team structure (e.g. the role may be carried out by a Quality, Safety and Environment [QSE] professional or similar).

<sup>&</sup>lt;sup>11</sup> Environmental Works Plan is a generic term and relevant works management plans prepared under the Contractors' EMS may be used instead if practicable.

- Mapping of environmental and landowner constraints and details of the mitigation measures to be used.
- o Identification of initial potential environmental risk associated with the activity, covering all segments of the environment.
- o Identification of works hold-points.
- o Details of approval, monitoring, maintenance and reporting requirements.

The Contractor may elect to group components into manageable areas. For example, a group of battery hardstands and associated cabling may be included in the one EWP.

Each EWP must be reviewed and approved by the Environmental Officer before works can commence in each new area of the Project and be provided to Neoen's Environmental Compliance Representative.

All relevant construction personnel shall be inducted to the approved EWP before commencing works.

Location-specific Erosion and Sediment Control Plans may be incorporated into the Environmental Works Plans for high-risk areas or activities.

The construction phase of the Project will also be subject to regular environmental inspections and environmental auditing by Neoen.

#### 6. Summary

This Preliminary Soil and Water Management Plan outlines the potential soil and water impacts that may be associated with the Great Lakes Battery Project and provides mitigation measures that may be implemented by the Project.

Neoen Australia is committed to best practice environmental management and will ensure that site-specific soil and water management practices will be detailed in the Construction Environmental Management Plan and the Operational Environmental Management Plan. These documents will be informed by the geotechnical investigations and detailed civil engineering designs which will be undertaken post-approvals.

Neoen Australia is committed to ensuring that the Project does not have adverse soil and water impacts on adjacent land and assets and will liaise with neighbouring landholders and TasNetworks throughout the Project to ensure mutually agreeable solutions are implemented as required.

# Community Information Booklet







contact@greatlakesbattery.com.au

1800 966 223



#### **GLOBALLY**

The company is headquartered in Paris, France, and has seven Australian offices in Brisbane, Sydney, Canberra, Melbourne, Tasmania, Adelaide and Perth.

We operate across renewable energy technologies including solar, wind and storage in Europe, the Americas, Africa, and Australia.

Neoen's total capacity in operation and under construction is currently 6.6 GW and we are aiming for 10 GW by the end of 2025.





#### LOCALLY

Neoen Australia began operations in 2012. Over the last eleven years, the company has initiated the development of close to 3 GW of solar, wind and storage projects through organic growth, local partnerships and strategic acquisitions.







Neoen produce green electricity from renewable sources such as sunlight and wind using mature, tried and tested technologies. We are also leaders in energy storage.

WORLD'S FIRST BIG BATTERY HORNSDALE POWER RESERVE







FIRST STAGE TOOK LESS THAN SIX MONTHS TO BUILD

- 150 MW Lithium-ion battery located next to Hornsdale Wind Farm
- Owned and operated by Neoen
- Installed and maintained by Tesla

- Provides grid stability services
- Saved SA energy consumers over \$150 million in its first two years
- Now testing grid scale inertia services in a world-first

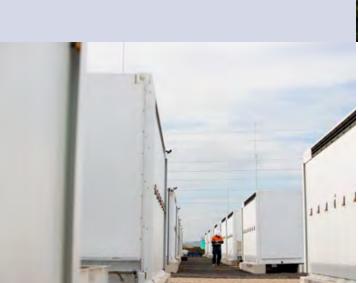


REDUCES RISK OF BLACKOUT IN SOUTH AUSTRALIA



## NEOEN

AUSTRALIA'S LARGEST BIG BATTERY VICTORIAN BIG BATTERY





- Up to 300 MW Lithium-ion battery located next to Moorabool substation in Geelong
- Owned and operated by Neoen
- Installed and maintained by Tesla



TOOK LESS THAN TWELVE MONTHS TO BUILD



- Enabling more wind and solar, now the cheapest forms of power
- Allowing more power to flow into the state, increasing competition and pushing electricity prices down
- Helping to avoid blackouts and the associated costs



CONTRIBUTING

40% RENEWABLES TARGET BY CAPITAL BATTERY
PROVIDING AGL
WITH A PIONEERING
VIRTUAL BATTERY
SOLUTION







ON TRACK TO START OPERATING IN 2023

- Up to 100 MW / 200 MWh
   Lithium-ion battery located next
   to the Queanbeyan substation near Canberra
- Owned by Neoen with technology from Doosan
- Debt financing provided by Clean Energy Finance Corporation and Infradebt
- World first Virtual Battery contract with AGL for 70 MW
- AGL can virtually charge and discharge the battery at any time over 5-min trading intervals
- Neoen's third big battery in Australia



POWERFUL
ENOUGH TO MEET
20% OF ACT'S
SUMMER PEAK
DEMAND



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### NEOEN

#### DELIVERING CHEAPER ENERGY FOR INDUSTRY





## LAVERTON STEELWORKS VICTORIA

Laverton Steelworks have agreed to take power from Neoen's 128 MW Numurkah Solar Farm under a 15year deal. GFG Alliance's Executive Chairman said the deal would help lower energy costs at Laverton.



#### DEGRUSSA MINING WESTERN AUSTRALIA

DeGrussa is the largest off-grid solar battery storage project in Australia. It powers a gold and copper mine in remote WA. Commissioned in June 2016, it provides a solar and storage solution to the majority of the mine's daytime electricity requirements, offsetting up to 20% of total diesel consumption annually.







## COLES AUSTRALIA-WIDE

Coles has signed an agreement that will source largescale generation certificates (LGCs) from Neoen's portfolio of renewables located across New South Wales, Queensland, Victoria, South Australia and Western Australia. The deal will help Coles towards its target of 100% renewable energy by 2025.

## DELIVERING CHEAPER ENERGY TO RETAILERS





## **ENERGY AUSTRALIA**COLEAMBALLY SOLAR FARM

Providing energy output of 100 MW of the 150 MW solar farm for 12 years.





## SIMPLY ENERGY PARKES & GRIFFITH SOLAR FARM

Providing 100% of the energy output of the two solar farms for 13 years.









#### ACT Government HORNSDALE WIND FARM

Providing 100% of the energy output of the 309 MW wind farm for 20 years, powering ACT's transition to 100% renewables.



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#### WE OWN & OPERATE OUR PROJECTS

#### **Great Lakes Battery**

The Great Lakes Battery will be managed from Neoen's 24/7 Operational Control Centre in Canberra, which currently operates our 14 existing projects across Australia. This office coordinates with local maintenance contractors for safe, effective and compliant operations.

#### Neoen's Portfolio

Neoen develops renewable energy projects to own and operate them – not to onsell them. With over 2.5 GW of operating projects connected to Australia's National Electricity Market (NEM), our asset and operations team play an important role in managing our power plants.



Our Operational Control Centre oversees our interactions with the National Electricity Market: a wholesale electricity market which spans the eastern and south-eastern coast of Australia.

The market works as a pool or spot market, where power supply and demand are instantly matched via a centrally coordinated dispatch process overseen by the Australian Energy Market Operator.

#### FACTS & FIGURES

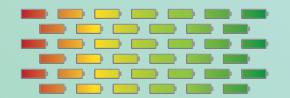


To be built in two stages of 140 MW each.



energy storage

To be built in two stages of 280 MWh each. Stores an industrial amount of energy, discharges quickly on demand.



Up to

39,000x

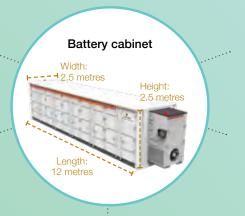
more capacity than a household battery

#### **BATTERY TECHNOLOGY**

Battery packs are enclosed in custom designed, dust and waterproof 'cabinets' made of galvanised steel. Cabinet colour is white or light coloured to assist with heat management and each cabinet has its own internal thermal management system.

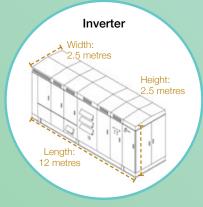
Will conform to electricity industry standards

Will use an industrial inverter to convert DC power to AC when discharging (vice versa when charging)



Likely to be lithium-ion battery packs enclosed in steel cabinets, similar to shipping containers

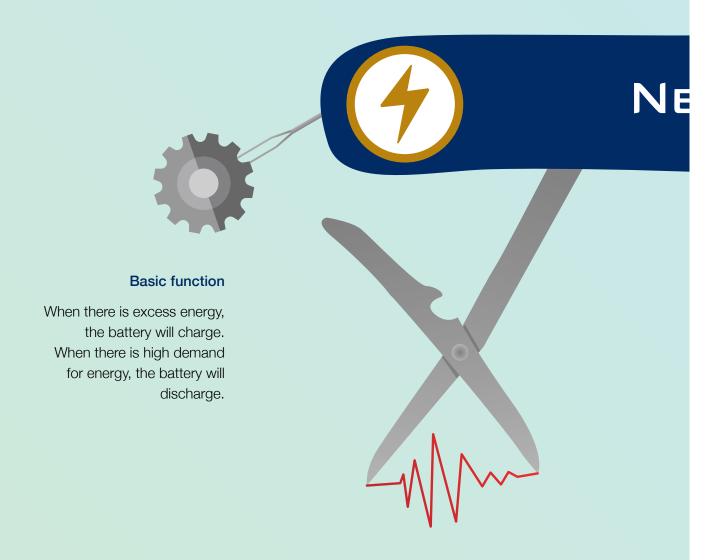
Will meet all safety and bushfire risk requirements



Battery brand to be determined

Inverters are made from galvanised steel, and may exist as one single 20ft container or a few outdoor cabinets on concrete slabs.

#### WHAT CAN A BIG



#### Frequency support

To maintain the stability of the system, the grid requires frequency control services. The battery discharges electrical power into the network in response to frequency changes. The battery can lower the cost of these service markets which results in lower electricity prices for everyday consumers.

#### **BATTERY DO?**



#### Firming renewables

Grid-scale batteries can store wind and solar energy, then discharge it when the wind isn't blowing and the sun isn't shining. The Great Lakes Battery aims to be an essential component in the stable transition to clean electricity.

#### Inertia

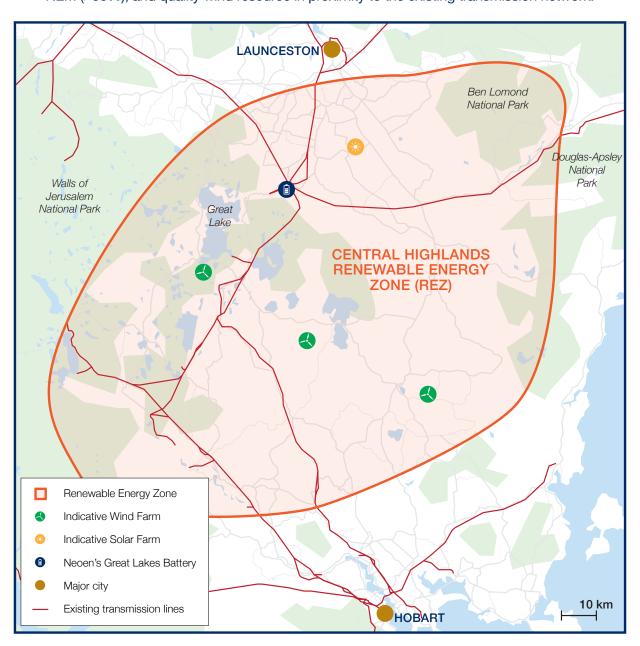
As with vehicle suspension on an uneven road, inertia services are essential for stabilising the grid. The advanced power inverters associated with a big battery can emulate the inertia services that are currently provided by an ageing fleet of fossil fuel power plants. This service is currently being used at our Hornsdale Power Reserve.

#### Transmission network support

Grid-scale batteries can provide dynamic millisecond responses so existing transmission lines can operate at full capacity. Like adding another lane to a freeway, the battery can unlock additional capacity on existing transmission networks – saving customers millions of dollars in expensive transmission line upgrades.

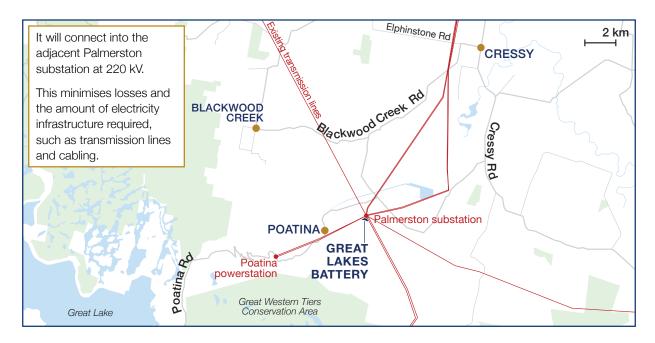
## CENTRAL HIGHLANDS RENEWABLE ENERGY ZONE (REZ)

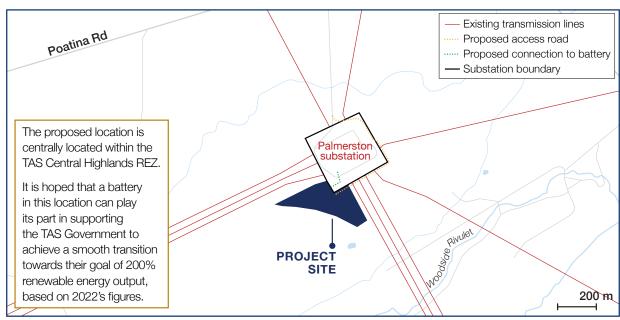
The TAS Government is in the early stages of planning a REZ in the Central Highlands region on the lands of the Lairmairrener, Tyerrernotepanner, Paredarerme, Tommeginne, Pyemmairrener people. This REZ has strong network infrastructure, one of the highest capacity factors for new wind in the NEM (>50%), and quality wind resource in proximity to the existing transmission network.



#### CHOOSING THE SITE

The Great Lakes Battery will be located approximately 2.5 km north-east of Poatina, a key part of the TAS electricity network, linked to multiple high voltage lines.





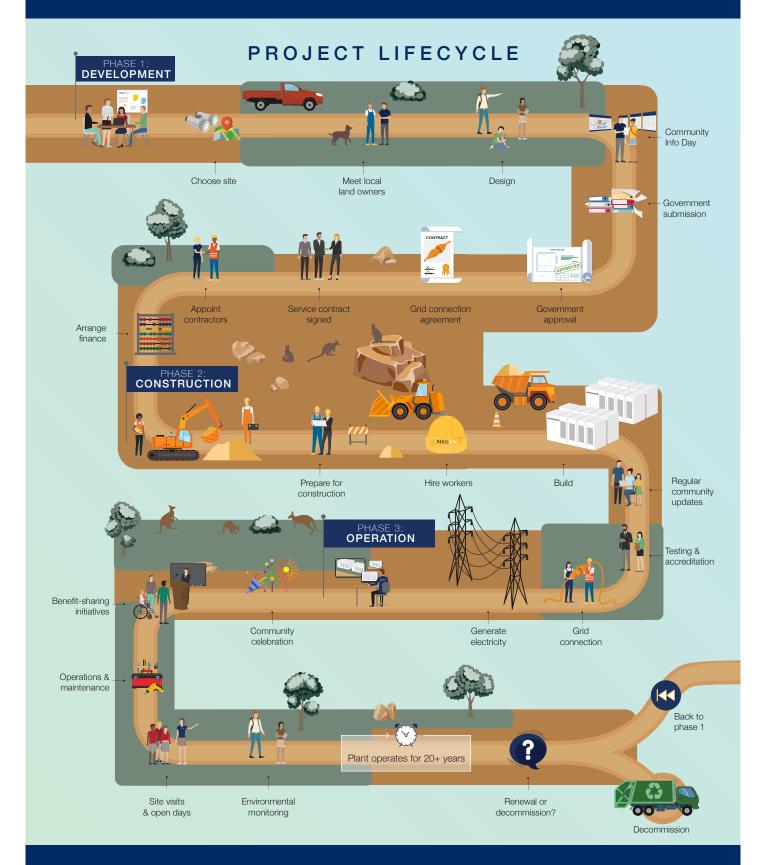


#### SITE LAYOUT



#### 3D MODEL





#### COMMUNITY BENEFIT SHARING

#### Ideas from our other projects:



#### Community benefit fund

The funds would be allocated to local community projects through a competitive annual grants process.



#### **Educational resources**

Develop educational resources for local schools to support learning about renewables and our future energy system.



#### Local tourism

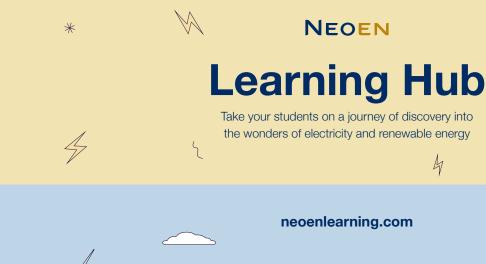
Develop a local tourism initiative centred on batteries or renewable energy.



#### Tell us your ideas

We'd like to hear your ideas on community benefits. Link to survey at:

greatlakesbattery.com.au/benefits







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#### ABOUT STORAGE

#### Q1. What technology is being used for the project?

The Great Lakes Battery will utilise lithium-ion units and associated equipment from leading manufacturers. These manufacturers are selected through a separate competitive tender process.

The facility will be an orderly arrangement of battery cabinets, inverters and control systems including electrical and data cabling. The battery packs are enclosed in custom designed, dust and waterproof 'cabinets' made of steel. The cabinet colour is white or light coloured to assist with heat management and each cabinet has its own internal thermal management system.

#### Q2. How big will it be?

Once completed, the battery's power capacity will up to 280 MW (to be built in two separate stages, each 140 MW), covering around 4 hectares of land. It will be no higher than 2.5 meters.

#### Q3. What are the benefits of battery energy storage?

Tasmania has a very high level of hydro generation. Hydro generation (and its 'relative', pumped hydro, where water is pumped back uphill during times where renewables are generating more power than the market requires) is an example of longer-term storage that is suitable for storing energy and releasing it over days or weeks. However, hydro generators have a relatively slow 'ramping' time and are less suitable for providing rapid-response services to grid contingency events such as outages or cold snaps (with high demand created by heating), or rapid grid frequency adjustments. Battery storage, such as lithium-ion technology, fills these key short-term response roles.

These are some of the functions a grid-scale lithium-ion battery may be expected to perform:

- Network security services including Frequency Control Ancillary Services and Network Loading Control Ancillary Services
- System Restart Ancillary Services
- Arbitrage (spot market trading)
- Peak shaving
- Block/load shifting
- Renewable firming and smoothing.

The TAS Government is committed to renewable energy and has set ambitious goals with the Tasmania Renewable Energy Target. The Great Lakes Battery aims to support the effort of the TAS Government in achieving its renewable vision.

#### Q4. What is the life cycle of the Great Lakes Battery?

Current battery technology comes with an industry-leading 15-20 year warranty. The batteries still retain most of their capacity at this time, and will be able to operate beyond it depending on market conditions and other factors.

#### Q5. How is the battery reducing costs for consumers?

Battery storage can reduce costs for consumers in 3 ways:

- Supporting more wind and solar, which are now the cheapest forms of power
- Increasing competition in ancillary markets and pushing electricity prices down
- Helping to avoid blackouts and the associated costs.

#### Q6. What happens to the batteries when they reach the end of their life?

We make a commitment that all above-ground infrastructure is removed and the site rehabilitated when a project ceases to operate. After removal, most of the material in the batteries is reclaimed or recycled with over 60% recovered for re-use.

#### **HEALTH & CULTURE**

#### Q7. Are there any health risks?

The Great Lakes Battery is using similar technology to the batteries that are increasingly installed in homes, just on a larger scale. There are no known health risks associated with properly maintained large-scale battery installations.

#### Q8. Is the project reducing air quality?

Monitoring of dust levels during construction is a basic requirement of each project. Dust generating activities are assessed during windy conditions and are stopped and rescheduled where adequate control of dust generation cannot be achieved.

Visual observation of machinery is undertaken during site inspections as well as daily pre-start checks which ensure all machinery has appropriate emission control devices, is in good working order, and is maintained correctly.



#### FREQUENTLY ASKED QUESTIONS

#### NOISE

#### Q9. What components make noise in a battery?

When the battery operates, there are a few components that can make noise. The noise may not be constant, but vary based on the temperature and how the battery is working. The times of highest noise are likely to be experienced during late summer afternoons when the battery requires most cooling, or during cold winter mornings when heating is required.

The components that typically make noise in a battery are:

- Battery fans and the cooling/heating system: noise is emitted from fans when they spin, predominantly during the hot summer months to keep the electronic components of the battery cool. Similarly, the cooling/ heating system makes noise during summer and winter months. This cooling/heating system operates in a similar way to a household air-conditioning system and makes similar sounds to a household system.
- Transformers: The battery draws power from the transmission lines and also sends power to the transmission lines into the National Electricity Market (NEM) as required to support the network. The process of transferring electricity between the battery and the transmission lines requires a change in the voltage, from low (at the battery) to high (at the transmission lines). Transformers are responsible for the change in voltage. They can make a gentle humming sound. Large transformers use fans to cool as well, which generates noise.
- Inverters: Inverters are responsible for converting direct current (DC) into alternating current (AC), which is utilised by the transmission lines. Inverters used for a battery are very similar to inverters installed as part of a domestic rooftop solar installation, converting the DC power produced by solar panels to AC power injected into the electricity grid. The sound made by battery inverters is similar to the sound made by a household solar inverter.

#### Q10. What noise limits are there?

The noise limit at night-time is 35 decibels (dB) at a neighbouring dwelling.

To provide an indication of how noisy different sound levels are, Neoen have included a comparison table of typical sound levels of different sources as published by Safe Work Australia<sup>1</sup>. A 30 dB sound level is equivalent to whispering, while 40 dB is equivalent to quiet radio music.

Sound Source	Typical Sound Level (dB)
Hearing threshold	0
Whispering	30
Quiet radio music	40
Normal conversation	60
Loud conversation	70
Kerbside heavy traffic	80
Front-end loader	85
Lawn mower	90
Sheet metal workshop	100
Chainsaw	110
Rock drill	120
Rivet hammer	130
Jet engine at 30 m	140

Table 1 – Typical sound levels for various sound sources

### Q11. What mitigation measures can be implemented to reduce battery noise?

There are a number of things that can be done to mitigate noise, including:

- Battery design: battery manufacturers are continuously improving the battery technology to make their components quieter in their operation.
- Screening: sometimes screening measures may be employed surrounding the battery as required.
   Screening can include vegetation screening or a noise wall
- Placement within large buildings: very large buildings are a possible alternative to outside ingress protection (IP) rated cabinet type enclosures for housing big batteries. This approach may be suitable or unsuitable for a given battery site depending on the battery size, location, fire hazard risk assessment and visual impact.

#### Q12. What work do we do to understand the impacts?

Neoen is undertaking a number of activities to better understand noise impacts, including:

- Working with battery manufacturers on their battery designs and layouts to minimise noise.
- Studies with independent noise consultants for each battery site during development.
- Monitoring of operating projects to ensure that we meet our obligations.

<sup>1</sup> Safe Work Australia – Noise: www.safeworkaustralia.gov.au/safety-topic/hazards/noise

- greatlakesbattery.com.au
- Lachlan McLeod, Project Manager
- contact@greatlakesbattery.com.au
- 1800 966 223

# Healthy Country Services and Consulting

79 Castra Road

Ulverstone

Tasmania

7315



Lauchlan McCleod

Neoen Battery Project, Poatina



Thankyou for the opportunity to meet onsite with you at Poatina.

Having now visited and walked over the site of the proposed battery project, I am of the opinion that the project, as discussed, poses no immediate threat to known cultural heritage values.

A brief overview of our visit and discussions:

It is noted that Neoen have engaged AHT, where they reviewed the Aboriginal Heritage Assessment Report. Their response is below:

"AHT acknowledge the findings and recommendations of the assessment. For the purposes of the Aboriginal Heritage Act 1975 the report conforms to the assessment standards outlines in the Aboriginal Heritage Standards and Procedures. All works should proceed in accordance with the recommendations made within the report."



The site is in the immediate vicinity of existing energy infrastructure and is situated on 'higher' ground that seems a logical location as far as threats from flooding and or other natural occurrences which may be detrimental to the planned infrastructure, waterways, and other natural values.

There is no apparent native flora and fauna, or known habitat, occurring within the boundaries of the proposed project area.

It is noted that Neoen plan to include native vegetation in the landscaping of the immediate area around the project. Some of the included species include:

- Bursaria spinosa
- Blue Flax Lily, Tasman Flax lily
- Diplarrena moraea (Butterfly Flag, White Iris, Labill)

It is noted within communications with Neoen that future discussions are intended and appropriate around how the Tasmanian Aboriginal Community may benefit from this project moving forward, in collaboration and/or partnership with Neoen, as a positive outcome.

Thankyou for the opportunity to engage directly with Neoen, we look forward to working with you throughout the stages of this and other future developments as appropriate.

Kind regards,

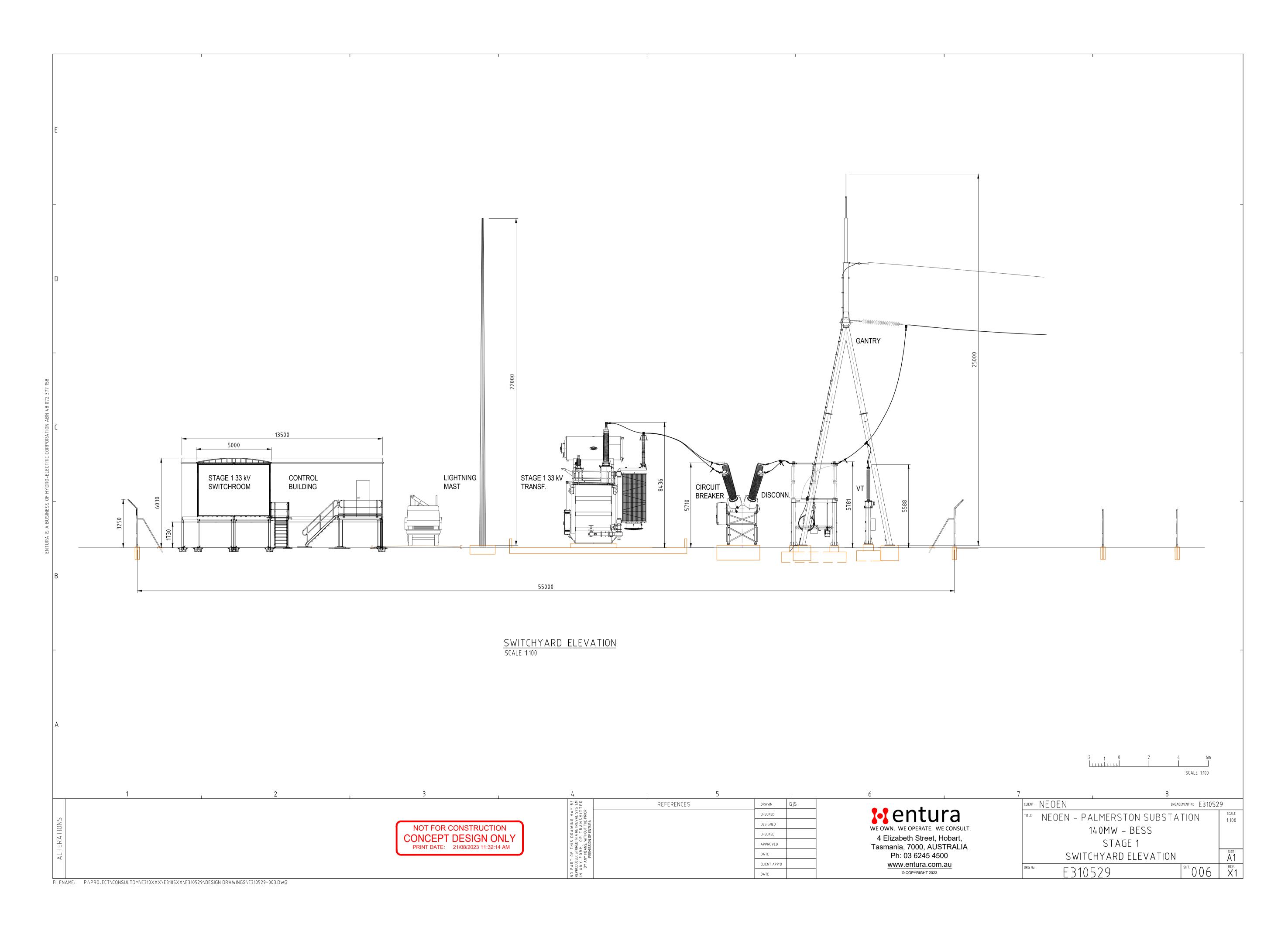
Lyndon O'Neil

Ulverstone, Tasmania

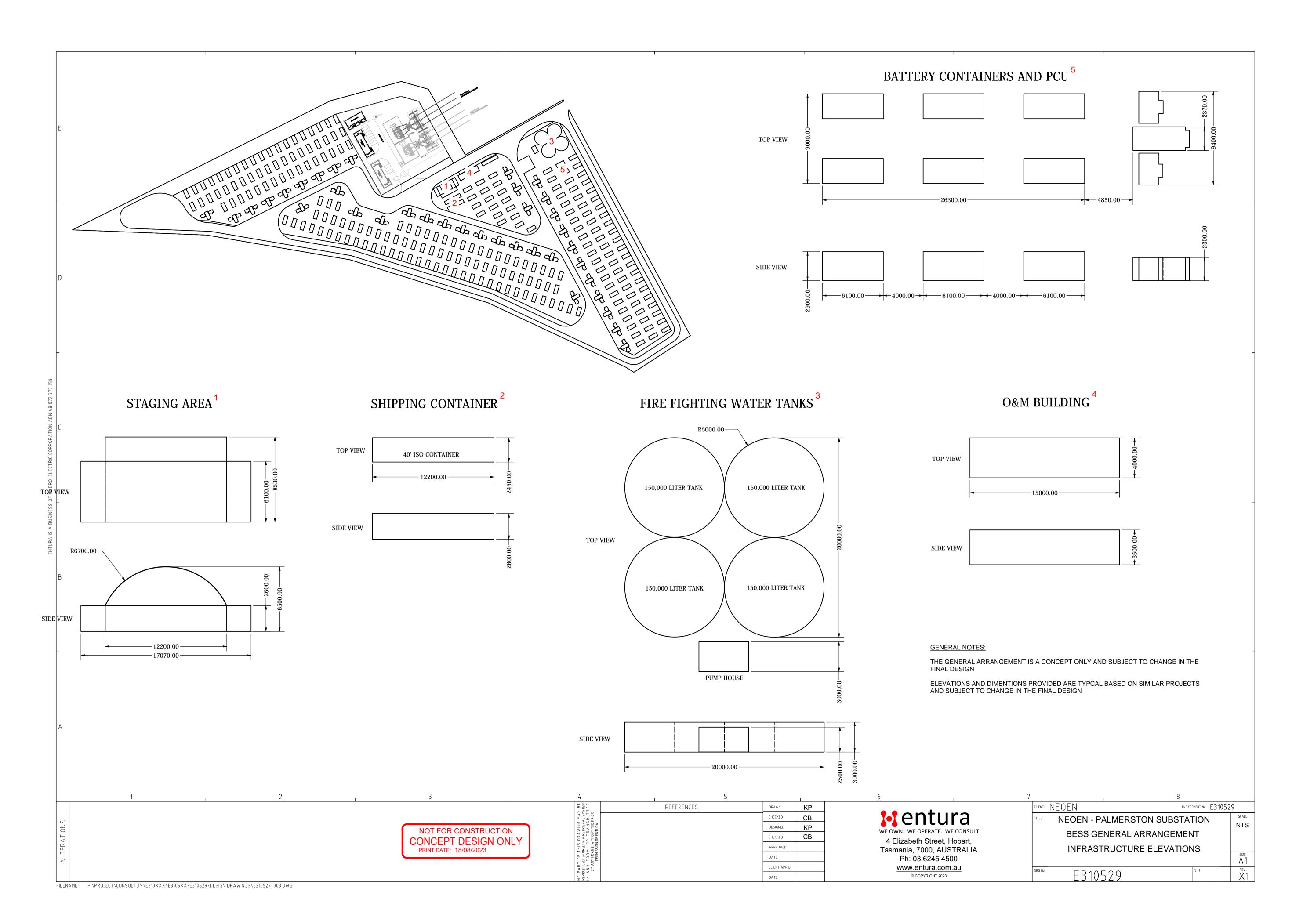
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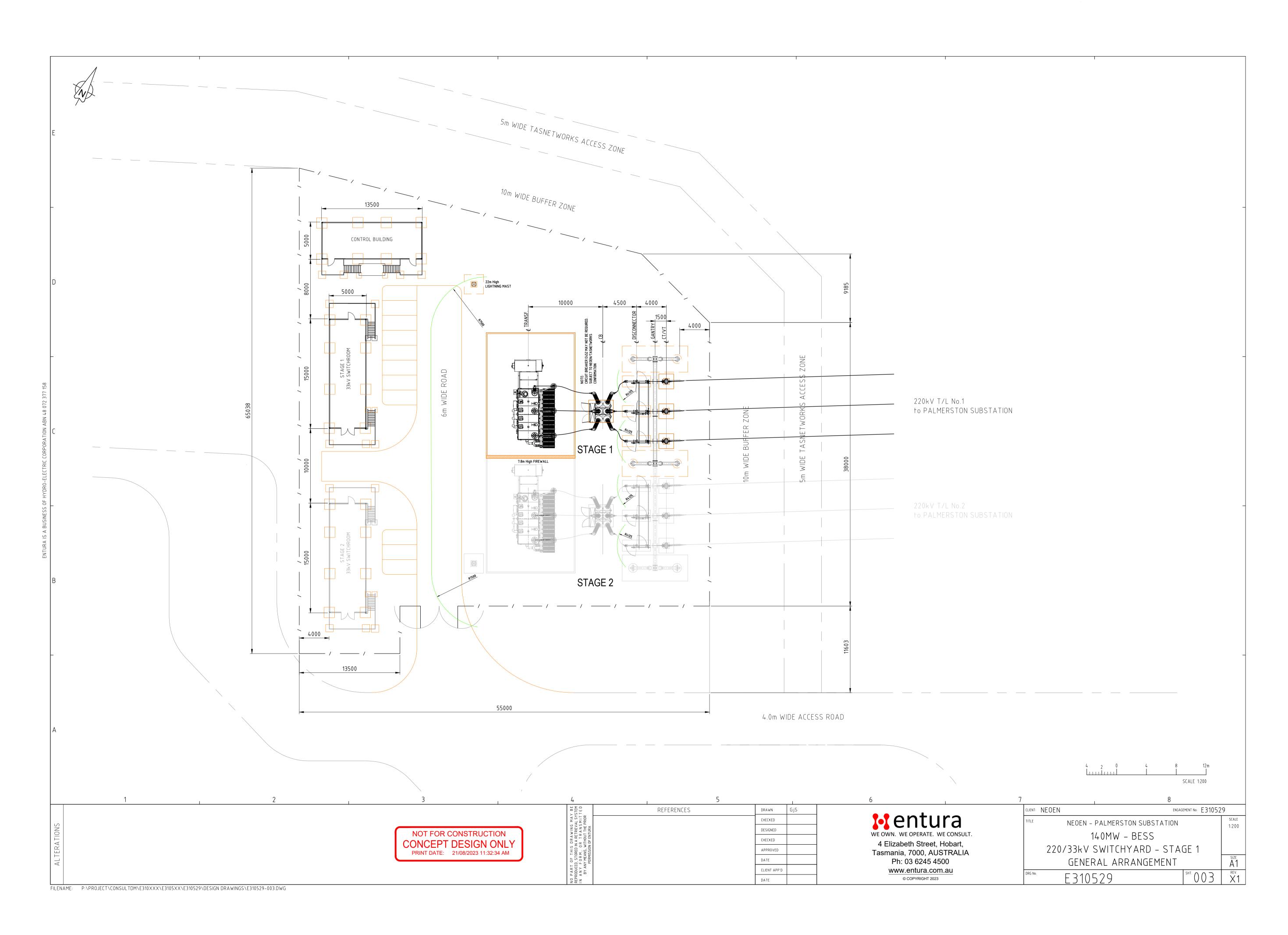
**Healthy Country Services and Consulting** 

healthycountryservices@outlook.com



Attachment 11.6.20 Elevation S 54









210 Collins Street, Hobart, Tasmania 7000 ph (03) 6231 1818 email: jerrydegryse@inspiringplace.com.au

REV	AMENDMENTS	DATE

This drawing must be read in conjunction with other construction documents including the project specifications and any instructions issued during the course of the contract. Contractors must verify all dimensions on site before commencement of works. Do not scale off drawings.

**ISSUED FOR APPROVAL** 

Project.

Palmerston Big Battery Landscape

Client

PREPARED FOR NEOEN

Palmerston Sub Station, Poating, TAS, 7302

Drawing No.	Title		
	PLANTING PLAN		
Project No.	Drawn	Date Printed	
22-33	AH/SA	19/06/2023	
North	Approved	Scale	_
A.	Att.	12000@AF	

Converight 2027

PLANNING APPROVAL

Attachment 11.6.23 Landscape plan S 54



21 August 2023

Mr Paul Godier Senior Planner, Northern Midlands Council planning@nmc.tas.gov.au

Re: Additional Information Required for Planning Application PLN-23-0134 - Great Lakes Battery Project at 4740 Poatina Road, Cressy

This letter is responding to the Northern Midlands Council's S54 dated 16 August 2023.

#### 1) Clause 6.0 Application Requirements

Separate pdfs of each of the below requested figures are attached to the email that this letter has been sent via. These attachments have each been provided at a resolution and scale suitable for A3 size. Figure 15 has been amended with annotations that identify various structures and building heights.

- Figure 9: General layout of the Great Lakes Battery
  - Please also see an additional pdf attached titled "E310529-003", showing dimensions of equipment and buildings/structures within the HV substation area.
- Figure 10: 3D model of the layout;
- Figure 12: Vegetation screening around the Project site;
- Figure 15: Elevation drawing showing gantry height.

#### 2) Clause 6.1.3 (c) Buildings

Figure 15 (elevation drawing) from the supporting report has been attached to the email that this letter has been sent via. Figure 15 now includes:

 A reasonable scale showing elevations, dimensions, height and location for each building/structures proposed. Please note an additional pdf has been attached titled "E310529-003", showing dimensions of equipment and buildings/structures within the HV substation area.

Neoen can confirm that the site plan (Figure 9) shows the correct location of each building. To avoid confusion, please find a revised Figure 10 image attached to the email this letter has been sent via. This revised version of Figure 10 should resemble the layout provided in Figure 9. If discrepancies remain between the two figures, please refer to Figure 9.

Neoen can also confirm that a purpose-built galvanised wire fence with an anti-climb top (such as barbed wire) will surround the battery site, leaving enough room for all construction and operation activities. The security fences and gates will comply with AS1725. The fences will be of galvanized chain wire, man proof design extending at least 2700mm above external ground level, with top and bottom rails. The Development Application indicates an approximate fence height of 2800mm and we can confirm the fence height will extend at least 2700mm above external ground level. The fence will include a section at the top, canted out, containing strands of barbed wire or razor wire.

#### 3) Lease area

Neoen can confirm that the spatial extent of the lease area (being the actual "leased premises" of the lease over which exclusive/quiet possession will be held) is appoximately alligned (i.e. slight changes to

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ACN 160 905 706 Level 1/53 Salamanca Pl, Battery Point TAS 7004



this area may occur during detailed design) with the shaded yellow area of the battery site as shown in the Great Lakes Battery Site and Access Plan. No other area will be leased from any other party.

Neoen can confirm that the intention is to secure a proposed Right of Way (being a type of easement which will be included in the terms of the above lease entered into with the Archers) across the proposed access (green area), in order to provide long-term access to the yellow leased premises. If, under any circumstances, a Right of Way cannot be granted, then Neoen will seek to modify any access license to guarantee long-term access.

Please find an amended Bushfire Exemption Report prepared by RMCG that acknowledges that the lease area has been considered in their assessment of the C13.0 Bushfire-Prone Areas Code.

#### 4) Flood Prone Areas Hazard Code

Neoen's response to the Flood-Prone Areas Hazards Code in the State Planning Provisions is below. Neoen can also confirm that all buildings/structures will be raised to meet the recommendations of the flood risk assessment provided in Attachment 12 of the supporting report.

C12.0 Flood-Prone Areas Hazard Code

- C12.5 Use Standards
  - o C12.5.1 Uses within a flood-prone hazard area, Performance Criteria P1.1
    - To reduce the risk from flood on the Great Lakes Battery site, the main buildings and structures, including habitable rooms, will be raised above the estimated flood levels of 0.1–0.2 m for 1% Annual Exceedance Probability events plus a freeboard (e.g. ~ 0.5 m) as recommended in the WMA Water Flood Risk Assessment (Attachment 12). This will ensure that the requirements of P1.1 are met.
  - C12.5.1 Uses within a flood-prone hazard area, Performance Criteria P1.2
    - To reduce the risk from flood on the Great Lakes Battery site, the main buildings and structures will be raised above the estimated flood levels of 0.1–0.2 m for 1% Annual Exceedance Probability events plus a freeboard (e.g. ~ 0.5 m) as recommended in the WMA Water Flood Risk Assessment (Attachment 12). The ultimate level of the site will be determined during the detailed engineering design stage and will take the flood risk assessment requirements into account, ensuring that the use can achieve a tolerable level of risk as required by P1.2.
- C12.6 Development Standards for Buildings and Works
  - C12.6.1 Buildings and works within a flood-prone hazard area, Performance Criteria P1.1 and Performance Criteria P1.2
    - To reduce the risk from flood on the Great Lakes Battery site, the main buildings and structures will be raised above the estimated flood levels of 0.1–0.2 m for 1% Annual Exceedance Probability events plus a freeboard (e.g. 0.5 m) as recommended in the WMA Water Flood Risk Assessment (Attachment 12). The ultimate level of the site will be determined during the detailed engineering design stage and will take the flood risk assessment requirements into account. The final engineering design will include civil works that ensure site drainage will not increase the flood risk to adjacent land. This may require the installation of diversion drains around the battery site to the south away from the Palmerston substation.
    - The above measures will ensure that C12.6.1 Performance Criteria P1.1 and P1.2 are met.

#### 5) Additional information supplied.

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- Updated Application form with recommended edits
- Updated Site Access Plans
- Neoen can confirm that the HV substation will contain an oil/water separation system (see 3.1 of DA), as well as the power transformers being located within an oil catch pit the details of which will be determined in the detailed design stage.
- Section 4.2.2. of the DA states that the management and mitigation of construction noise emissions will be addressed and formalised in the Project's Construction Environmental Management Plan and via contractual obligations.

Kind regards,

Lachlan McLeod

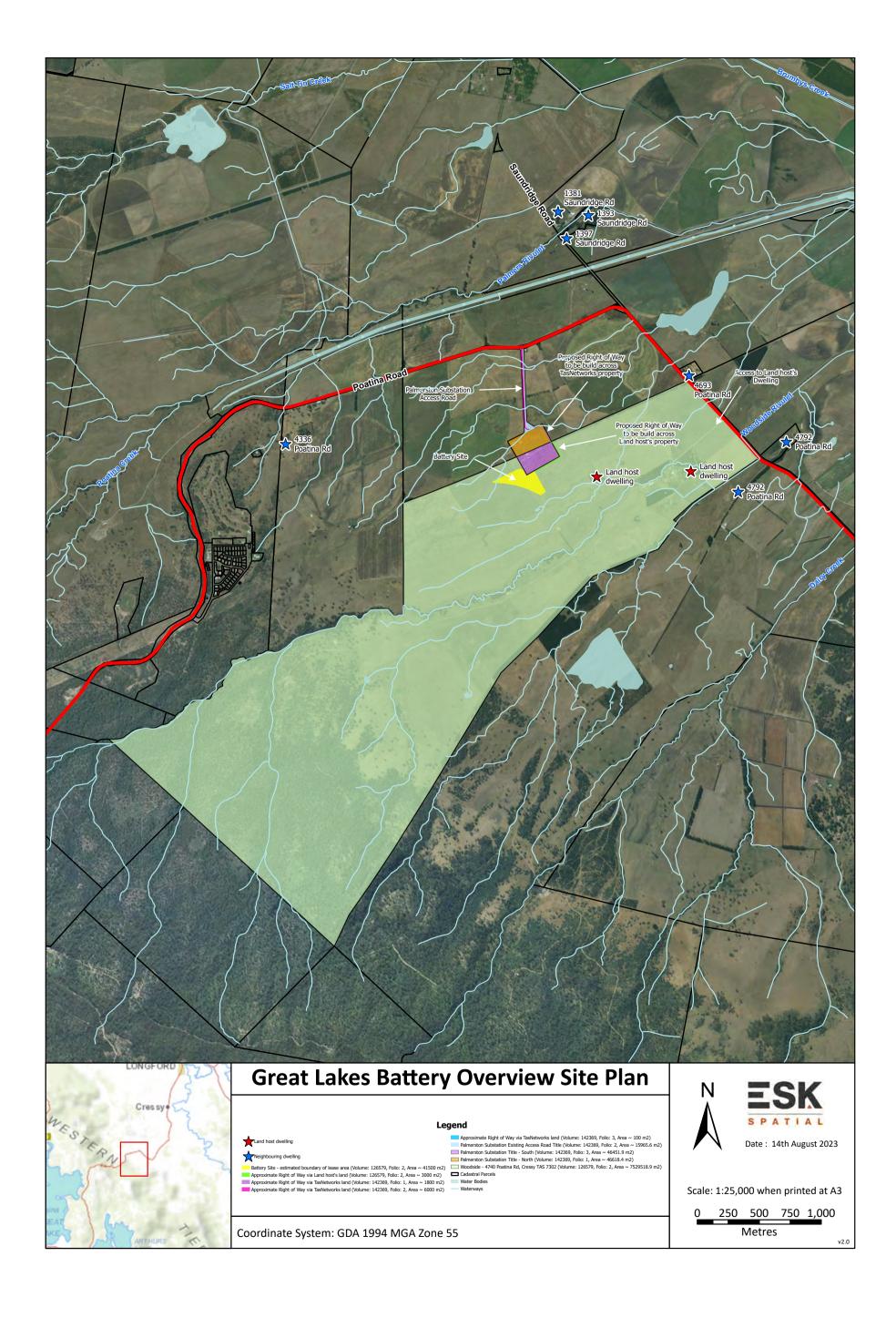
Project Manager 0400 518 508

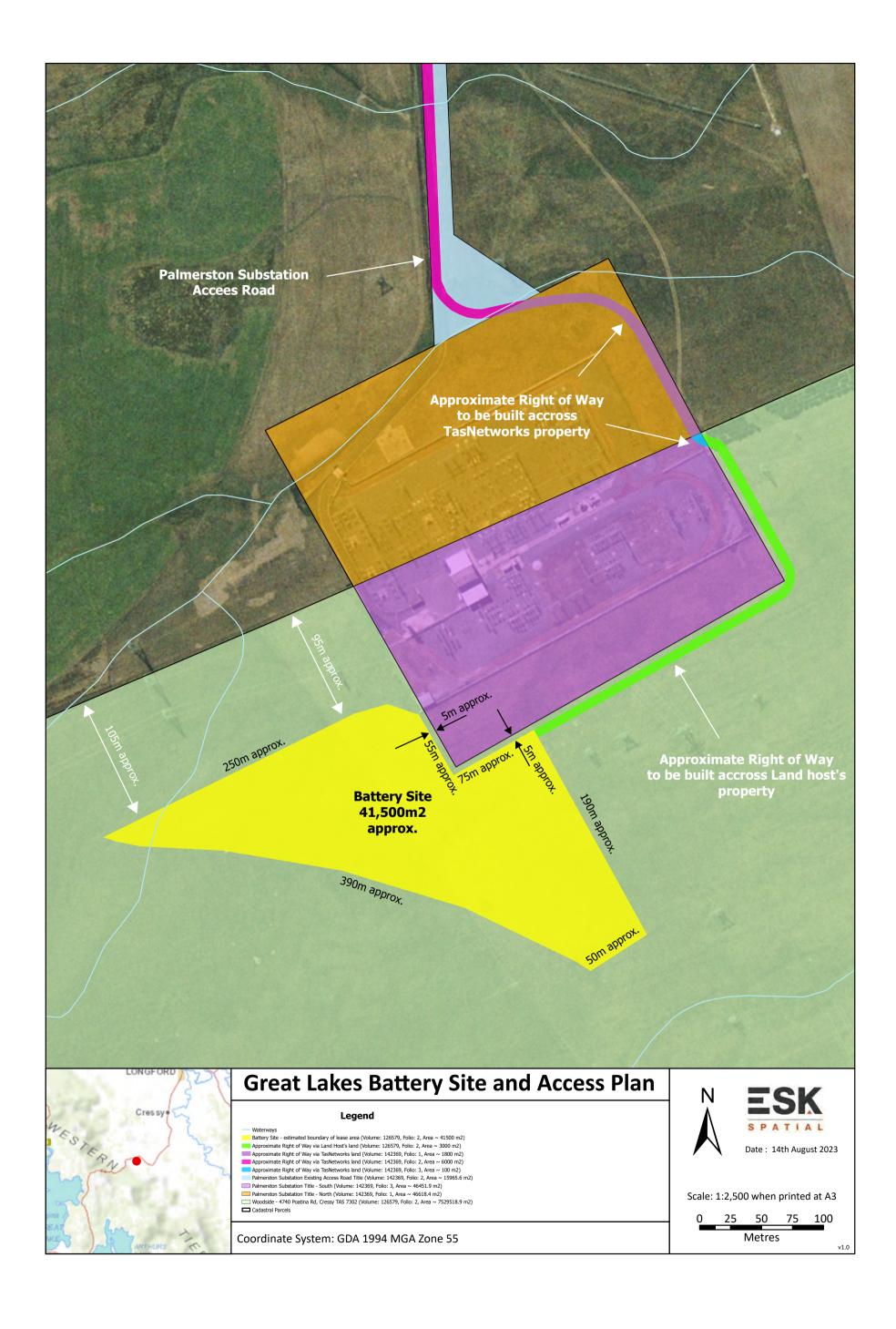
lachlan.mcleod@neoen.com

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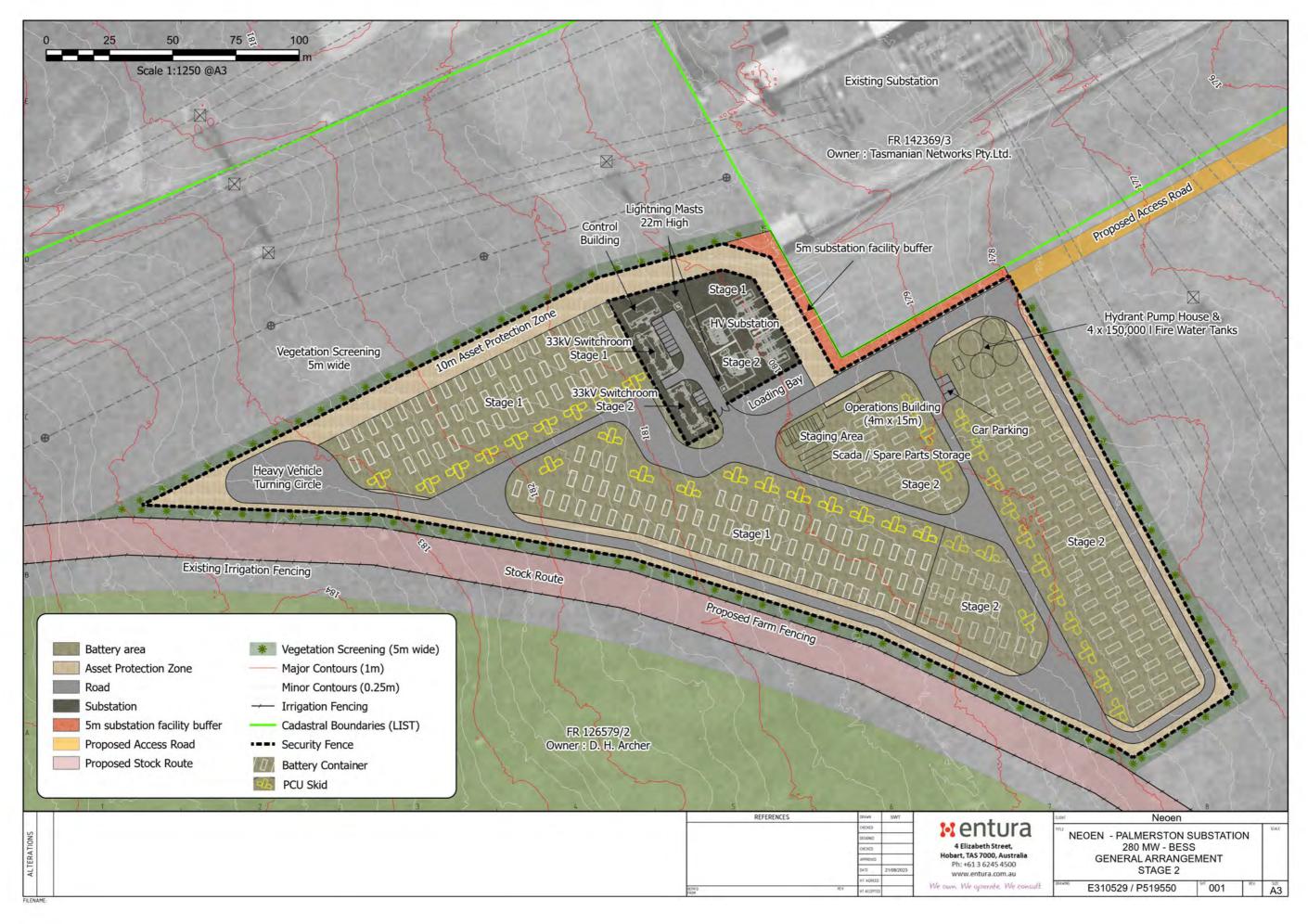
ACN 160 905 706

Level 1/53 Salamanca Pl, Battery Point TAS 7004





Attachment 11.6.26 Site and Access Plan v 1





















recreation open space and sport specialists

This report has been prepared by:

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VERSION	DATE	DOCUMENT ISSUE	AUTHOR	REVIEWER	RECIPIENT
1	29.11.22	Draft Report	CP, HC	DC	CP
2	14.03.23	Revised Draft Plan	CP, HC	DC	CP
3	20.04.23	Final Draft Plan	CP, HC	DC	CP
4	25.06.23	Final Plan	CP, HC	DC	СР



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Appendix 1 Desired facility guidelines Appendix 2 Facilities by hierarchy





Sport and active recreation activities play a major role in contributing to the Northern Tasmanian community's strong sense of wellbeing. The sporting networks are not limited by Local Government Area (LGA) and operate across all five LGA's within the Study Area, as well as servicing the broader region. With the community also hosting major sporting events at many of the existing facilities, it is important that each of the five Local Governments can plan for the future through a consolidated plan.

Sporting facilities play an important role in supporting happy, healthy, thriving, connected and engaged communities.

While sport and active recreation can include a range of informal and formal activities, this Plan addresses planning and provision of formal sport and active recreation facilities.

Fut	ture directions have been informed by:						
	assessment of current facility supply						
	assessment of existing facility usage						
	consideration of facility catchments and forecast population changes						
	review of engagement outcomes						
	analysis of trends						
	analysis of demand, opportunities and constraints.						
	e Sports Facility Plan presents future directions underpinned by the following guiding nciples:						
	collaboration						
	sustainable						
	adaptable						
	efficient						
	diverse.						

Overall, the sport and active recreation network is well provided for and in reasonable condition. There are key sports that are at capacity, only to be exasperated by future population growth as well as growth in the sport. The future directions identified aim to address this by identifying a number of additional facilities and undertaking facility upgrades.

# Participation in sport and active recreation

In addition to the local survey data collected for the development of this Plan, national and state data can assist in building a picture of formal, club-based participation in sport and active recreation within Northern Tasmania.

Relevant to the Plan, the following table highlights sports that have a high participation rate at a national, state and local level. This information has been considered along with other key demand drivers and is discussed later in the report.

Table 01: National, state and local participation rates<sup>1</sup> and trends

Sport		Participa	ition rate			National trend		State trend		
	Aust	Aust	Tas	Tas	Study	Children	Adults	Children	Adults	Comments
	Adults	Children	Adults	Children	area*					
AFL	2.9%	8.4%	3.9%	10.6%	9.5%	Steady	Increasing	Fluctuating	Increasing	Consistently high participation by national and state children. High local participation
Athletics#	18.3%	5.1%	16%	2.7%	4.5%	Steady	Increasing#	Fluctuating	Increasing#	Adult participation is skewed by the inclusion of ParkRun. Strong local participation
Badminton	1.5%	0.3%	1.4%	0.0%	0.5%		Increasing	Negligible	Decreasing	Low participation sport
Baseball	0.4%	0.6%	0.1%	1.4%	0.4%	Steady		Decreasing	Negligible	Low participation sport
Basketball	4.6%	8.1%	5.8%	8.0%	13.7%	Steady	Increasing	Increasing	Increasing	Consistently high participation nationally and in the state. Higher local participation than the state and nation
BMX	0.1%	0.7%	0.0%	0.0%	0.8%	Steady	Increasing	Negligible	Negligible	Low participation sport
Cricket	2.7%	4.8%	2.2%	7.3%	8.3%	Decreasing	Steady	Decreasing	Steady	Consistently high participation by national and state children. High local participation
Croquet	0.1%	0.0%	0.3%	0.0%	1.6%	Negligible	Increasing	Negligible		Low participation sport
Cycling	13.6%	1.5%	11.9%	0.0%	1.9%	Increasing	Increasing	Negligible		High participation by national and state adults. Lower local participation than state and national
Equestrian	1.2%	1.0%	0.7%	0.0%	1.9%	Increasing	Increasing	Negligible	Decreasing	Low participation sport
Football (Soccer)	5.8%	14.4%	3.5%	9.8%	8.7%	Steady	Increasing	Steady	Increasing	Consistently high participation nationally and in the state. High local participation
Gymnastics	0.5%	10.7%	0.0%	10.5%	1.0%	Increasing				Consistently high participation by national and state children. Low local participation
Hockey	0.9%	1.6%	1.7%	0.2%	6.5%	Decreasing	Steady	Fluctuating	Increasing	High local participation
Lawn Bowls	1.3%	0.0%	1.0%	0.0%	1.2%	Negligible	Increasing	Negligible	Decreasing	Low participation sport
Martial Arts	1.2%	1.1%	0.9%	3.6%	0.2%	Steady		Increasing		Low participation sport
Netball	3.1%	6.1%	2.3%	6.1%	24.0%	Decreasing	Steady	Decreasing	Fluctuating	Consistently high participation by national and state children. High local participation
Roller Derby	0.0%	0.0%	0.0%	1.4%	0.7%	Steady	Steady		Increasing	Low participation sport
Rugby Union	0.7%	2.0%	0.4%	0.0%	0.4%	Increasing	Steady	Negligible	Steady	Low participation sport
Sailing	0.9%	0.1%	1.8%	0.0%	1.4%	Steady	Steady	Negligible	Steady	Low participation sport
Softball	0.2%	0.3%	0.6%	0.0%	1.6%	Steady	Steady	Negligible	Increasing	Low participation sport
Squash	0.7%	0.2%	1.3%	0.0%	0.1%	Negligible	Steady	Negligible	Increasing	Low participation sport
Swimming	16.4%	35.5%	16.4%	27.3%	5.6%	Increasing	Increasing	Increasing	Steady	High national and state participation. Lower local participation than state and national
Table Tennis	0.8%	0.3%	1.7%	0.0%	0.3%	Increasing	Increasing	Negligible	Increasing	Low participation sport
Tennis	5.7%	5.2%	3.3%	5.6%	2.6%	Decreasing	Increasing	Increasing	Steady	High national and state participation. Lower local participation than state and national
Touch Football	1.5%	1.8%	0.7%	0.5%	1.0%	Steady	Steady	Steady	Decreasing	Low participation sport

<sup>#</sup> Athletics is athletics/running and is skewed by the inclusion of ParkRun for adults

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 $<sup>{\</sup>rm *Northern\ Tasmania\ Sports\ Facility\ Plan\ 2022\ Community\ Survey}$ 

Ausplay 2022

Consistent with the National and State trends in participation, the Study Area shares a number of the high participation sports including AFL, Basketball, Cricket (children), Football (Soccer), Gymnastics (children), Netball (children), Swimming and Tennis. The differences for the Study Area are the high local participation in Hockey and the lower participation in Cycling.

# Key priorities for the study area

Based on detailed assessments undertaken throughout the development of the Plan, the following sports have been identified as high priority. Additional findings for the complete list of sports are outlined within section 6 of this Plan.

Table 02: Priority sports identified by the Plan

Table 02:	Priority sports identified by the Plan					
Sport	Justification	Strategic projects				
Basketball	<ul> <li>high national and state participation</li> <li>higher local participation than national and state</li> <li>trending growth in the sport</li> <li>there is a lack of compliant, indoor multi-court facilities within the study area, with demand far outweighing existing provision</li> <li>current under-supply of approximately 12 indoor courts</li> </ul>	the concept plan for the Northern Suburbs Community Hub in Mowbray indicates the provision of indoor courts for use by basketball proposed UTAS Stadium will predominately cater for high performance use NTCA master plan may consider the need for additional indoor courts  future duplication of the Longford Community Sports Centre is recommended proposed UTAS Stadium will predominately cater for high performance use - ensure the needs of netball are included in the planning of this facility there is a need to identify a suitable location for the development of a future multi-court indoor facility to				
Netball	<ul> <li>highest female participation sport</li> <li>high national and state participation by children</li> <li>high local participation</li> </ul>	meet the growing needs of basketball     the concept plan for the Northern Suburbs Community     Hub in Mowbray is planning four dedicated indoor netball     courts by mid 2025				
	<ul> <li>current under-supply of approximately 8 outdoor courts</li> <li>anticipated need for additional 14 outdoor courts by 2036</li> </ul>	there is a need to identify a suitable location for the development of a future multi-court indoor facility to meet the growing needs of netball				
	there is a lack of compliant, indoor multi-court facilities within the study area, with demand far outweighing	<ul> <li>future duplication of the Longford Community Sports         Centre is recommended</li> <li>undertake court re-surfacing and expansion to meet run-</li> </ul>				
	existing provision     sport is at capacity and growth is restricted	off requirements at Northern Tasmania Netball Centre				
		the future focus for netball is on the provision of indoor courts whilst maintaining the current outdoor provision				
Football (Soccer)	high national and state participation	NTCA master plan may consider additional fields				
(000001)	<ul><li>strong local participation</li><li>trending growth in the sport</li></ul>	Football Federation Tasmania has identified a synthetic pitch as a key priority for Launceston				
	<ul><li>current under-supply of approximately 7 fields</li><li>anticipated need for 13 additional fields by 2036</li></ul>	new multi-field facility is required, to be potentially located at in the growth areas of Legana, St Leonards or Perth				
AFL	<ul> <li>high national and state participation by children</li> <li>strong local participation</li> <li>trending growth in the sport</li> </ul>	NTCA master plan may consider additional ovals     two new multi-oval facilities are needed in key locations close to population centres     Deloraine Recreation Ground re-development may				
	a number of facilities are over-capacity with too many 'home' clubs	provide opportunity for multi-oval facility				
	<ul> <li>current under-supply of approximately 4 ovals</li> <li>anticipated need for 9 additional ovals by 2036</li> </ul>					



This Sports Facility Plan is the first phase in a long-term planning initiative of five councils within the Northern Tasmania Region: the City of Launceston, West Tamar Council, Meander Valley Council, Northern Midlands and George Town Council.

The Plan focuses on sport and active recreation facilities to ensure that the long-term needs of the community are adequately catered for. The Plan is intended to complement national, state and regional plans and strategies, and will feed into local planning processes of the five councils.

It has been developed through sport facility inspections, engagement with both internal and external stakeholders and detailed analysis.

#### Vision

Member Councils of the Northern Tasmania Development Corporation collectively provide sport infrastructure in a sustainable and equitable way, to support participation in a diverse range of active recreation pursuits, that contribute positively to the mental, emotional, and physical health and wellbeing of residents and visitors.

## **Guiding Principles**

The guiding principles describe the over-arching intentions for the provision and management of sport and active recreation facilities for the Northern Tasmania Region.

#### Collaboration

Councils within the Northern Tasmania Development Corporation are committed to working together to achieve shared outcomes for the Region.

#### Sustainable

Investment in sport infrastructure results in an improvement and positive impact on the economy, the community, and the environment.

### Adaptable

Planning, design, and construction of sport facilities accommodates the potential for changes in demographic and participation trends and provides opportunities for innovation in response to changes.

## **Efficient**

Investment of resources into sport infrastructure achieves the most benefit possible for the community.

## **Diversity**

The diversity of our communities is valued, and unfair and inappropriate barriers to participation in active recreation are identified and removed.

#### Location

The Northern Tasmania Region is located in northern Tasmania and is bounded by the Tasman Sea in the north and east, the Glamorgan Spring Bay Council area, the Southern Midlands Council area and the Central Highlands Council area in the south, and the West Coast Council area, the Kentish Council area and the Latrobe Council area in the west.

The Sports Facility Plan, encompasses five local government areas: the City of Launceston, Meander Valley Council, Northern Midlands Council, George Town Council and West Tamar Council. These five local government areas encompasses 11,224 square kilometres.

The Region includes rural, rural-residential, urban and holiday areas. Major features include national parks, islands, conservation and nature reserves, heritage buildings and historic sites, lakes, hiking and mountain biking trails, ski fields, and diverse agricultural, processing and manufacturing facilities.

Half of the Region's estimated population of 136,687 reside in the City of Launceston, the major urban centre, with the remainder living in numerous townships, small villages and settlements. Industrial and maritime land use is located largely in George Town, around the Bell Bay Port. Rural land is used largely for agriculture, particularly dairy farming, sheep grazing and crop growing. Forestry, tourism, mining, viticulture and fishing are also important industries.



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