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Environmental Assessments – Conclusion and Recommendations

Little River BESS

405-445 Sandy Creek Road, Little River, VIC

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Bushfire Risk Management Plan

5.5 Conclusions

Based on the bushfire risk assessment, it is concluded that the bushfire risk is low enough to meet the requirements of Clause 13.02-1S as long as adequate bushfire protection measures are provided onsite. This assessment allows the proposal to meet Section 6.1 of the Guidelines and the remaining sections can be addressed through the design and the management. The various points which need to be factored into the design and the subsequent Sandy Creek BESS Station Emergency Management Plan and Risk Management Plan being developed by the facility managers are as follows:

- If the relevant governing and referral authorities have an issue with the placement of the facility within the BMO, even with the risk being considered acceptable, there is the potential for adjusting the position to place it outside this overlay.
- Grazing is permitted within the facility within and around the solar panels as a fuel protection measure but should be combined with slashing if/when livestock are removed during bushfire season.
- The proposed road network is considered adequate and will need to be construction as per the requirements of Section 4.2.1 of the Guidelines. The temporary roads should be retained as they provide access to a larger area of the site.
- Access from the existing entrance way as well as the proposed should be considered as per Section 4.2.1 of the Guidelines. Both provide access to Sandy Creek Road.
- 288,000L of static water will need to be provided across the facility as per the requirements for Battery Energy Storage Systems (Centralised) and must meet the overall emergency water requirements under Section 4.2.2. The BESS enclosure covers an area directly north within the development zone. This supply should be located in close proximity to the BESS enclosure.
- A 19m fuel break (meeting defendable space requirements) will be required around the perimeter of the facility, all onsite structures, and the BESS enclosures. There is sufficient distance from the retained Woodland patches onsite.
- The BESS enclosures are considered to be adequately placed to meet the design specific requirements detailed in Section 4.2.6 of the Guidelines and the 19m fuel break detailed above should be sufficient for these structures. The remaining requirements for these units are based around their internal design and must be factored into the risk management plan.
- In regards to emergency management of the facility. The following items should be considered as part of the emergency management plan being prepared:
    - Emergency management for bushfire will be extremely important during construction since the workforce will be ~100 people and the majority of the bushfire protection measure won't be present. Ensuring all the proposed access is present prior to any structures being built, timing construction to avoid bushfire season where possible and ensuring an evacuation and stop-work procedures are in place for Extreme to Catastrophic conditions will be essential.

- Fire suppression training for staff is recommended to reduce the ignition risk from the facility itself as it will allow a potential bushfire scenario from being contained before it becomes a threat and would allow any risk from the facility to be addressed.
- Once construction is complete, the risk is greatly reduced since all of the protective measures will be present and the site will only have ~10 people present at any given time. Ensuring the site is evacuated during Extreme to Catastrophic conditions is still advised unless staff are trained in fire suppression and can assist in defending the facility. A shelter-in-place procedure is advised so employees don't interfere with emergency services but conditions may allow evacuation while emergency services are present (especially if staff have fire suppression training).
- As the site is being built directly adjacent to another large industrial complex (Boral Quarries) emergency procedures and resources can potentially be pooled into a single response which should allow for better resource management and ensure there are no conflicts of procedures which may create additional hazards.

- The Emergency Management Plan and Risk Management Plan being developed by the client must consider Sections 10 and 11 of the Guidelines in addition to incorporating the results of this assessment.

Once these measures are in place, the facility should be able to address all of the CFA's and Council's concerns and be adequately protected from bushfire during and following construction.

Heritage Statement

Statutory Obligations under the *Planning and Environment Act 1987*

Local councils are responsible for issuing Permits for the use and development of local heritage places under the *Planning and Environment Act 1987*. Heritage places are listed on the Heritage Overlay on the Local Council Planning Scheme. The Heritage Overlay includes places of local significance as well as places of State Significance to the Government of Victoria on the Victorian Heritage Register.

Planning Scheme Search

A search of LGAs Planning Scheme (Heritage Overlay) shows that there are no previously recorded historic sites in or immediately adjacent to the activity area.

Summary of Statutory Obligations

This investigation has reviewed the statutory obligations in relation to the relevant Aboriginal and historic heritage Acts and Regulations. The obligations are summarised in the table below.

Table 1 Summary of Cultural Heritage Statutory Obligations

Aboriginal	*Is the activity a high impact activity?*	Yes, pursuant to regulation 46(1)(a)(b)(xxvii)(D).
	Is part of the activity area a legislated area of cultural heritage sensitivity?	No
	Is a mandatory CHMP required?	No
Historic	*Are there any Heritage Inventory (HI) or Victorian Heritage Register (VHR) places within or immediately abutting the activity area?*	No
	Are there any Greater Geelong Heritage Overlays within or immediately abutting the activity area?	No
	Are any Permits or Consents required from Heritage Victoria required prior to the activity commencing?	No
	Are any Permits required from Greater Geelong required to manage a Heritage Overlay prior to the activity commencing?	No

ACENERGY Pty Ltd has had consultation with Wadawurrung Traditional Owners Aboriginal Corporation on 08/09/2022 prior to submission of the Development Application for the proposed battery energy storage system (BESS) to DELWP. Following the advice received by Wadawurrung Traditional Owners Aboriginal Corporation for the engagement of a Heritage Advisor Tardis provides the following heritage advice in relation to the activity:

Aboriginal Cultural Heritage:

The proposed activity does not require a mandatory CHMP prior to the activity commencing. If the proponent of the activity wishes to mitigate the risk of the discovery of any Aboriginal cultural heritage during the conduct of the activity, a voluntary CHMP can be commissioned.

Historic Heritage:

There are no further historic archaeological or heritage matters that need to be addressed prior to the works commencing.

Yours sincerely,

Nicholas Arnold
Archaeologist

Flora and Fauna Assessment and Impact Analysis

7. RECOMMENDATIONS

The following recommendations are designed to reduce the likelihood of any additional primary impacts and any secondary impacts from the construction and future management of the site impacting any of the retained ecological values present.

7.1 Management of construction site

The construction site should be clearly marked and managed so that only areas permitted to be disturbed are impacted. This will include keeping construction works to the areas identified as works zone, access, vehicle movement and storage of materials.

To ensure the flora and fauna values identified on site are managed appropriately:

- construction works to be confined to designated 'Go-Zones', where construction activities and access will take place;
- temporary fencing, to be installed around the 'Go-Zones' to limit the movement of vehicles and machinery; where there is the potential for subsurface harm to root zones the use of above ground footings should be considered
- erosion and sediment control measures to be implemented, including;
    - drainage management
    - soil stabilization measures alongside construction zones near areas likely to exhibit erosion;
    - protocols around management and location of stockpiles, along with restrictions on vehicle movement through fencing;
    - sediment barriers to be erected where necessary to prevent sediment laden runoff
- waste management and chemical management to be undertaken to reduce risk of contamination of areas containing flora and fauna values;
- areas of native vegetation that may be excavated should have the soil managed appropriately to ensure that the seed bank is utilised in remediation.

7.2 Erosion control

Any retained native vegetation and associated habitat within the Subject Site will be vulnerable to secondary impacts from construction. The following should need to be considered in regards to erosion management during earthworks:

- All earthworks must be undertaken in a manner that will minimise soil erosion and adhere to Construction Techniques for Sediment Pollution Control (EPA 1991) and any exposed areas of soil must be stabilised to prevent erosion

- Where earthmoving equipment is needed, smaller versions of equipment should be considered to minimise disturbance
- Earthmoving equipment should be cleaned before entering and leaving the site, including the Construction and Domestic Zone to prevent the spreading of weed propagules and pathogens such as Phytophthora *Phytophthora cinnamomi*.
- If soil is stockpiled, the capture and trapping of sediment runoff should be managed by careful placement within the CDZ and use of an adequate sediment barrier around the pile.

7.3 Weed management

Particular care during construction and after construction will be required as soil disturbance, destroying native vegetation, inundation (change of land use) and introduction of weed seeds facilitates weed invasion. In order to effectively control weeds at the site, the following general guidelines should be followed:

- weeds should be frequently monitored and controlled to ensure sensitive removal of exotic species. Due to the proposed inflow of storm water from the development, further monitoring is required to ensure weeds are not being washed/introduced into the subject site.
- any new and emerging weeds within the offset zone are to be eliminated (< 1% cover)
- soil or vegetative material should be transported as little as possible around the site and particular care should be taken not to introduce such materials into the subject site.
- all machinery should be cleaned for soil or vegetative material before entering the property during the construction of the dwellings and associated features
- soil and vegetation disturbance during constructions works should be minimised through the use of erosion control methods and defined fencing.
- no topsoil should be transported through or used within the subject site.
- no environmental weeds should be planted on the property (refer to https://www.geelongaustralia.com.au/weeds/documents/item/8d164ca100efeda.aspx for information on such weeds within the City of Greater Bendigo municipality).

The above guidelines will not only aid the removal of weeds and prevent their spread, it will also minimise the disturbance to areas of retained native vegetation during weed control. Some general principles to guide ongoing weed control within the site are however provided as follows:

- weeds should be frequently monitored to allow the most effective course of treatment and prevent new infestations.
- works should initially focus on the highest threat weeds, such as Spear Thistle, and weeds most easily eliminated from the site
- weed management should focus on the highest quality areas and a systematic approach applied to work out from these areas

- all works should minimise soil disturbance as much as possible
- ensure weed control is targeted and does not impact native species
- target weed control at the weakest point in the weed's lifecycle (e.g. while actively growing but before seed set)
- plan follow-up control to capitalise on any works previously undertaken
- ensure herbicides are used in accordance with the label instructions and Material Safety Data Sheets
- minimise herbicide use in sensitive areas such as wetland and if necessary, utilise herbicide with decreased impact to aquatic environments such as Roundup Biactive

There are only five species listed under the CaLP Act onsite which need to be managed, while others are considered environmental weeds that should be managed in areas where native vegetation is present. Table 14 lists current priority weeds for management on the Subject Site, particularly where native vegetation patches were identified as part of this report, with a brief description of their occurrence. Consideration has been given to the existing site conditions and native vegetation present in determining the species included on this list, noting that there are additional weeds including established grassy weeds that can be difficult to control unless an extensive effort to restore the native vegetation is in place. Monitoring of these weeds should be undertaken and treatment undertaken to prevent their spread.

Table 14. Priority Weeds for Management

Scientific Name	Common Name	Occurrence	Control Methods^
**Lycium ferocissimum*	African Boxthorn	Within the subject site	C, S, H
**Solanum linnaeanum*	Apple of Sodom	Within the subject site	C, S, H
**Ulex europaeus*	Gorse	Within the subject site and the western roadside	C, S, H
**Asparagus asparagoides*	Bridal Creeper	Eastern Road Boundary	S, H
**Nassella trichotoma*	Chilean Needle Grass	Within the subject site and on roadsides	S, H
**Aizoon pubescens*	Galenia	Within the subject site and both roadsides	S, H
**Allium triquetrum*	Angled Onion	Within the subject site	D
**Arctotheca calendula*	Cape Weed	Across the subject site and roadsides	S, H
**Brassicaceae spp.*	Crucifer	Within subject site and roadsides	S, H
**Cenchrus clandestinus*	Kikuyu	Within subject site and roadsides	S, H
**Chrysanthemoides monilifera*	Boneseed	Within subject site	S, H
**Cyperus eragrostis*	Drain Flat-sedge	Within subject site and roadsides	S, H
**Dactylis glomerata*	Cocksfoot	Within subject site and roadsides	S, H
**Ehrharta calycina*	Perennial Veldt-grass	Within subject site and roadsides	S, H
**Nassella trichotoma*	Serrated Tussock	Within subject site and roadsides	S, H
**Phalaris aquatica*	Toowoomba Canary-grass	Within subject site and roadsides	S, H
**Polygonum arenastrum*	Wireweed	Within subject site and roadsides	S, H

^Control Methods Legend
H: Hand weeding
C: Cut-and-paint
D: Dig out
S: Spot Spray

7.4 Fauna

Considering the size of the site and the measures being taken to reduce the ecological impacts, minimal effort is required to reduce impacts to fauna habitat.

7.4.1 Fauna salvage

Effort should be made to ensure any wildlife located within any area proposed for clearing is carefully salvaged and relocated from the works areas. This should also ensure minimal wildlife damage during the works.

7.4.2 Pest animals

The site is not considered to be large enough for management of pest species to have much impact on the surrounding areas although pest species such as rabbits are expected to be present and should be monitored.

Flood Risk Report

6 CONCLUSIONS AND RECOMMENDATIONS

The flood investigation provided within this report provides flood mapping for a proposed BESS Facility to be constructed at 405 Sandy Creek Road, Litte River, VIC. A hydrological model (RORB) and 2D hydraulic flood model (TUFLOW) were developed for the design modelling. Modelling was undertaken in line with the latest flood modelling software; industry standards (i.e., BoM IFD and ARR 2019 guidelines) and the latest available 1 metre LiDAR dataset for the 1% AEP design storm event.

The flood modelling and mapping confirmed that there are significant overland flow paths across the site with peak flood depths approximately 310 mm across the area of interest (facility location). Maximum flood velocities are low, between 0.01 – 0.8 m/s, resulting in the site being classified as flood hazard H1 (generally safe for people, vehicles and buildings). The layout of the site avoids the placement of BESS and MVPS containers inside of the flood extent of Hovells Creek.

The proposed sound wall which crosses the 1% AEP flood extent was modelled as part of the developed conditions. It was found that water was able to effectively flow under the sound wall (when placed 150mm above the existing surface level) and no changes were observed between existing and developed conditions.

Based on the findings of the flood modelling of Hovells Creek, it is recommended that critical electrical infrastructure (i.e. BESS and MVPS containers and HV infrastructure) that is located within the 1% AEP flood extent to be set 300 mm above the 1% AEP flood level. All other critical electrical infrastructure should be at least 300 mm above the natural ground level.

Environmental Noise Emission Assessment

9. General Environmental Duty and Design Review

In accordance with the requirements of the general environmental duty, the client must consider the potential risks associated with the proposed use and reduce these risks as far as reasonably practicable.

With the implementation of reasonably practicable measures including fitting the MVPS and batteries with effective noise control 'kits', WMG has determined compliance with Noise Protocol noise limits at nearby sensitive receptors.

Further to the above, and in accordance with the requirements of The Act, the client and/or future operator would be in breach of the GED if they fail to do any of the following in the course of conducting the business or the undertaking so far as reasonably practicable:

- use and maintain plant, equipment, processes and systems in a manner that minimises risks of harm to human health and the environment from pollution and waste;
- use and maintain systems for identification, assessment and control of risks of harm to human health and the environment from pollution and waste that may arise in connection with the activity, and for the evaluation of the effectiveness of controls;
- use and maintain adequate systems to ensure that if a risk of harm to human health or the environment from pollution or waste were to eventuate, its harmful effects would be minimised;
- ensure that all substances are handled, stored, used or transported in a manner that minimises risks of harm to human health and the environment from pollution and waste;
- provide information, instruction, supervision and training to any person engaging in the activity to enable those persons to comply with the general environmental duty.

The described items will likely be internal processes involving training and documentation to address any potential emissions from the site in the event that they occur.

10. Conclusion

WMG has carried out an acoustic assessment to address potential noise emissions from the operation of a new battery energy storage system (BESS) facility at the site described as 405-455 Sandy Creek Road, Little River.

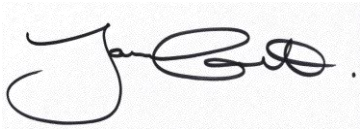
The assessment has included attendance at the subject site to consider the existing acoustic environment including potential noise contributions from surrounding commercial operations.

The findings of the assessment have concluded that with the implementation of reasonably practicable measures, which include noise control 'kits' to the MVPS and battery units, noise emissions associated with the proposal comply with the Noise Protocol noise limits at the nearby sensitive residential receptors.

Given the preliminary nature of the assessment, it is recommended that further investigations and noise assessment works are undertaken during detailed design to confirm that calculated noise emissions from the proposal continue to comply with relevant noise criteria.

This would logically include a review of the final design including equipment selections and locations and may include site investigations to measure the proposed equipment and confirm the source sound power levels adopted for the basis of any future assessment.

In some instances, this may also allow for a reduction in the project acoustic requirements.



JORDAN GROWCOTT
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ACOUSTICS PTY LTD

Stormwater Management Plan

5 Conclusions

This Stormwater Management Plan has reviewed information and data to understand the potential impacts of the proposed BESS facility on the local surface and groundwater environment. The potential impacts associated with the construction, operation and decommissioning phases can be appropriately managed through implementation of a range of conventional mitigation measures. In summary:

- The potential for discharge of sediments and the resulting impact on the receiving environment surface water quality during ground disturbance activities (construction and decommissioning) will be managed through appropriate construction management planning including best practice erosion and sediment control measures.
- Potential adverse impacts on the receiving environment surface water quality during the operational phase will be addressed through development of an operational management plan. This will include the development and appropriate maintenance of a suitable ground cover, and grassed buffer swales to minimise the potential for erosion and export of sediment. Additional measures for the treatment of stormwater quality are not considered necessary.
- Peak stormwater discharges from the Site for impervious areas may increase slightly. However, potential impacts to drainage features and downstream watercourses are considered likely to be minimal due to the relative size of the Site area in relation to the size of the receiving catchments, and the distributed nature of minor impacts. To manage impacts, the perimeter buffer swale network will provide appropriate stormwater detention, reduce peak flow velocities, and maintain existing flow distribution for Site runoff discharge to receiving watercourses.
- Minimum changes to the land topography, impervious fraction and therefore runoff and groundwater infiltration are expected due to the nature and extent of proposed infrastructure. A relevant set of construction and operation Management Plans (to be developed prior to construction/operation commencement) will limit any major residual impacts on surface or ground water.
- The potential for adverse impacts on the receiving environment surface water quality from point sources such as chemical storage and on-site water use and disposal will be mitigated through design and will be operated to comply with relevant local planning requirements.

Traffic Impact Assessment

6 Conclusions and recommendations

We conclude there are no traffic engineering reasons that would prevent the development from proceeding, as outlined below:

- with no crash history, the access road network in the vicinity of the subject site is considered to operate safely and requires no urgent remedial treatment.
- adequate space is available for on-site car parking and materials storage, with a designated car parking area nominated on the site plan.
- sight lines along Sandy Creek Road at the site access meet current standards but could be further improved by removal of dead vegetation at and to the north of the driveway.

However, this TIA has identified several recommendations that need to be addressed:

- **Recommendation 1:** that dead vegetation be removed at and to the north of the new driveway.
- **Recommendation 2:** that access to the development from Sandy Creek Road be constructed in accordance with SD265 from the IDM but catering for left-in and right-out movements only and including the specified pavement strengthening of Sandy Creek Road.