exhibit 2R1

SOUTH AUSTRALIA

IN THE ENVIRONMENT RESOURCES AND DEVELOPMENT COURT

No 01 of 2016, No 12 of 2016, No 13 of 2016 and No 14 of 2016

BETWEEN:

GILLON MCLACHLAN
Appellant

and

PETER ROYAL
Appellant

and

EASTERN MOUNT LOFTY RANGES LANDSCAPE GUARDIANS INC
Appellant

and

STIRLING MCGREGOR
Appellant

and

MID MURRAY COUNCIL
First Respondent

and

TILT RENEWABLES AUSTRALIA PTY LTD
Second Respondent

AMENDED
CONSOLIDATED PARTICULARS OF DEVELOPMENT

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Table of Contents

Table index

Figure index

Appendices

1. Approvals Sought

This application is seeking planning approval for the following project elements and approach:

1. Development Plan consent for a wind farm land use on the sites identified in this document and the associated mapping.
2. The wind turbines and associated infrastructure described in section 2 of this document.
3. 103 wind turbine generators (WTGs) (with a maximum height to blade tip of 165m) and associated infrastructure to be constructed generally in accordance with the indicative locations within the ridgeline segments shown on the layout plans accompanying this document. Construction of turbines may be undertaken in stages. Before the constructions starts, final layout plans showing exact locations of all infrastructure within the project area will be prepared to the satisfaction of the Mid Murray Council with supporting material to demonstrate that any minor alteration or modification will not give rise to a significant adverse change to the assessed landscape, flora and fauna, cultural heritage, visual amenity, shadow flicker, noise, electromagnetic interference, fire risk or aviation effects.
4. An approval validity timeframe of five (5) years to substantially commence and then three (3) years to substantially complete.
5. Temporary construction facilities to be dismantled and sites rehabilitated post construction.
6. Staging of full Development Approval for different construction elements, subject to building rules certification and satisfaction of development consent conditions as relevant for the respective construction element, as described in section 2.18 of this document.

It should be noted that a dwelling, located near WTG B10, will not be used for residential purposes by agreement with the land owner unless the wind farm noise level at the dwelling is less than 45dB(A) and shadow flicker limits are within prescribed guidelines or within a reasonable limit for increased shadow flicker as agreed with the landowner. Noise and shadow flicker levels at the dwelling will depend on the final layout of the wind farm. This dwelling is labeled “R139” on the plans.

This application does not specify a particular turbine model so that improved models can be considered closer to the time of construction. However, the application does identify maximum dimensions and performance criteria that must be met, regardless of the model selected.

2. Project Description

2.1 Project Definition

The Project incorporates the elements set out in Table 1.

Table 1 Project Definition

Element	Description	Notes
Wind Farm	103 WTGs and associated infrastructure across three clusters (Areas A, B, C). Approximate generation capacity in the order of 340MW (depending on the final turbine selected)	
Wind Turbines	Maximum Height (to blade tip) – 165m. Blade Length – approx 65m. Tower/Hub Height – approx. 100m. Footings may be either a mass concrete footing (raft style), piled type rock anchors or a combination of both. Depending on final design the footings will be approximately 21 - 22m diameter (mass concrete) or 8 - 12m diameter for a rock anchor type.	For the purposes of the noise impact assessment, a Vestas V117 model turbine was used, because the sound power level of this model turbine is representative of a turbine at the upper end of the noise range for current turbines that fits within the turbine dimensions applied for use at the Palmer Wind Farm. Out of an abundance of caution, larger turbine dimensions were used for the other assessments to ensure that the assessments were representative of the maximum dimensions proposed to be covered by the development plan consent. The following dimensions were used in these assessments: • Traffic - tip height of 165m, 65m blades, 100m tower. • Flora/Fauna Assessment –tip height of 165m, 65m blades, 100m tower. • Aviation - tip height of 165m • EMI - tip height of 165m, 100m tower and rotor diameter of 130m • Shadow Flicker – Vestas V126 (100m hub height, rotor diameter 126m, maximum blade chord 4m) • Visual Landscape assessment - tip height of 165m, 65m blades, 100m tower. The exact dimensions and output of the turbines will be confirmed post planning consent when the final contractors and suppliers are selected.

Element	Description	Notes
WTG laydown & Hardstand area	An area of approximately 50m x 30m around each turbine for footings and crane hardstand areas and an additional 20m x 20m adjacent the turbine footings for laydown area. The footings and hardstand area will be a permanent feature. The laydown area will be revegetated following construction.	Hardstand areas will be required adjacent to the base of each WTG to enable the assembly and erection of the WTG components. The shape and area will vary depending on the construction approach and the site conditions at each WTG location.
External Electrical Transformers	A pad mounted enclosed transformer (kiosk) located at the base of each turbine. Approximate dimensions (4m long x 2m wide x 2 m high).	The requirement for external transformers depends on the final WTG model selected. Some models do not require this element.
Site Access	On-site access tracks will be up to 10m wide to accommodate construction activities and cranes.	The main access tracks will provide access to the WTG sites and will be designed to take the weight of WTG transport and construction vehicles and the crane used to erect the turbines. Some sections of the access roads may be wider to accommodate overtaking areas and turning circles.
Underground 33kV and fibre optic cabling	Trench width approximately 500mm per circuit and depth – approximately 1.2m (minimum of 900mm coverage over top of cable). Trench impact area of 5m width for a single cable alignment + 1 m for each additional cable.	To be generally located adjacent the access tracks where possible (within approximately 10m of the shoulder of the track). This will connect the WTGs within in each cluster. The exact location and dimensions will depend on the installation method used by the contractor.
Overhead 33kV transmission lines	Comprise up to 2 circuits (6 conductors) on a single pole line with steel poles of up to 30m in height and spaced approximately 250 – 300 metres apart. There will be an underground / overhead terminal station at the poles where the underground 33kV cables terminate and transition to the overhead line. Associated minor connection equipment and structures as may be required to transition between underground and overhead lines.	The overhead 33kV transmission lines will connect clusters of turbines to the substation shown in Area B. The lines will be located within the identified corridors. The exact locations of the poles will be determined at the detailed design stage following planning consent and will depend on the ultimate contractor and pole designs selected.

Element	Description	Notes
Overhead 275kV transmission line	Approximate total length of 10km. It will comprise of either lattice towers up to 46m high (similar to existing high voltage towers in the area) or steel or spun concrete monopoles and spaced approximately 275 – 375 metres apart. The impact areas will be up to 10m x 10m for the lattice towers and 5m x 5m for the monopole locations.	To be located within the identified corridor. The exact locations of the power line poles will be determined at the detailed design stage following planning consent and will depend on the ultimate contractor and pole designs selected.
Substation and Operations and Maintenance Facilities	One permanent 33kV / 275kV substation with approximate dimensions of 150m X 150m co-located with a permanent Operations and Maintenance Facility of approximately 100m X 100m. Total area approximately 3.25 hectares. The Operations and Maintenance Facility will include: • Buildings (including office, control room, staff facilities) • Car park area for staff and visitors • Workshop	Vegetation screening, compliant with industry standards, will be planted and maintained around the perimeter of the combined substation and Operations and Maintenance Facility.
Meteorological masts	• Up to seven permanent masts • These will be approximately 100m in height and at the same height as the constructed WTG hub height.	All masts will be permanent structures supported by small concrete footings and guy wires.
Temporary Construction Compounds	One main temporary construction compound of up to 300m x 300m in area. The size will depend on the facilities required which may include: • Site office and staff facilities • Amenities • workshops • Car park • Laydown area (20m x20m) Up to three additional smaller, satellite temporary construction areas mainly used for laydown areas and staff offices / amenities.	The size and use of construction compounds will depend on the ultimate construction approach.

Element	Description	Notes
Concrete Batching Plants	Up to three temporary concrete batching plants of around 100m x 100m may be required (if concrete is not sourced offsite).	Temporary concrete batching facilities may be located on or off site (subject to construction contractor's requirements). Indicative potential locations for on-site facilities (which have been agreed with landowners) are shown on proposal drawings.
Public Road Improvements	Access routes for all over-dimensional vehicles will be limited to those specified in the Traffic Management Plan. Roads and intersections will be upgraded to meet load and safety standards as required and agreed in the management plan. Public road access will require road upgrades to a width of 6m and a 1m shoulder either side where needed. Localised widening in excess of 6m may be required to support transport and construction activity such as passing bays. All public roads will be left in good repair following construction as agreed in the management plan. All access routes will be subject to DPTI and Council agreement.	Where possible the project will utilise and/or improve existing access points to the site.

The 103 wind turbine generators (WTGs) will be clustered in three main groups in the vicinity of Palmer and Sanderston. The indicative layout comprises the following distribution:

- Area A (northern) – 15 WTGs;
- Area B (central) – 50 WTGs; and
- Area C (southern) – 38 WTGs.

2.2 Overall Operation

The wind farm as a whole is controlled by a central computer system that manages the power output and operating characteristics of the wind farm. Each turbine is also individually controlled by its own computer and controller system. These systems manage the operating characteristics of that particular turbine based on external factors (wind speed, direction, temperature, pressure) and internal factors (pressure, temperature, etc. of components). Each turbine has its own set of instrumentation measuring these external and internal factors and adapts the operating characteristics of the turbine accordingly.

Every model of turbine (make, MW capacity, etc.) has its own operating characteristics. From the wind speed instrumentation that is mounted on top of each turbine the turbine controller system will individually pitch each blade to optimise the power output from the turbine. This instrumentation will rotate the turbine (nacelle and blades), into the prevailing wind direction. This is known as yawing. These two systems optimise power generation and also act to shut the turbines down in high wind situations (above 90kph).

Generally, at wind speeds of 25 m/s (90kph), depending on the turbine specification, the WTG will shut down by feathering or pitching the blades so that there is no lift (or rotation of the rotor – aerodynamic brake) and turning the nacelle with the blades out of the wind (90 degrees to the wind). Most turbines are also equipped with mechanical brakes, e.g. hydraulic disk brakes that will be engaged after the aerodynamic brake and nacelle rotation has taken the wind power off the blades. In this situation the WTG goes into idle mode until wind conditions are once again suitable to generate. A modern wind turbine can shut down from full speed to a complete stop in about 10 – 20 seconds. Most modern wind turbines begin generating electricity when the wind speed reaches 3- 5 m/s (10 – 18 kph) and reach full power output at 12 – 14 m/s (42-50 kph).

2.3 Turbines

The turbines will have a maximum height of 165m from ground to top-most point of the blade. The flexibility required in turbine dimensions is to enable the use of latest technology as this becomes available over the next 5 years. The final turbine layout and dimensions will depend on the final turbine supplier. The model selected will be evaluated to demonstrate compliance with all conditions of approval and requirements under any other applicable legislation.

All WTGs consist of several key components: a rotor with blades, a tower and a nacelle (refer Figure 1. The rotor comprises three individually attached blades which are attached to the nacelle, all of which is mounted on top of a tower.

The function of a WTG is to generate electricity by harvesting energy from the wind to turn the blades which then turns the generator (by spinning the generator shaft) to generate the electricity. The energy captured by the rotating blades is transferred to the generator housed in the nacelle of the turbine.

Generally, turbine blades are hollow and made of fiberglass (or similar epoxy resin) and steel. They are made to a specific design that maximizes aerodynamic performance.

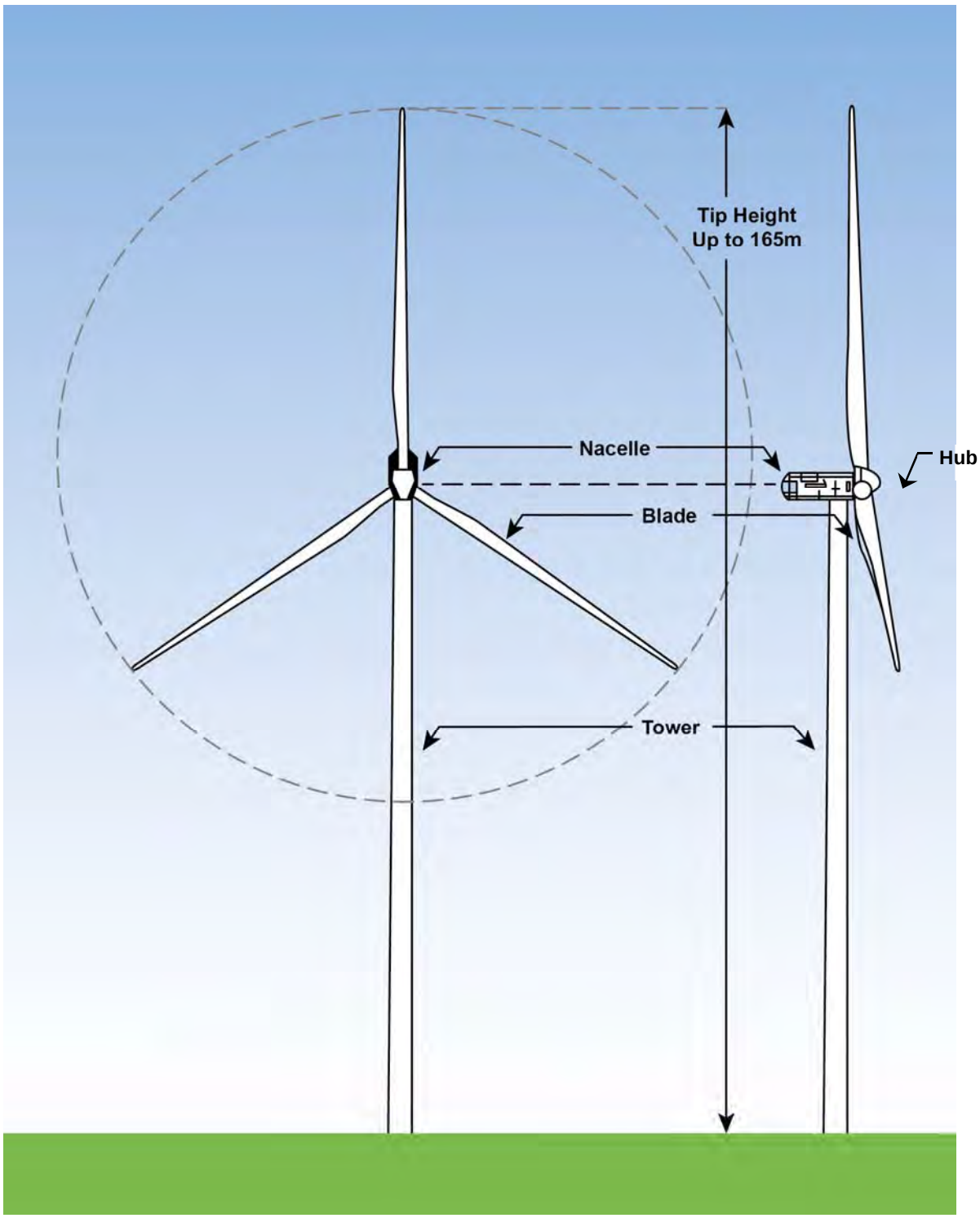


Figure 1 Indicative turbine design and height

2.3.1 Blades

Each tower will have three blades of approximately 65m which will connect to the turbine hub.

2.3.2 Nacelle

The nacelle sits on top of the tower and houses the generator, gearbox, and control gear including hydraulics, pumps, brakes and electrical components. The nacelle will also include acoustic dampening and protection to the mechanical components of the turbine.

2.3.3 Turbine Hub

The turbine hub is made of cast iron and is the connecting point for the 3 rotor blades and the main shaft. The hub is attached to the nacelle.

2.3.4 Turbine Protection

Modern turbines have lightning protection built into each individual blade and the turbines are earthed to dissipate any energy induced by a lightning strike.

Typically wind turbines are on private land (as is the case for the proposed Palmer Wind Farm) so public access to individual turbines is not permitted. Even if public access was permitted the turbine consists of a large steel tower structure with a fully sealed and locked door into the turbine. The outside of the wind turbine does not have any exposed components other than a set of stairs leading up to the turbine door. In some instances, the turbine transformer may be placed in a kiosk adjacent to the turbine on the ground (and in other cases the transformer is housed inside the turbine – this depends on the individual turbine characteristics). If a transformer is placed in a kiosk adjacent to the turbine the cables leading to it are buried underground and the transformer is fully enclosed in a locked kiosk to prevent any damage or unauthorised access.

2.3.5 Construction

An overall project Construction Environment Management Plan (CEMP) will be used to manage the full range of potential impacts associated with turbine construction as well as other elements of the project. Each wind turbine will be transported in separate parts and assembled on site using a specialised crane. The parts will include:

- Three blades;
- 1 nacelle;
- Approximately 4 tower sections; and
- 1 turbine hub.

A hardstand area of approximately 50m x 30m is required for the construction phase including the turbine footing area. This will need to be a relatively flat surface (1% grade) with sufficient load bearing capacity for the safe operation of cranes. A temporary laydown area of 20m x 20m will be located adjacent to the turbine footing and hardstand area.

The Figure below shows the typical manner in which turbines are transported on site.

Figure 2 Examples of turbine parts being transported on site

2.4 Access Roads

Access roads will follow existing tracks and fire breaks where possible and will be constructed in a manner that minimises land disturbance in accord with the overall project CEMP. For the

construction phase, access roads will be 10m wide. Subsequently, access roads for on-going maintenance will be 5m wide.

Access roads will be constructed with a compacted rubble surface (with granular material sourced locally where possible).

During construction, top soil will be stored and then reinstated when the road width is reduced post construction.

2.5 Electricity Connections

There will be a number of types of electricity connections associated with the project:

- Within the Wind Turbine cluster areas – electricity connections will be all underground in trenches and where practicable will be located adjacent to access roads, generally to a depth of 1.2m;
- Two 33kV overhead lines will link areas A & C to the substation in Area B. Area B turbines will be linked to the substation via a combination of underground and overhead connections; and
- A 275kV connection will be provided over a distance of approximately 10km from the wind farm substation to the Tungkillo substation.

At this stage the overhead transmission line routes are shown as a centre “line” located within the surveyed corridors. The location of poles and therefore the actual power line route will vary within this corridor in order to avoid other structures and sensitive areas including native vegetation (where possible). Indicative examples of the 33kV and the 275kV poles and support structures are contained in Appendix B (refer plans A119 and A120). These plans show the maximum dimensions.

2.6 Substation

The substation will comprise a fenced compound of approximately 150m x 150m containing a hardstand area, a switch room, security fencing, transformer located within a bunded concrete pad, lightning protection masts, other electrical transmission equipment and ancillary infrastructure.

The substation will be designed to relevant Australian Standards.

The tallest structure in the substation will be the gantry which provides support to the overhead power lines feeding into and out of the substation.

Figure 3 shows an example of a substation with the gantry in the foreground.

Figure 3 Example of a substation with the gantry in the foreground

2.7 Operations and Maintenance Facility

The Operations and Maintenance Facility will include:

- A fenced compound, adjacent to the substation, of approximately 100m x 100m;
- Office space, meeting room, lunch & bathroom, workshop and store;
- Car park for approximately 15-20 cars;
- Service vehicle delivery and materials laydown area (loading and unloading).

Building materials will be generally colourbond and of a colour sensitive to the surrounding landscape. Vegetation screening will be planted and maintained around the perimeter of the combined Substation and Operations and Maintenance compounds.

The layout and arrangements take into account a number of factors and considerations, including:

- The need to accommodate the heavy vehicles involved in delivery of parts and equipment;
- Attendance of a maximum of 12 personnel at the substation site on any particular day (the development is likely to employ 8 FTEs over a 24hr/7 day per week roster).

The hours of operation will be 8.00am to 6.00pm Monday to Friday except where emergency or repair works are required.

As the facility will accommodate heavy vehicles, the internal roads will be an engineered and weatherproof.

Signage will be limited to directional signage from the nearest main road and health and safety related signage only. Tours will not be conducted from the Operations and Maintenance Facility.

High level advice has been sought with respect to the provision of a suitable wastewater treatment facility. Based on the anticipated low levels of use with occasional high use, there

appears to be no evident limitations to the provision of a suitable treatment plant such as an aerated septic system which is mechanically aerated. This is a proprietary system enclosed in fibreglass or pre-cast concrete tanks, located in the ground, providing biological treatment and disinfection, treating the effluent to a standard suitable for irrigation (Class B). Consideration has been given to locating sub-surface irrigation within the landscaped swale area along the frontage of the site including species selection for this area.

2.8 Meteorological Masts

The project will incorporate up to 7 permanent masts approximately 100m high with instrumentation to make meteorological measurements which are used to ensure that the turbines are operating efficiently under different conditions, to allow more accurate predictions of power output from the wind farm and to assist in generation scheduling.

The elevations shown on Plan A117 contained in Appendix B show the typical dimensions and arrangements for these masts. The heights will be the same as the hub heights of the turbines installed.

Figure 4 shows an example of a meteorological mast.

Figure 4 Example of a Meteorological Mast

2.9 Temporary Construction Phase Elements

There are a number of elements of the project that will only have a life during the construction phase of the project. The construction, operation and decommissioning of these elements will be managed using an overall project wide Construction Environment Management Plan (CEMP). The construction phase of the project will involve the following temporary site establishment elements:

- A site office (for coordination of the construction phase);
- Amenities for the construction staff; and
- Construction facility areas (which may include materials storage, laydown areas for equipment and parts, concrete batching facilities).

During construction, top soil will need to be removed and stored so that it can be replaced post the construction phase. The locations selected for the storage of top soil will avoid damaging sensitive areas interrupting drainage lines and be protected from being eroded.

The potential environmental impacts of construction work will be managed as set out in the overall project Construction Environmental Management Plan (CEMP).

2.10 Construction Phase Access

The existing public road network will require modification and upgrading in a range of locations in order to accommodate this project (primarily for the construction phase). A detailed Traffic Management Plan will be prepared (in close consultation with DPTI and Council) to ensure that:

- The road network can support the type and volume of additional traffic expected during construction;
- The road network can support the type and volume of traffic expected post construction;
- Safety standards are maintained for the community (during construction and post construction);
- An appropriate maintenance program is in place during the construction period to keep the roads to a suitable standard for the project; and
- The roads are maintained at an appropriate standard following construction.

Minimal traffic impacts are anticipated post construction as access to the WTGs will be by normal 4WD vehicles, for the most part, and the occasional heavier vehicle for maintenance purposes.

The internal access tracks will be constructed to approximately 10m width and to a standard that is appropriate for the very heavy vehicles and parts that will be transported to the individual site.

2.11 Construction Phase Facilities

There will be a need for some temporary ancillary supporting infrastructure to be provided during the construction phase. A number of sites, distributed across the project area, will be required. Some of these sites may be simple laydown areas for materials and equipment but others may require additional facilities. Such facilities will include:

- A main site office and construction compound, including employee amenities, parking, storage and laydown areas;
- Up to 3 satellite materials laydown and amenities / office areas;
- Up to 3 potential temporary concrete batching plants;
- On-site rock crushing locations – relocated in line with civil works progression; and
- Supporting activities as required (e.g. wash-down areas).

All buildings and amenities (such as offices, lunchroom/kitchen, shower and toilet facilities) will be of a modular/transportable/temporary nature and will be clustered together in a compound as indicated on the layout plans contained in Appendix B. Disposal of rubbish and wastewater will be privately contracted and addressed as part of the construction contract.

2.12 Temporary Concrete Batching Plant

The first steps in constructing the footing for a turbine foundation are to remove and stockpile topsoil and subsoils. These soils are stockpiled separately. Upon completion of foundation construction, the soils are replaced in the proper strata.

Foundations are constructed by excavating a hole, placing reinforcing steel and pouring concrete into the excavation to form the footing. Each footing is approximately 6m radius on the surface and 21m radius sub surface, approximately 3m deep.

The next step is to replace the subsoil and then the topsoil over the concrete footing. Only the very centre of the footing remains above the soil surface when grading is complete.

Figure 5 shows the construction of a turbine foundation/footing.

Figure 5 Example – construction of a turbine foundation/footing

Up to three temporary concrete batching plants may be required for the construction phase of the project, located within temporary construction areas. While it is possible that an alternative concrete supply may be sourced from within the region, at this stage such a source appears unlikely and therefore approval is sought for these plants as part of this application.

The temporary batching plants are ancillary to the wind farm project given that:

- The temporary batching plants are necessary for the construction of the wind farm;
- The temporary batching plants will be operated solely for the purposes of supplying concrete for the wind farm and will not be used for supply to third parties;
- The period of operation of the temporary batching plants will be limited to the construction phase of the wind farm; and
- The temporary batching plants would not be developed were it not for the development of the wind farm.

These temporary facilities will be removed and the sites rehabilitated post the construction phase.

Details of the temporary concrete batching plants are set out below:

- Each plant will be sized to accommodate a complete footing pour each day, which comprises approximately 500m^3 of concrete;
- The plant will occupy an area of approximately 100m by 100m, including the stockpile area for aggregate, sand and cement;
- Indicative locations of the plants are shown on the Layout Plan and in Figure A124, A126 and A130 contained in Appendix B; and
- The plant will be removed from the site upon completion of the construction works and the site of the plant will be remediated to its original condition upon removal.

Each plant will include the following components:

- Trailer mounted concrete mixer;
- Cement bins;
- Sand and aggregate stockpiles;
- Storage container for equipment and tools;
- Powered by diesel generators or local power if available; and
- Water for concrete manufacturing and dust suppression.

There are a number of potential impacts associated with the operation of a concrete batching plant, including dust emissions, noise, stormwater runoff, wastewater and waste.

A Construction and Operation Environmental Management Plan has been prepared for the concrete batching plants which includes measures to manage potential impacts associated with those plants (refer Appendix C). The COEMP requires that the batching plants be established in accord with the layout plans contained in Appendix A of the COEMP. It also requires that the batching plants are constructed, operated and decommissioned in accord with the specific requirements of the COEMP. Specific matters addressed by the COEMP include:

- Flora and Fauna Protection
- Weed, Pest and Disease Control
- Water Quality Protection
- Erosion and Sediment Control
- Construction Noise and Vibration Control
- Air Quality Control
- Materials, Fuels and Waste Management
- Protection of Sites of Cultural and Natural Heritage Significance
- Decommissioning and Rehabilitation

Figure 6 shows an example of a mobile concrete batching plant.

Figure 6 Example – mobile concrete batching plant

2.13 Staging of Construction Works and Building Rules Consent

Once development plan consent for the entire project has been obtained, it is proposed that building rules consent, development approval and construction will proceed in stages.

Turbine clusters and associated infrastructure for Areas A, B and C will each comprise a discrete stage.

Within each Area, works which do not require building rules consent will comprise a separate stage so that construction can commence as soon as practicable subject to compliance with development plan consent conditions and the issuing of development approval for such works. This stage will encompass such things as site mobilisation activities, establishing temporary staging areas and facilities, access road formation or widening, underground cable works and other civil works.

For works within each Area that do require building rules consent, it is proposed that building rules consent may be obtained separately for each structure and for each major stage of construction as exemplified by the following list:

- turbine footings including excavations
- turbine structures
- 33kV overhead line tower footings including excavations
- 33kV overhead line tower structures
- transmission line (132kV or 275kV) tower footings including excavations
- transmission line (132kV or 275 kV) tower structures
- wind monitoring mast footings including excavations
- wind monitoring mast structures
- operations and maintenance compound footings including excavations
- operations and maintenance compound structures

- substation footings including excavations
- substation plant/structures
- temporary construction compound buildings, including offices and work sheds
- concrete batching plant footings including excavations
- concrete batching plan structures.

2.14 Construction timing

Construction is proposed to substantially commence within five (5) years of the date of grant of development plan consent.

3. Layout Variations

Updated layout and indicative plans are included in these consolidated particulars of development in Appendix B. These layouts and plans describe the development proposal for the purposes of the hearing of the appeals.

These plans reflect variations to the layout that was previously granted development plan consent by the Mid Murray Council on 18 December 2015. These variations primarily result from the deletion of turbines B11, B15, B17, B20, B23, B26, B30, B33, B37, B54 and B57 and relocation of a meteorological mast.

4. Statement of Commitments

The development proposal incorporates the following commitments by the Second Respondent, which will be incorporated into and addressed in the relevant management plans which will be prepared and submitted to the Mid Murray Council, the EPA and any other relevant agency prior to construction of any stage.

4.1 Final Layout Plan

1. A final layout plan associated with any stage of the project will be prepared and submitted to the Mid Murray Council prior to construction of that stage.
2. Additional documentation and evidence will be provided if necessary in order to demonstrate that any minor variations incorporated into the final layout plans comply with relevant criteria (e.g. relating to noise, vegetation, cultural heritage).
3. The final layout plan will ensure that no blade overhang occurs on Crown Land.
4. In respect of the dwelling described in Development Approval 711/013/14 located at Section 654, (with access via Section 79), Milendella Road, Sanderston, Hundred of Jutland, Certificate of Title 5604 / 632, the final layout of the wind farm will ensure that:

   a) Noise levels at the dwelling will meet the requirements of the EPA's Wind Farms Environmental Noise Guidelines (2009) for a relevant receiver;

   b) No turbine is constructed within 1 kilometre of the dwelling; and

   c) Theoretical shadow flicker duration at the dwelling and within 50 metres of the dwelling will be less than 30 hours per year and actual shadow flicker at the dwelling and within 50 metres of the dwelling will not exceed 10 hours per year.

4.2 Management Plans

1. Two management plans will be prepared prior to construction of any stage:

   – A Construction Environmental Management Plan (CEMP) which will address all the issues relevant to the construction phase of the stage. A draft CEMP is provided in Appendix B of Volume 1 of the application documents (August 2014).

   – An Operational Management Plan (OMP) that addresses the issues relevant to the operation, maintenance and decommissioning of the wind farm. An indicative example of an OMP for a wind farm is provided in Appendix C of Volume 1 of the application documents (August 2014).

2. The CEMP and OMP will cover the following matters relevant to their respective stages;

   – Community Consultative Plan;

   – Compounds and ancillary facilities management;

   – Construction noise and vibration;

   – Operational noise management;

   – Traffic management;

   – Soil and water quality management (including erosion control);

   – Air quality and dust management;

   – Aboriginal and European heritage management;

   – Soil contamination, hazardous material and waste management;

- Hazard and risk management.
- Site rehabilitation;
- Bird and bat management;
- Weed and pest management;
- Biosecurity management plan;
- Health and Safety;
- Fire and bushfire risk management;
- Telecommunication and Digital TV interference; and
- Decommissioning.

4.3 Temporary Construction Facilities

1. Rehabilitation will be in accordance with the requirements set out in the CEMP.
2. All temporary construction sites will be cleared and rehabilitated within 12 months of the completion of construction.
3. All batching plants will be removed and their sites rehabilitated within 12 months of the completion of construction.
4. All batching plants will be operated in accordance with the COEMP.

4.4 Landscape and Visual Impact Management

1. The final wind farm layout will not locate any wind turbine generator within 1 km of a non-involved landholder dwelling existing at 28 February 2014.
2. Once a micro-siting process has been undertaken for the 275kV transmission pylons, the Second Respondent will consult with residents of dwellings located within 1km of these lines regarding the extent of visual impact and whether landscape planting could assist with screening where relevant.
3. The extent of cut and fill requirements for access roads will be minimized by following natural contours and tops of ridgelines where practicable.
4. As far as possible road materials will be sourced locally to blend with existing landscape.
5. Vegetation screening will be established and maintained around the permanent Substation and Operations & Maintenance Compound.
6. Advertising, signs or logos will not be mounted on turbine structures, except those required for safety purposes.
7. Turbines will be located within approved ridgeline segments and spaced in an ellipse of no less than three times the rotor diameter by two times the rotor diameter. The ellipse will be oriented into the predominant wind direction.
8. Any external safety lighting provided for the operational phases will be designed to avoid or minimise light overspill, will be motion activated, and timed unless required for OH&S and maintenance work.

4.5 Flora and Fauna Impact Management

1. A weed and pest management plan and Site rehabilitation plan will be prepared and provided to the Mid Murray Council for approval prior to construction.
2. Where construction activities are planned within 500 m and 1000 m of known Wedge-tailed Eagle and Peregrine Falcon nests respectively, nest checks will be employed during their peak breeding seasons to determine their breeding status and if necessary buffers put in place or specific management strategies implemented to minimise any potential impact on the breeding success of these birds.
3. Within one year after construction of turbines in a turbine area, the operator will implement a bird monitoring program in respect of the turbine area that provides for annual monitoring, for a minimum of five years, of all nest sites of Wedge-tailed Eagles and Peregrine Falcons recorded in the turbine area in the EBS Ecology Report "Palmer Wind Farm Flora and Fauna Survey" dated 7 August 2014. Monitoring is to be undertaken in accordance with established scientific methods and at a minimum must identify whether each nest is active and whether young have successfully fledged from the nest. The operator will provide a report of the results of the monitoring to the Mid Murray Council each year for a minimum of five years.
4. Following construction of turbines in a turbine area, the operator will maintain a register of bird mortalities in respect of the turbine area for a minimum period of 5 years. The register will record the location of any bird carcasses that are found by the operator's employees or contractors within the turbine area that are reasonably attributable to birdstrike, the date that the carcass is found, and identification of the species of the bird to the extent that the operator can make an identification using reasonable endeavours. The operator will provide a copy of the register to the Mid Murray Council each year for a minimum of five years.
5. A 1000 m buffer will be maintained around all recorded Peregrine Falcon nests for all wind turbine generators.
6. A 500 m buffer will be maintained around all recorded Wedge-tailed Eagle nests for all wind turbine generators.
7. Existing access tracks will be used where possible to minimise additional disturbance.
8. Clearance of significant native vegetation will be minimised as an objective of the detailed layout planning stage and the micro-siting stage, where complete avoidance is not possible.
9. Additional detailed micro-siting in Area C will be undertaken at the detailed layout design stage to incorporate, where practical, alternative access routes in order to minimise impact on Peppermint Box trees.
10. Consultation and collaboration with horse riding clubs and/or enthusiasts will be carried out prior to construction to accommodate current agreements with host landowners for riding activities, including consideration of the existing trails or assistance towards alternative routes as required. This will be subject to standard site health and safety considerations.
11. Horse familiarisation events will be considered to assist with overcoming any short term concerns for horses and to assist with the familiarisation of horses with the sound and movements of turbines, subject to standard site health and safety considerations.

12. Where possible, options for an equivalent on-ground SEB in the local area will be given a priority over a financial contribution to the NVC, provided that the option has the full agreement of the landowners and the NVC.

13. The Pygmy Blue-tongue Lizard Recovery Team will be consulted prior to construction regarding any information received from members of the public or landowners regarding the locations of Pygmy Blue-tongue Lizard nests within the Project Site.

4.6 Noise Impact Management

1. A final noise assessment will be undertaken in respect of the final wind farm layout, using the turbine model selected, to ensure that the wind farm noise level complies with the requirements of the South Australian Environment Protection Authority's Wind Farms Environmental Noise Guidelines.

2. Confirmation of commercial arrangements with involved landholders in respect of noise levels at dwellings will be provided to the Mid Murray Council prior to construction commencement.

3. Final turbine selection and layout will comply with the World Health Organisation Guidelines for Community Noise requiring a maximum of 45 dB(A) or background plus 5 dB(A) (whichever is higher) for all involved residential receivers who have entered into a commercial agreement with the Second Respondent in accordance with the SA EPA Wind Farms Environmental Noise Guidelines.

4. A final Construction, Vibration and Operational Noise Management Plan will be prepared and submitted to the EPA prior to construction as part of the CEMP.

5. An Operational Noise Management Plan will be prepared and submitted to the EPA prior to operation as part of the OMP.

6. The noise management plans will include requirements for the operator to:

   – Develop and implement an operational noise compliance testing program in accordance with the SA EPA Wind Farms Environmental Noise Guidelines;
   – Develop a complaints response procedure in relation to any noise complaints as a result of the operation of the wind farm;
   – Locate fixed noise sources such as crushing plant at the maximum practical distance from the nearest dwellings and where possible use existing landforms to block line of sight between equipment and the dwelling; and
   – Implement a community consultation process to ensure adequate community awareness and notice of expected construction noise.

7. Construction hours will be limited to Monday to Saturday between 7am and 7pm. Works carried out outside of these hours will only entail:

   – works that do not cause noise emissions which exceed the noise limits of the Environment Protection (Noise) Policy at any nearby dwelling not associated with the project;
   – the delivery of materials as requested by Police or other authorities for safety reasons;
   – emergency work to avoid the loss of lives, property, and/or to prevent environmental harm;
   – works with the prior consent of the Environment Protection Authority (EPA) (an example might be occasional concrete pours on hot days).

4.7 Cultural Heritage Impact Management.

1. Where necessary areas of infrastructure in the final layout not covered by previous surveys will be surveyed prior to construction.
2. Impact mitigation measures agreed with the traditional owners (MACAI), such as construction monitoring, will be carried out.
3. Impacts on or disturbance of any registered or newly identified aboriginal sites will be avoided in accordance with the Aboriginal Heritage Act and agreement with MACAI.
4. Potential heritage issues will be managed during the construction phase as agreed with MACAI.
5. The Aboriginal site discovery procedure provided in the Heritage Assessment report will be followed if Aboriginal sites, objects or remains are discovered during works in the Project Area.
6. Prior to work commencing, construction workers on the project will be given appropriate cultural heritage awareness training in consultation with MACAI.
7. All on site workers will remain within the project footprint at all times and will avoid going into nearby gullies and rocky outcrops outside of the project footprint wherever possible as these are likely to contain Aboriginal heritage sites.
8. Existing access tracks will be utilised as much as possible and disturbance or development in the gullies between hills will be avoided. Wherever possible, access tracks will keep to the crest or upper slopes of the hills within the project area.
9. Impacts on the dry stone walls will be avoided where possible. If impacts cannot be avoided, these impacts will be minimised or mitigated in consultation with the Dry Stone Wall Association (e.g. by using damaged areas, minimising the access road width) and these measures will be reflected in a management plan as part of the CEMP.

4.8 Traffic Impact Management

1. In consultation with the Council, DPTI and any other relevant agency, a Traffic Management Plan (construction and operational) will be developed to manage the overall impacts and disturbance to infrastructure and other road users during the construction and ongoing operation phases of the project, including any special safety considerations for historic traffic hot spot areas and impact mitigation measures for residential dwellings along proposed public access routes.
2. A thorough public notification and complaints process will be implemented to provide for advance notifications of anticipated construction and over dimensional traffic.
3. The final layout will be reviewed to take into account driver safety issues and appropriate mitigation measures will be implemented to address site specific issues.

4.9 Construction, Civil, Geology, Geotechnical and Hydrology Impact Management

The following requirements will be included in the CEMP and OMP:

1. During construction activities the subject land must be managed in a manner as to prevent erosion and pollution of the subject site and the environment, including keeping the area in a tidy state and ensuring any waste materials are appropriately contained to ensure no pollutants (including excavation or fill material) enter the River Murray system.

2. Any fill material brought to development sites must be clean and not contaminated by construction or demolition debris, industrial or chemical matter, or pest plant or pathogenic material.

3. Any excavation or fill material surplus to the requirements of the development must be disposed of such that it will not:

   a) be located within the floodplain of any watercourses:

   b) adversely impact native vegetation;

   c) impede the natural flow of any surface waters;

   d) allow sediment to re-enter any water body;

   e) facilitate the spread of pest plant and pathogenic material.

4.10 Electromagnetic Interference Impact Management

1. Interference with the Fixed PTP Microwave radio links will be avoided as a design outcome for the detailed layout design process.

2. Additional consultation with Telstra, SA Water and the Bureau of Meteorology will be undertaken as part of finalising the final layout.

3. Primarily non-metallic turbine blades will be used on wind turbine generators.

4. Equipment complying with the Electromagnetic Emission Standard, AS/NZS 61000.6.4:2012 will be used (wherever practical).

5. Appropriate mitigation measures will be implemented within 5km of the wind farm where TV signals have been demonstrated to be detrimentally impacted by the presence of the wind farm.

4.11 Aeronautical, Aviation and Qualitative Risk Assessment and Obstacle Lighting

1. The final layout will seek to avoid impacts with respect to aeronautical and aviation issues in accordance with any reasonable requirement of CASA.

2. The following information will be provided to CASA, RAAF and Air Services Australia for their register of tall structures and aeronautical maps:

   – Prior to construction commencement - the design locations of all wind turbines and meteorological masts; and
   – Within three months of construction completion - the as-built locations of all wind turbines and meteorological masts.

4.12 Shadow Flicker and Blade Glint Impact Management

1. The surface of WTG blades will have a non-reflective surface.

2. The final layout will ensure that the predicted actual estimate for shadow flicker will not exceed 10 hours annual or 30 hours theoretical at any non-host residence.

3. Complaints in relation to shadow flicker and blade glint from the wind turbine generators will be investigated to confirm actual impacts and mitigated if required as soon as practicable.

4.13 Economic Impact Management

1. The ultimate construction and turbine supply contractors will be encouraged to identify and utilize local services and employment where possible – both locally and regionally.
2. A register of local expressions of interest for delivery of goods and services will be established, maintained and provided to the construction contractors prior to construction commencement.
3. An annual ongoing community benefit scheme will be implemented, post construction, in consultation and collaboration with the local community.
4. A community and tourist information display for the wind farm will be established, in consultation with the Mid Murray Council, after construction completion and potential for wind farm tourism options will be considered in collaboration with appropriate stakeholders.

4.14 Fire and Bushfire Management

1. All project components will be designed, constructed and operated to minimise ignition risks.
2. Asset protection consistent with relevant CFS design will be provided.
3. Necessary emergency management will be provided, including appropriate fire-fighting equipment and water supplies on site to respond to a bushfire.
4. Regular consultation with the local CFS will be undertaken to ensure familiarity with the project, including the construction timetable and the final location of the entire infrastructure on the site. The operator will comply with any reasonable requests of the local CFS to reduce the risk of bushfire and to enable fast access in emergencies.
5. A Bushfire Management Plan will be prepared in consultation with the CFS, as part of the development of the Construction Environment Management Plan and the Operational Management Plan. As a minimum the plans will address hot-work procedures, asset protection zones, safety, communication and site access and response protocols in the event of a fire originating in the wind farm infrastructure. All flammable materials and ignition sources brought onto the site, such as hydrocarbons, will be handled and stored as per manufacturer's instructions.
6. Appropriate firefighting equipment will be held on site during the construction phase, and training in its use will be provided to staff as necessary. Fire extinguishers will be stored onsite in the control building and within any substations.
7. Appropriate bunding will be installed in the substation with a capacity exceeding the volume of the transformer oil to contain the oil in the event of a major leak or fire. The facilities will be regularly inspected and maintained to ensure leaks do not present a fire hazard, and to ensure the bunded area is clear (including removing any rainwater).
8. Turbines will be shut down if the components reach critical temperatures or if directed by the CFS in the case of a wildfire being declared within the wind farm site or immediate vicinity (all hours contact points will be made available to the CFS).
9. Overhead power line easements will be periodically inspected to monitor and maintain regrowth of encroaching vegetation.

Appendices

Appendix A – Title and GPS References

Table 2 Location References

Project infrastructure is proposed to be constructed on the following land parcels:

Area A

Title Reference	Parcel ID
CT5615/892 (part of)	D3806 A8
CT6031/198 (part of)	F170020 Q272
CR5760/543	H170100 S55
CT5350/879	F170016 A267
CT5381/422	F170025 A276
CT6087/92	F170029 A280
CT5868/563 (part of)	F170028 Q279
CR5757/383	H170100 S530
CT5726/165	H170100 S529
CT6052/91	D81735 A101

No project infrastructure is proposed to be constructed on those parts of the parcels that extend within the Barossa Valley Character Preservation District.

Area B

Title Reference	Parcel ID
CT5517/115	H170300 S52
CT5854/170	H170500 S397
CT5854/170	H170500 S396
CT5705/899	F169859 A110
CT5854/170	H170500 S390
CT5854/170	H170500 S655
CT5854/170	H170500 S395
CT5854/170	H170500 S393
CR5762/33	H171000 S513
CR5761/336	H170500 S344
CT5895/323	F169884 A135
CT5854/170	H170500 S394
CT5989/715	F169892 A143
CT5153/319	D20944 A74
CT5546/926	F169887 A138
CT5702/227	F169894 A145
CT5405/94	F204303 A92
CT5844/707	F218333 A21
CT5844/707	F218333 A17
CT5756/280	F217815 A205
CT5756/278	F217815 A203
CT5732/435	F169873 A124

Title Reference	Parcel ID
CT5899/987	F169886 A137
CT5348/175	F169893 A144
CT5651/396	F206935 A95
CT5897/853	D20944 A75
CT5756/279	F217815 A204
CT5546/925	F169888 A139
CT5405/94	F204303 A93
CT5404/721	F169891 A142
CT5844/707	F218333 A19
CT5405/94	F204303 Q96
CT5756/276	F217815 A201
CT5756/275	F217815 A200
CT5405/94	F204303 Q95
CT5756/277	F217815 A202
CT5958/134	D68586 A36
CT5657/268	F169896 A147
CT5895/897	D1648 A9
CT5144/864	D26866 A1
CT5854/170	H170500 S391
CT5854/170	H170500 S322
CT5844/707	F218333 A20
CT5405/94	F204303 A91
CT5844/707	F218333 A18
CT5854/170	H170500 S392
CT5405/94	F204303 A94
CT5844/707	F218333 A22
CT5689/533	D1648 A5
CT5854/170	H170500 S330
CT5854/170	H170500 S2
CR5761/336	H170500 S344
CR5762/33	H171000 S513
CT5854/170	H170500 S394
CT5866/948	R4658 AA

Area C

Title Reference	Parcel ID
CT5864/527	H171000 S73
CT6055/389	H171000 S483
CT5906/64	F43319 A26
CT5385/990	H171000 S482
CT5906/61	F43319 A21
CT5861/704	F169981 A232
CT5876/758	F169983 A234

CT6088/441	H171000 S488
CT5433/702	H171000 S243
CT5906/60	F43319 A20
CT5385/990	H171000 S481
CT5433/293	H171000 S241
CT5297/468	F157755 A31
CT5426/871	H171000 S357
CT6055/390	H171000 S485
CT5416/67	D16500 A307
CT5297/468	F157755 A32
CT5906/63	F43319 Q24
CT5906/63	F43319 Q25
CT5479/260	H171000 S72
CT6120/424	F169983 A234
CT 5806/10	H213527 A91
CT5578/297	H171000 S358
CR5874/60	F43319 A23
CT5906/62	F43319 A22
CT5408/141	D47145 A62
CT5297/468	F157755 A33
CT5433/294	H171000 S242
CT5297/468	F157755 A30
CT5421/815	H171000 B480
CT5409/144	H171000 S214
CT5421/814	F157574 A39
CT5421/812	F157583 A48
CT5473/924	H171000 S211
CT5421/813	F157582 A47
CT5833/39	R1430 AE
CT6081/943	F157552 A17
CT5424/484	H171000 S477

Paper Road References

Position	Title Reference	Parcel ID
Northern Boundary	CT6087/92	F170029 A280
Northern Boundary	CT5868/563	F170028 Q279 Part of this title, up to the boundary of the Barossa Valley Character Preservation District
Northern Boundary	CT5726/165	H170100 S529
Southern Boundary	CT5657/268	F169896 A147
Southern Boundary	CT5830/562	F169897 A148
Southern Boundary	CT5854/170	H170500 S322

Position	Title Reference	Parcel ID
Southern Boundary	CT5854/170	H170500 S330
Eastern Boundary	CT5651/396	F206935 A95
Eastern Boundary	CT5689/533	D1648 A5
Southern Boundary	CT5405/94	F204303 Q96
Southern Boundary	CT5958/134	D68586 A36
Eastern Boundary	CT5958/134	D68586 A36
Western Boundary	CT5899/987	F169886 A137
Eastern Boundary	CT5144/864	D26866 A1
Northern & Western Boundary	CT5756/275	F217815 A200
Western & Southern Boundary	CT5756/276	F217815 A201
Western Boundary	CT5761/336	H170500 S344
Western, Southern & Eastern Boundary	CT5762/33	H171000 S513
Northwest Boundary	CT5756/277	F217815 A202
Western Boundary	CT5756/278	F217815 A203
Western Boundary	CT5756/279	F217815 A204
Western Boundary	CT5473/924	H171000 S211
Western Boundary	CT5409/144	H171000 S214
Northwest Boundary	CT5385/990	H171000 S481
Western Boundary	CT5906/61	F43319 A21
Southwest Boundary	CT5906/61	F43319 A21
Southwest Boundary	CT5906/62	F43319 A22

Indicative Location of WTGs

WTG Ref Number	Easting (MGA Z54)	Northing (MGA Z54)
A01	336354	6161693
A02	335995	6161428
A03	336699	6161376
A04	335606	6161392
A05	335638	6160293
A06	336294	6160637
A07	336033	6160346
A08	335793	6159546
A09	335609	6161990
A12	336155	6159431
A14	335786	6159040
A15	335848	6158573
A17	336011	6157266
A18	335659	6158084
A19	335672	6157618
B01	332895	6152380
B02	333326	6152313
B04	330875	6144025
B05	333691	6152073
B06	334443	6151678
B07	333069	6151949
B08	334068	6151876
B09	334658	6149460
B10	328319	6146255
B12	334239	6150270
B13	329081	6145090
B14	334611	6150275
B16	330555	6144387
B18	327428	6144488
B19	334050	6148960
B21	331232	6144468
B22	330077	6144795
B24	333808	6148617
B25	328203	6144889
B27	334081	6148311
B28	331551	6148465
B29	327833	6144553
B31	333022	6148180
B32	329755	6147963
B34	329351	6147887
B35	331344	6147896
B36	328585	6147662
B38	328978	6147826
B39	331733	6147930
B40	330275	6147331
B41	329816	6147114
B42	328516	6147088
B43	329413	6146867
B44	328876	6146905
B45	328153	6146907
B46	330075	6146572

WTG Ref Number	Easting (MGA Z54)	Northing (MGA Z54)
B47	329114	6146407
B48	329701	6146419
B49	328701	6146329
B50	327931	6146371
B51	331025	6144980
B52	329452	6145958
B53	330806	6145764
B55	328568	6145726
B56	329075	6145777
B58	328192	6145525
B59	330294	6145281
B60	330666	6145173
B61	329489	6145287
B62	329885	6145221
C01	327461	6142333
C02	329530	6136231
C03	327891	6141720
C04	327605	6141295
C05	328230	6140800
C06	327453	6140599
C07	328029	6140249
C08	328423	6140095
C09	324914	6140388
C10	326082	6140111
C11	325292	6140242
C12	327401	6139327
C13	326710	6139419
C14	326426	6139849
C15	325686	6140167
C16	327697	6138941
C17	328075	6138775
C18	327055	6139162
C19	328458	6138706
C20	329774	6138153
C21	330967	6135852
C22	329414	6138024
C23	330162	6138014
C24	329237	6137599
C25	330814	6137405
C26	329555	6137299
C27	330320	6137332
C28	329935	6137393
C29	328927	6137194
C30	329243	6136809
C31	328816	6136645
C32	330608	6136097
C33	329109	6136201
C34	329877	6135919
C35	329307	6135640
C38	329468	6135090
C39	330319	6136487
C40	327823	6140833

Location of Key Sites

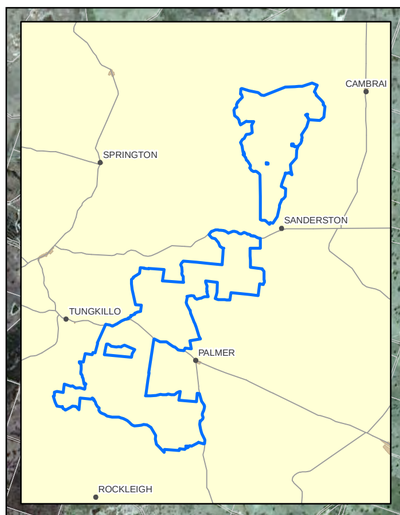
Key Site Type	Figure	Title Reference
Construction Amenities	A121	CT5906/62
Laydown Area	A122	CT5906/61
Laydown Area	A123	CT5385/990
Batching Plant/Construction Amenities	A124	CT5421/815
Laydown Area	A125	CT5421/815
Batching Plant/Construction Amenities	A126	CT5756/279
Laydown Area	A126	CT5895/323
Substation	A126	CT5153/319
Laydown Area	A127	CT5404/721
Construction Amenities/Laydown Area	A128	CT5854/170
Laydown Area	A129	CT5350/879
Batching Plant/Construction Amenities	A130	CT5381/422
Laydown Area	A131	CT6087/92

Description of 33kV Route

33kV Transmission Line	Description of Location
Portion of 33kV line located in road reserve.	Enters the road reserve of Three Chain Road from the south-east corner of CT5350/879 (at a point located approximately 1.2km north of the intersection of this road and Glenroy Road). Extends south along the western side of Three Chain Road to the intersection with the Angas Valley Road, then continues south along Milendella Road. Exits the road reserve at the north-eastern boundary of CT5651/396 opposite the intersection with an unnamed road (approximately 1.4km south of Fromm Road).

Appendix B – Detailed Mapping

Plans
Overall indicative Project Layout (Aerial base and Topographical base)
Map of Area A: Area A Indicative Project Layout (Aerial base and Topographical base)
Map of Area B: Area B Indicative Project Layout (Aerial base and Topographical base)
Map of Area C: Area C Indicative Project Layout (Aerial base and Topographical base)
Substation and Operations & Maintenance Facility:
A101: Site Layout
A102: Site Section
A103: Stormwater and Landscape Concept
A104: OM Office Floor Plan
A105: OM Office Elevations
A106: Workshop Floor Plan
A107: Workshop Elevations
Construction Elements:
A108: Main Construction Site – Indicative Layout
A109: Laydown Area – Indicative Layout
A110: Tower Site – Indicative Layout
A111: Office Floor Plan
A112: Office Elevations
A113: Lunchroom Floor Plan
A114: Lunchroom Elevations
A115: Toilet Floor Plan
A116: Toilet Elevations
Other Structures:
A117: Meteorological Mast Elevation
A118: Meteorological Mast Footprint
A119: 275kV Typical Elevation & Footprint
A120: 33kV Typical Elevation
Indicative Construction Facility Locations
Plans A121-A131



Legend

- Project Boundary
- Not Within Site of Development
- Titles Inside Project Boundary
- Indicative Turbine Location
- Meteorological Mast
- Corridor Around Other Infrastructure
- Turbine Segments
- 275kV Transmission Line
- 33kV Transmission Lines
- Underground Cable not within Proposed Access Track
- Proposed Access Tracks
- Dwelling within 1km
- Host Dwelling
- Occupied Dwelling
- Construction Amenities
- Batch Plant/Construction Amenities
- Laydown Area/Construction Amenities
- Laydown Area
- Substation and Operations & Maintenance Compound

Paper Size A1

0 0.5 1 2 3

Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 54

N

TrustPower Australia Holdings Pty Ltd
Palmer Wind Farm Technical Studies

Palmer Wind Farm Layout
Indicative Project Layout

Job Number	33-17234
Revision	B
Date	05 Jul 2016

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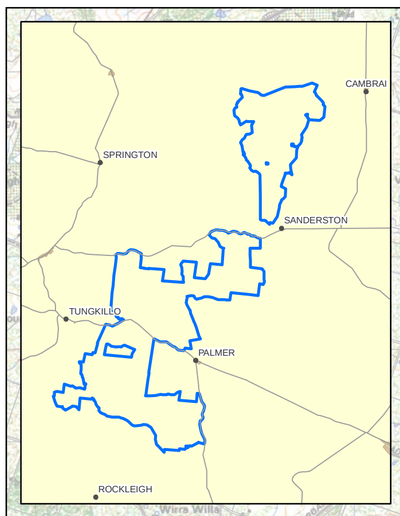
Data source: TrustPower Australia Holdings Pty Ltd: Aerial; © 2013 Google Earth Pro, DigitalGlobe, Cnes Spot Image;. GA: Geodata Topo 250K Series 3 - 2006, Roads - 2006. Created by:lrsmith



Legend

- Project Boundary
- Not within site of development
- Titles Inside Project Boundary
- Indicative Turbine Location
- Meteorological Mast
- Corridor Around Other Infrastructure
- Turbine Segments
- 275kV Transmission Line
- 33kV Transmission Lines
- Underground Cable not within Proposed Access Track
- Dwelling within 1km
- Host Dwelling
- Occupied Dwelling
- Construction Amenities
- Batch Plant/Construction Amenities
- Laydown Area/Construction Amenities
- Laydown Area
- Substation and Operations & Maintenance Compound

Paper Size A1

0 0.5 1 2 3

Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 54

N

TrustPower Australia Holdings Pty Ltd
Palmer Wind Farm Technical Studies

Palmer Wind Farm Layout
Indicative Project Layout

Job Number	33-17234
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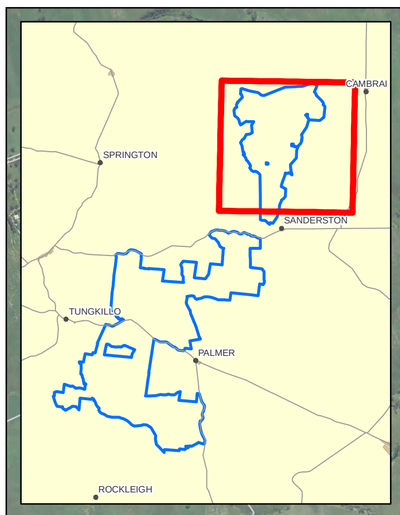
Data source: TrustPower Australia Holdings Pty Ltd: Aerial; Design - 201400123. GA: Geodata Topo 250K Series 3 - 2006, Roads - 2006. Created by:lrsmith



CAMBRAI

CT5615/892

A09 A01 A02 A04 A03 R001 R002

A06 A07 A05 CT5868/563 CT6087/92

R103 R104 A08 A12

A14 A15 R003

CT6031/198 CT5381/422

A18 CR5760/543 R105 A19 A17 CR5757/383 R004 R100

R005 R099 R006 R098 R097 CT5350/879

R106

CT6052/91

CT5726/165

R107

R124 SANDERSTON

WALKER FLAT-MT PLEASANT ROAD

R096 B01 B02 CT Vol 5854 Fol 170 CT Vol 5657 Fol 268

Legend

- Project Boundary
- Not Within Site of Development
- Titles Inside Project Boundary
- Indicative Turbine Location
- Meteorological Mast
- Corridor Around Other Infrastructure
- Turbine Segments
- 275kV Transmission Line
- 33kV Transmission Lines
- Underground Cable not within Proposed Access Track
- Dwelling within 1km
- Host Dwelling
- Occupied Dwelling
- Construction Amenities
- Batch Plant/Construction Amenities
- Laydown Area/Construction Amenities
- Laydown Area
- Substation and Operations & Maintenance Compound

Paper Size A1

0 250 500 1,000 1,500

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 54

N

TrustPower Australia Holdings Pty Ltd
Palmer Wind Farm Technical Studies

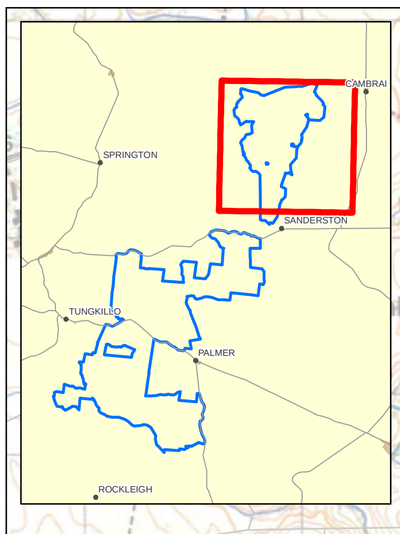
Palmer Wind Farm Layout
Area A Indicative Project Layout

Job Number	33-17234
Revision	9
Date	05 Jul 2016

G:\33\17234\GIS\Maps\Deliverables\PostSubmission_Changes\33-17234_005_PalmerWF_MB_A1P_rev9.mxd

180 Lonsdale Street Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **F** 61 3 8687 8111 **E** melmail@ghd.com **W** www.ghd.com

Data source: TrustPower Australia Holdings Pty Ltd: Aerial; Design - 201400123. GA: Geodata Topo 250K Series 3 - 2006, Roads - 2006. Created by:lrsmith



A09 A01 A02 A04 A03 A06 A07 A05 A08 A12 A14 A15 A18 A19 A17

R001 R002 R003 R004 R005 R006 R097 R098 R099 R100 R103 R104 R105 R106 R107 R124 R096

CT5615/892 CT5868/563 CT6087/92 CT6031/198 CT5381/422 CR5760/543 CR5757/383 CT5350/879 CT6052/91 CT5726/165 B01 B02 CT Vol 5854 Fol 170 CT Vol 5657 Fol 268

SANDERSTON CAMBRAI WALKER FLAT-MT PLEASANT ROAD

Legend

- Project Boundary
- Not Within Site of Development
- Titles Inside Project Boundary
- Indicative Turbine Location
- Meteorological Mast
- Corridor Around Other Infrastructure
- Turbine Segments
- 275kV Transmission Line
- 33kV Transmission Lines
- Underground Cable not within Proposed Access Track
- Dwelling within 1km
- Host Dwelling
- Occupied Dwelling
- Construction Amenities
- Batch Plant/Construction Amenities
- Laydown Area/Construction Amenities
- Laydown Area
- Substation and Operations & Maintenance Compound

Paper Size A1

0 250 500 1,000 1,500

Metres

Horizontal Datum: GDA 1994
Grid: GCS GDA 1994

N

TrustPower Australia Holdings Pty Ltd
Palmer Wind Farm Technical Studies

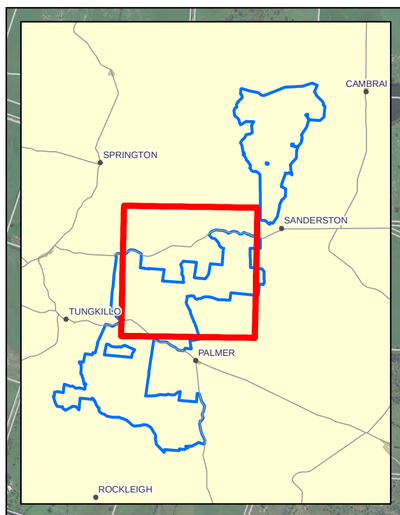
Palmer Wind Farm Layout
Area A Indicative Project Layout

Job Number	33-17234
Revision	9
Date	05 Jul 2016

180 Lonsdale Street Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **F** 61 3 8687 8111 **E** melmail@ghd.com **W** www.ghd.com

G:\33\17234\GIS\Maps\Deliverables\PostSubmission_Changes\33-17234_005_PalmerWF_MB_topo_A1P_rev9_.mxd

Data source: TrustPower Australia Holdings Pty Ltd: Aerial; Design - 201400123. GA: Geodata Topo 250K Series 3 - 2006, Roads - 2006. Created by:lrsmith



R106 R107 R086 R127 R096 R108 R122 R090 R102 R131 R036 R043 R091 R037 R038 R042 R039 R040 R033 R030 R031 R094 R032 R119 R095 R034 R008 R009 R007 R010 R011 R012 R087 R111 R013 R014 R093 R015 R016 R113 R114 R017 R018 R019 R116 R088 R020 R022 R134 R023 R024 R123 R045 R046 R047 R115 R135 R136 R139

B01 B02 B05 B07 B08 B06 B12 B14 B09 B19 B24 B28 B27 B31 B32 B34 B38 B36 B35 B39 B40 B41 B42 B45 B44 B43 B46 B48 B49 B47 B50 B10 B52 B55 B56 B53 B58 B61 B62 B59 B60 B51 B13 B25 B22 B21 B16 B04 B18 B29 C01

CT5350/879 CT6052/91 CT5726/165 CT Vol 5657 Fol 268 CT5854/170 CT Vol 5854 Fol 170 CT5897/771 CT5424/596 CT5897/770 CT Vol 5897 Fol 769 CT Vol 5958 Fol 134 CT Vol 5989 Fol 715 CT 5348/175 CT Vol 5702 Fol 227 CT Vol 5651 Fol 396 CT5517/115 CT5546/926 CT5546/925 CT5689/533 CT Vol 5144 Fol 864 CT Vol 5404 Fol 721 CT Vol 5516 Fol 661 CT Vol 5405 Fol 94 CT Vol 5899 Fol 987 CT5425/652 CT Vol 5756 Fol 275 CT5866/948 CT Vol 5756 Fol 276 CT Vol 5756 Fol 277 CR5761/336 CT Vol 5895 Fol 897 CT5425/648 CT5405/94 CT Vol 5756 Fol 278 CT5538/443 CT Vol 5756 Fol 279 CT Vol 5895 Fol 323 CT Vol 5756 Fol 280 CT Vol 5844 Fol 707 CT5844/707 CT5421/813 CT Vol 5424 Fol 484 CT5421/812 CT Vol 5705 Fol 899 CT5421/814 CT5806/10 CT5876/758 CT5473/924 CT5409/144 CT6120/424 CT Vol 5153 Fol 319 CT Vol 5732 Fol 435 CT Vol 5897 Fol 853 RANDELL ROAD MILENDELLA

WALKER FLAT-MT PLEASANT ROAD

Legend

- Project Boundary
- Not Within Site of Development
- Titles Inside Project Boundary
- Indicative Turbine Location
- Meteorological Mast
- Corridor Around Other Infrastructure
- Turbine Segments
- 275kV Transmission Line
- 33kV Transmission Lines
- Underground Cable not within Proposed Access Track
- Dwelling within 1km
- Host Dwelling
- Occupied Dwelling
- Construction Amenities
- Batch Plant/Construction Amenities
- Laydown Area/Construction Amenities
- Laydown Area
- Substation and Operations & Maintenance Compound

Paper Size A1

0 250 500 1,000 1,500

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 54

N

TrustPower Australia Holdings Pty Ltd
Palmer Wind Farm Technical Studies

Palmer Wind Farm Layout
Area B Indicative Project Layout

Job Number	33-17234
Revision	9
Date	05 Jul 2016

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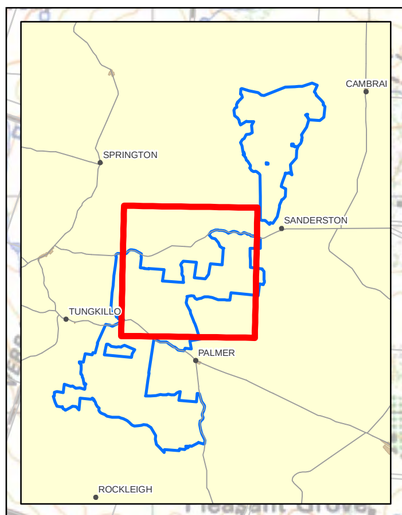
180 Lonsdale Street Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **F** 61 3 8687 8111 **E** melmail@ghd.com **W** www.ghd.com

Data source: TrustPower Australia Holdings Pty Ltd: Aerial; Design - 201400123. GA: Geodata Topo 250K Series 3 - 2006, Roads - 2006. Created by:lrsmith



Legend

- Project Boundary
- Not Within Site of Development
- Titles Inside Project Boundary
- Indicative Turbine Location
- Meteorological Mast
- Corridor Around Other Infrastructure
- Turbine Segments
- 275kV Transmission Line
- 33kV Transmission Lines
- Underground Cable not within Proposed Access Track
- Dwelling within 1km
- Host Dwelling
- Occupied Dwelling
- Construction Amenities
- Batch Plant/Construction Amenities
- Laydown Area/Construction Amenities
- Laydown Area
- Substation and Operations & Maintenance Compound

Paper Size A1

0 250 500 1,000 1,500

Metres

Horizontal Datum: GDA 1994
Grid: GCS GDA 1994

N

TrustPower Australia Holdings Pty Ltd
Palmer Wind Farm Technical Studies

Palmer Wind Farm Layout
Area B Indicative Project Layout

Job Number	33-17234
Revision	9
Date	05 Jul 2016

G:\33\17234\GIS\Maps\Deliverables\PostSubmission_Changes\33-17234_005_PalmerWF_MB_topo_A1P_rev9_.mxd

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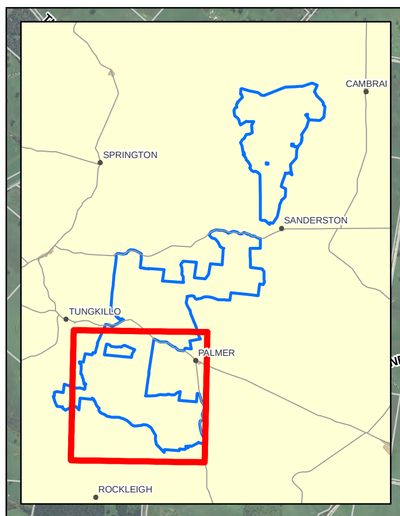
Data source: TrustPower Australia Holdings Pty Ltd: Aerial; Design - 201400123. GA: Geodata Topo 250K Series 3 - 2006, Roads - 2006. Created by:lrsmith



Legend

- Project Boundary
- Not Within Site of Development
- Titles Inside Project Boundary
- Indicative Turbine Location
- Meteorological Mast
- Corridor Around Other Infrastructure
- Turbine Segments
- 275kV Transmission Line
- 33kV Transmission Lines
- Underground Cable not within Proposed Access Track
- Dwelling within 1km
- Host Dwelling
- Occupied Dwelling
- Construction Amenities
- Batch Plant/Construction Amenities
- Laydown Area/Construction Amenities
- Laydown Area
- Substation and Operations & Maintenance Compound

Paper Size A1

0 250 500 1,000 1,500

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 54

N

TrustPower Australia Holdings Pty Ltd
Palmer Wind Farm Technical Studies

Palmer Wind Farm Layout
Area C Indicative Project Layout

Job Number	33-17234
Revision	9
Date	05 Jul 2016

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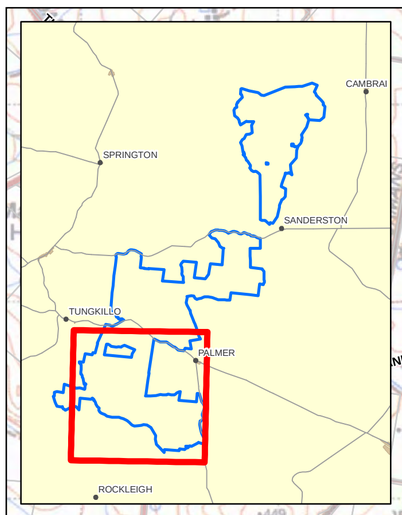
Data source: TrustPower Australia Holdings Pty Ltd: Aerial; Design - 201400123. GA: Geodata Topo 250K Series 3 - 2006, Roads - 2006. Created by:lrsmith



Legend

- Project Boundary
- Not Within Site of Development
- Titles Inside Project Boundary
- Indicative Turbine Location
- Meteorogical Mast
- Corridor Around Other Infrastructure
- Turbine Segments
- 275kV Transmission Line
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- Dwelling within 1km
- Host Dwelling
- Occupied Dwelling
- Construction Amenities
- Batch Plant/Construction Amenities
- Laydown Area/Construction Amenities
- Laydown Area
- Substation and Operations & Maintenance Compound

Paper Size A1

0 250 500 1,000 1,500

Metres

Horizontal Datum: GDA 1994
Grid: GCS GDA 1994

N

TrustPower Australia Holdings Pty Ltd
Palmer Wind Farm Technical Studies

Palmer Wind Farm Layout
Area C Indicative Project Layout

Job Number	33-17234
Revision	9
Date	05 Jul 2016

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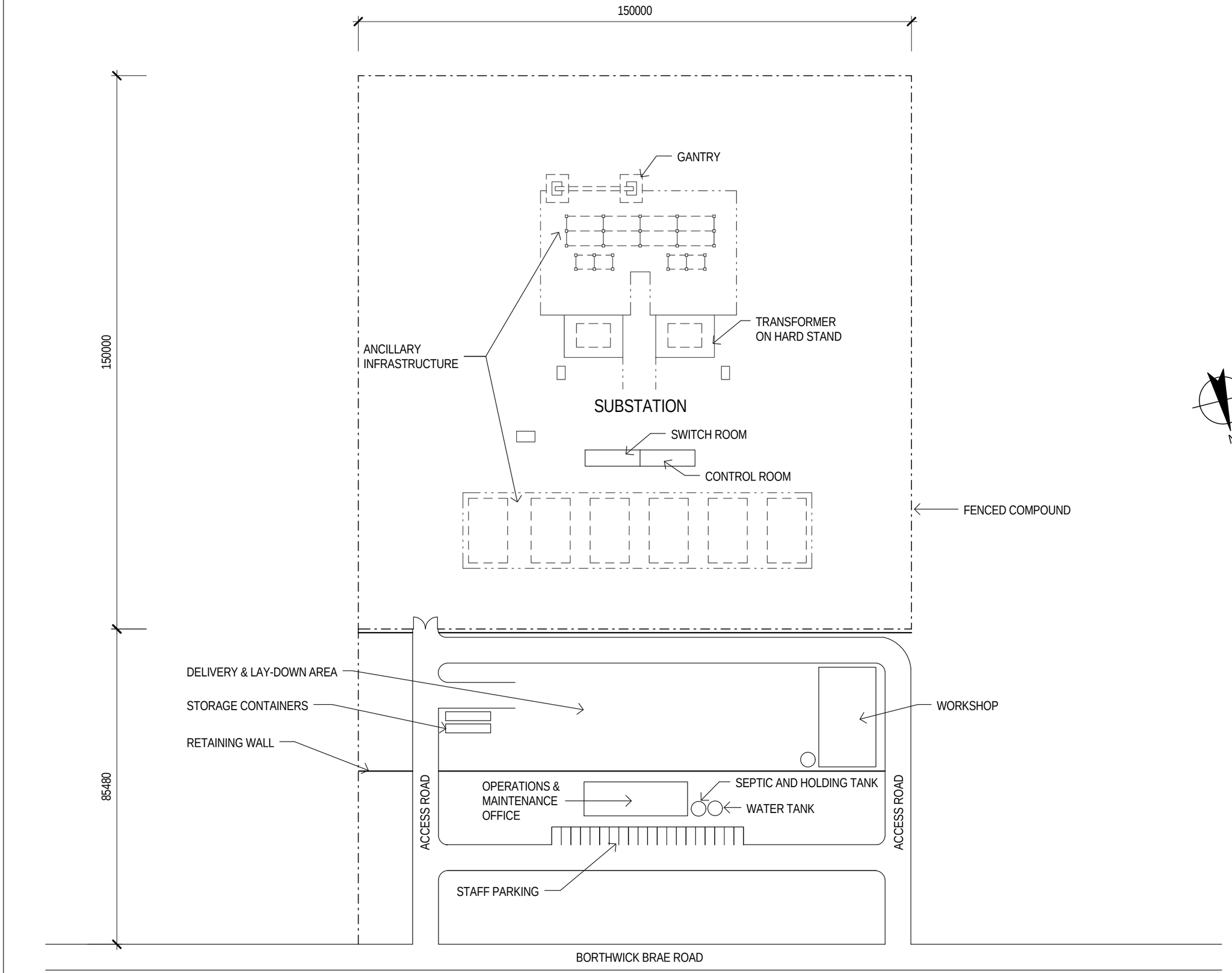

N

0 10 20 30 40 50 m

SCALE 1:1000 AT ORIGINAL SIZE

No	Revision	Drawn	Job Manager	Project Director	Date

Drawing Revisions

Note: * indicates signatures on original issue of drawing or last revision of drawing

*ALL PLANS ARE INDICATIVE AND SUBJECT TO DETAILED DESIGN

Level 4, 211 Victoria Square Adelaide SA 5000 Australia
GPO Box 2052 Adelaide SA 5001
T 61 8 8111 6600 **F** 61 8 8111 6699
E adlmail@ghd.com **W** www.ghd.com

Client **TRUST POWER**

Project **PALMER WIND FARM**

Title **SUBSTATION, OPERATIONS AND MAINTENANCE FACILITY SITE LAYOUT**

Scale	1 : 1000		**DO NOT SCALE**
Drawn	JB	Designer	KS
Drafting Check		Design Check	Checker
Approved (Project Director)	Approver		
Date	15.08.2014		

This Drawing must not be used for Construction unless signed as Approved

Drawing No: **33-17234 - A101**

Original Size A3

Rev:

Plot Date: 15/08/2014 3:11:22 PM Cad File No: G:\33\17234\CADD\Drawings\REVIT\SK01.rvt

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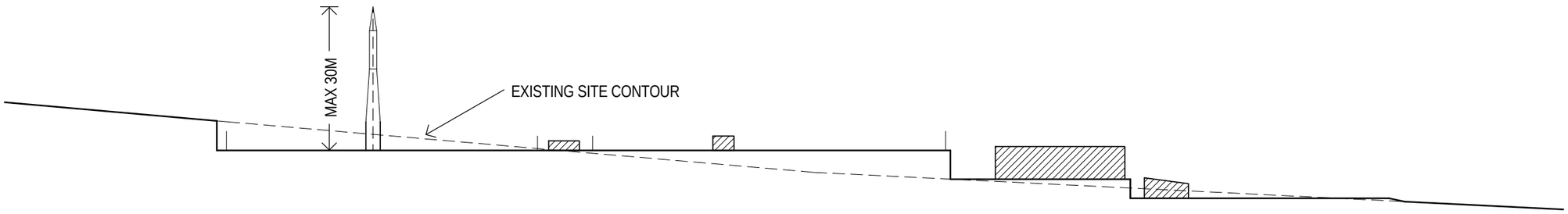
SCALE 1:1000 AT ORIGINAL SIZE



No	Revision	Drawn	Job Manager	Project Director	Date

Drawing Revisions

Note: * indicates signatures on original issue of drawing or last revision of drawing

*ALL PLANS ARE INDICATIVE AND SUBJECT TO DETAILED DESIGN

Level 4, 211 Victoria Square Adelaide SA 5000 Australia
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E adimail@ghd.com **W** www.ghd.com

Client **TRUST POWER**

Project **PALMER WIND FARM**

Title **SUBSTATION, OPERATIONS AND MAINTENANCE FACILITY SITE SECTION**

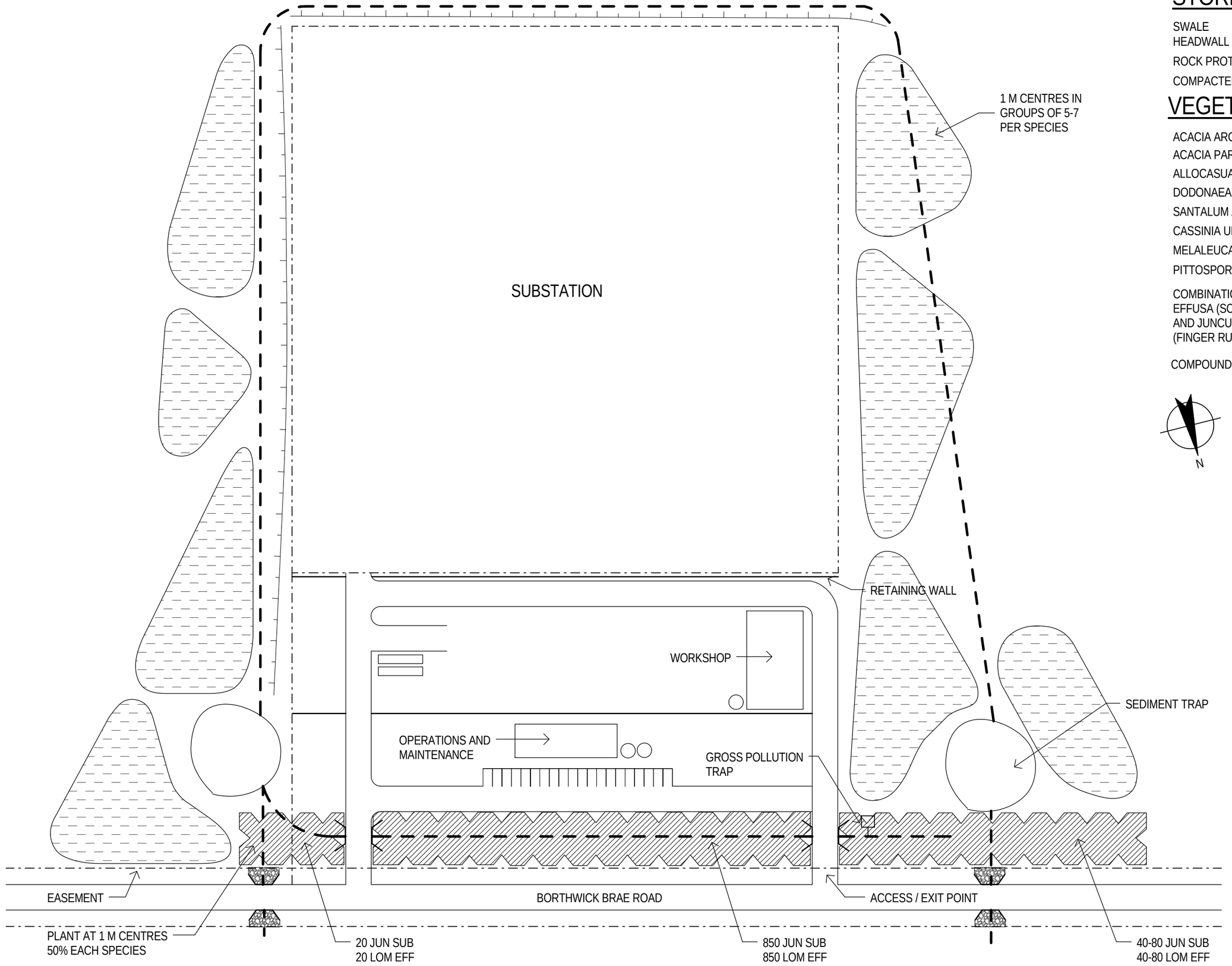
Scale	1 : 1000		**DO NOT SCALE**
Drawn	JB	Designer	KS
Drafting Check		Design Check	Checker
Approved (Project Director)	Approver		
Date	15.08.2014		

This Drawing must not be used for Construction unless signed as Approved

Drawing No: **33-17234 - A102**

Original Size A3

Rev:



STORMWATER

SWALE
HEADWALL
ROCK PROTECTION
COMPACTED EARTH BANK

VEGETATION

ACACIA ARGYROPHYLLA
ACACIA PARADOXA
ALLOCASUARINA VERT
DODONAEA VISCOSA
SANTALUM ACUMINATUM
CASSINIA UNCATA
MELALEUCA LANCEOLATA
PITTOSPORUM ANGUSTIFOLIUM

COMBINATION OF LOMANDRA EFFUSA (SCENTED MAT RUSH) AND JUNCUS SUBSECUNDUS (FINGER RUSH)

COMPOUND FENCING

N

0 10 20 30 40 50 m

SCALE 1:1000 AT ORIGINAL SIZE

No	Revision	Drawn	Job Manager	Project Director	Date

Drawing Revisions

Note: * indicates signatures on original issue of drawing or last revision of drawing

*ALL PLANS ARE INDICATIVE AND SUBJECT TO DETAILED DESIGN

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E adlmail@ghd.com **W** www.ghd.com

Client **TRUST POWER**

Project **PALMER WIND FARM**

Title **SUBSTATION AND OM STORMWATER AND LANDSCAPE CONCEPT**

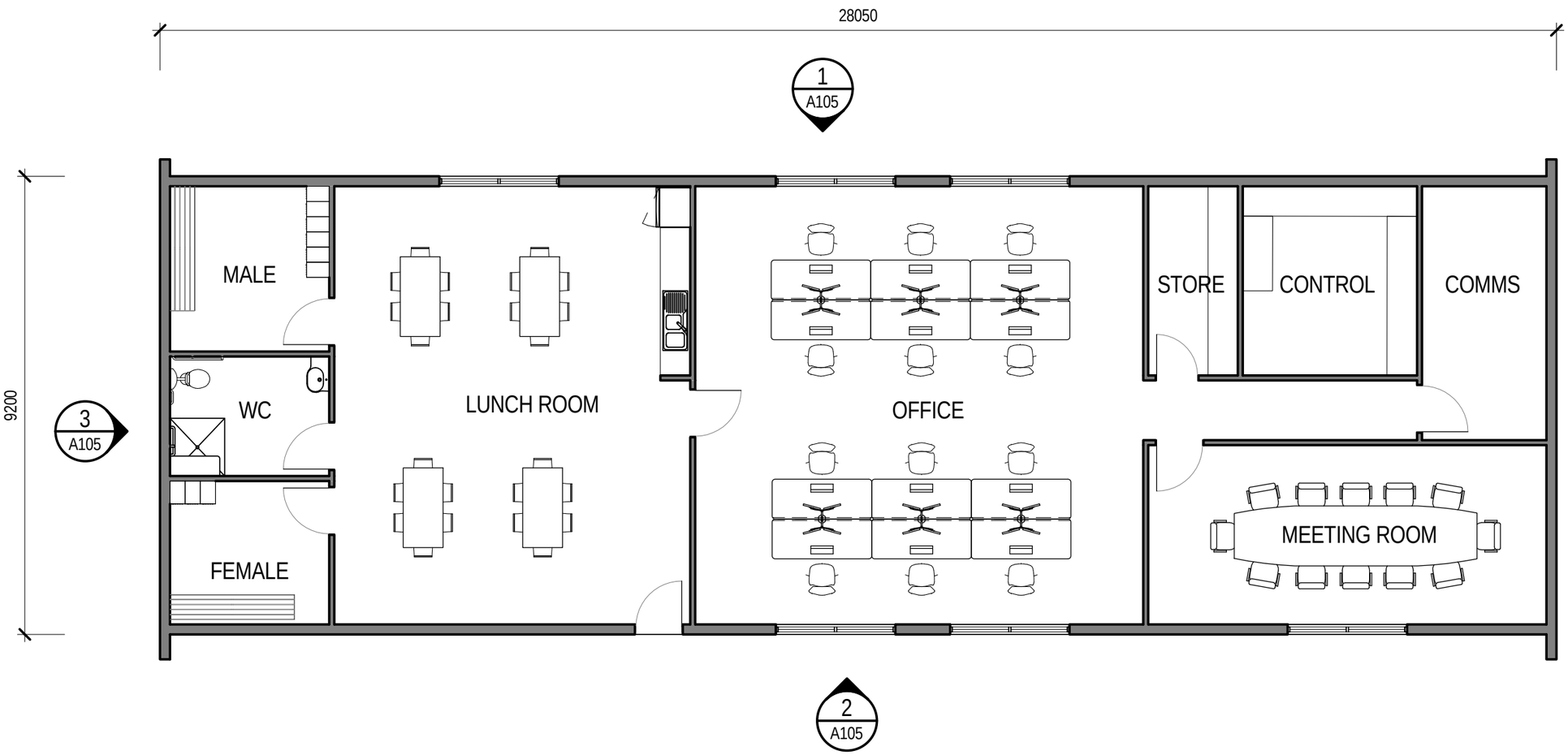
Scale	1 : 1000		**DO NOT SCALE**
Drawn	JB	Designer	GF
Drafting Check		Design Check	Checker
Approved (Project Director)	Approver		
Date	15.08.2014		

This Drawing must not be used for Construction unless signed as Approved

Drawing No: **33-17234 - A103**

Original Size A3

Rev:



0 1000 2000 3000mm

SCALE 1:100 AT ORIGINAL SIZE

No	Revision	Drawn	Job Manager	Project Director	Date

Drawing Revisions

Note: * indicates signatures on original issue of drawing or last revision of drawing

*ALL PLANS ARE INDICATIVE AND SUBJECT TO DETAILED DESIGN

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GPO Box 2052 Adelaide SA 5001
T 61 8 8111 6600 **F** 61 8 8111 6699
E adlmail@ghd.com **W** www.ghd.com

Client **TRUST POWER**

Project **PALMER WIND FARM**

Title **SUBSTATION, OPERATIONS AND MAINTENANCE OM OFFICE FLOORPLAN**

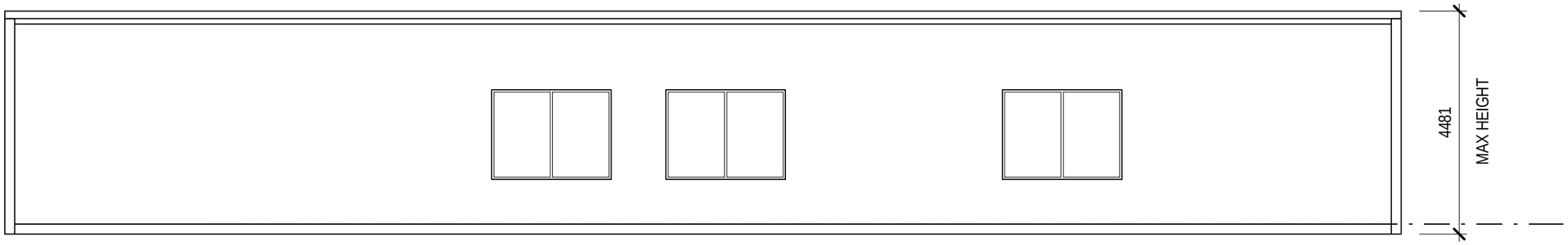
Scale	1 : 100		**DO NOT SCALE**
Drawn	JB	Designer	JB
Drafting Check		Design Check	Checker
Approved (Project Director)	Approver		
Date	15.08.2014		

This Drawing must not be used for Construction unless signed as Approved

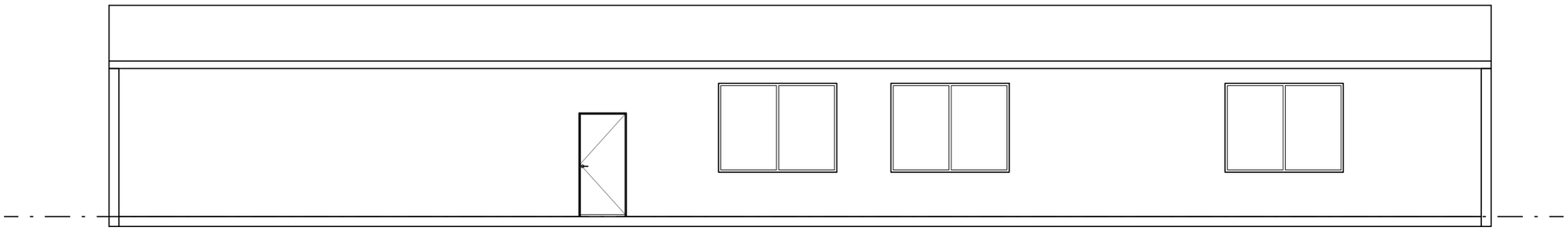
Drawing No: **33-17234 - A104**

Original Size A3

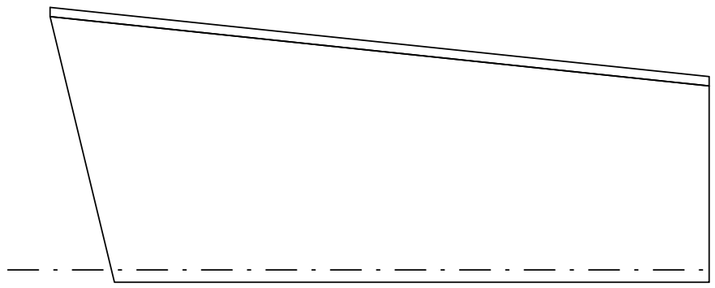
Rev:



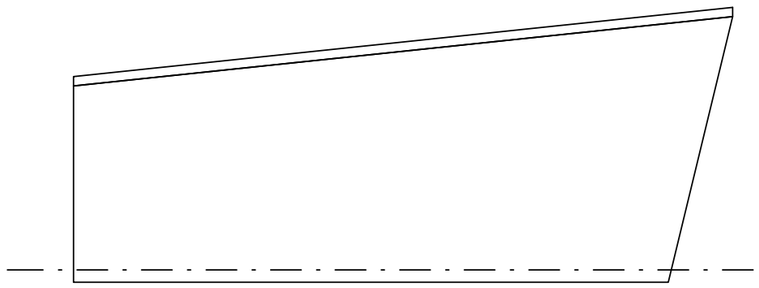
NORTH ELEVATION
SCALE 1 : 100



SOUTH ELEVATION
SCALE 1 : 100



WEST ELEVATION
SCALE 1 : 100



EAST ELEVATION
SCALE 1 : 100

0 1000 2000 3000mm
SCALE 1:100 AT ORIGINAL SIZE

No	Revision	Drawn	Job Manager	Project Director	Date

Drawing Revisions
Note: * indicates signatures on original issue of drawing or last revision of drawing

*ALL PLANS ARE INDICATIVE AND SUBJECT TO DETAILED DESIGN

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Client **TRUST POWER**

Project **PALMER WIND FARM**

Title **SUBSTATION, OPERATIONS AND MAINTENANCE OM OFFICE ELEVATIONS**

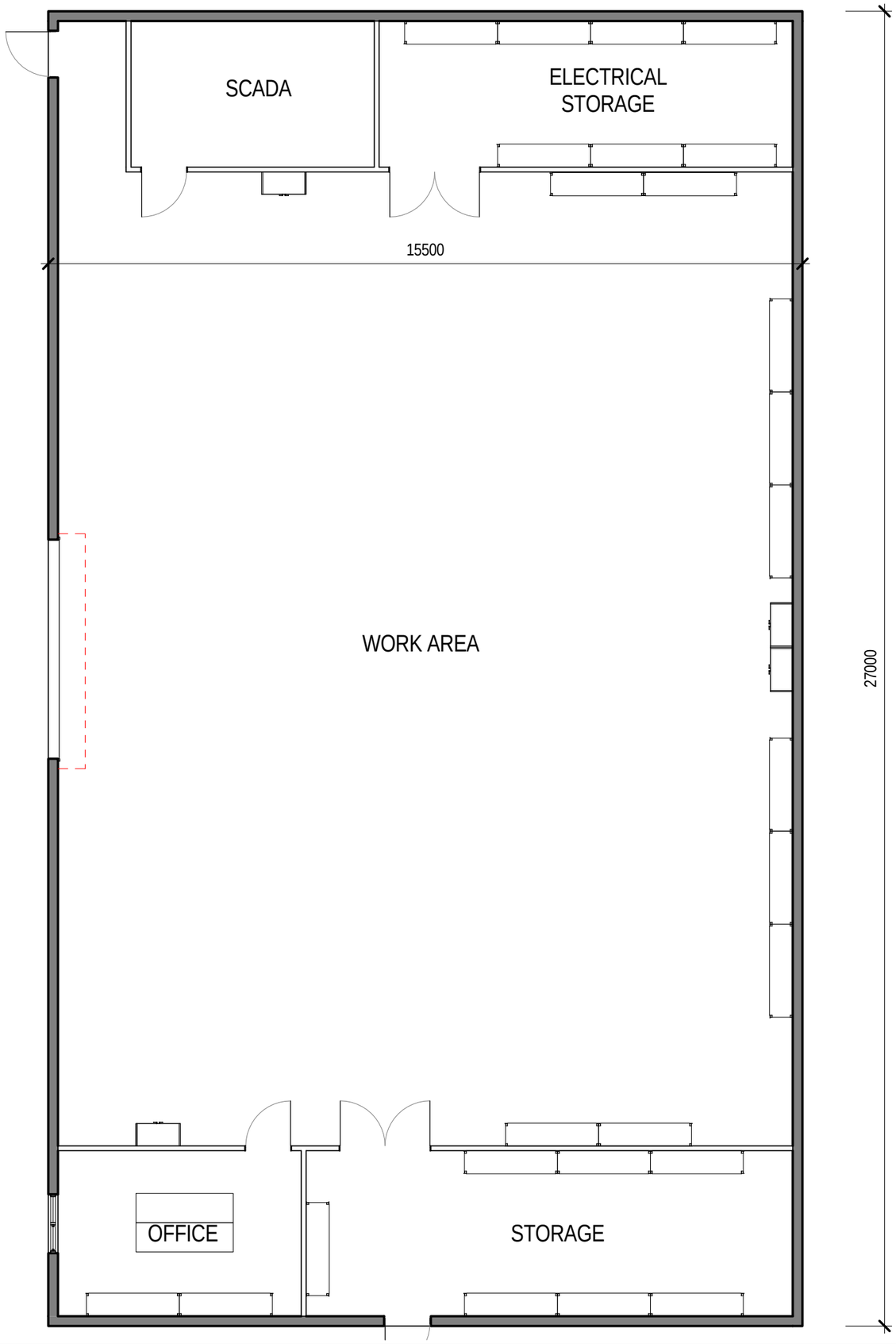
Scale	1 : 100		**DO NOT SCALE**
Drawn	JB	Designer	JB
Drafting Check		Design Check	Checker
Approved (Project Director)	Approver		
Date	15.08.2014		

This Drawing must not be used for Construction unless signed as Approved

Drawing No: **33-17234 - A105**

Original Size A3

Rev:



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SCALE 1:100 AT ORIGINAL SIZE

No	Revision	Drawn	Job Manager	Project Director	Date

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T 61 8 8111 6600 **F** 61 8 8111 6699
E adimail@ghd.com **W** www.ghd.com

Client **TRUST POWER**

Project **PALMER WIND FARM**

Title **SUBSTATION, OPERATIONS AND MAINTENANCE WORKSHOP FLOORPLAN**

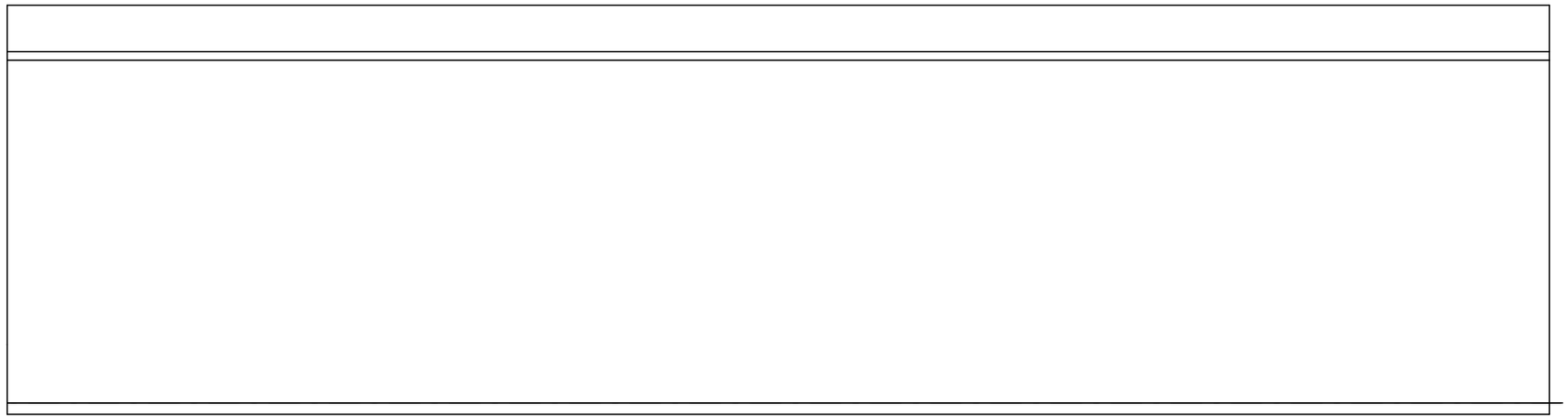
Scale	1 : 100		**DO NOT SCALE**
Drawn	JB	Designer	JB
Drafting Check		Design Check	Checker
Approved (Project Director)	Approver		
Date	15.08.14		

This Drawing must not be used for Construction unless signed as Approved

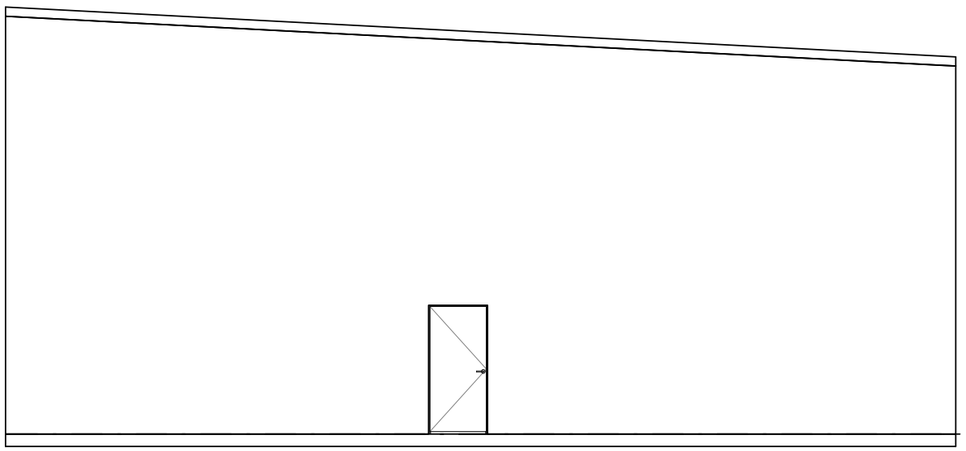
Drawing No: **33-17234 - A106**

Original Size A3

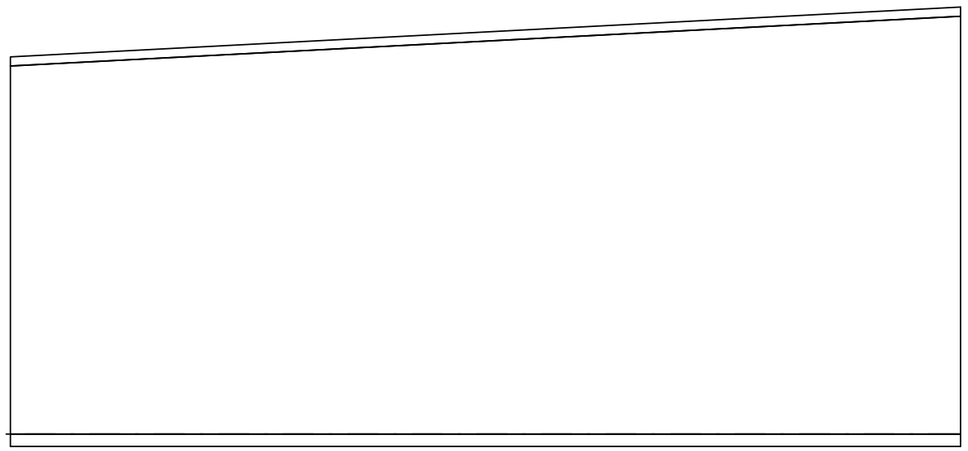
Rev:



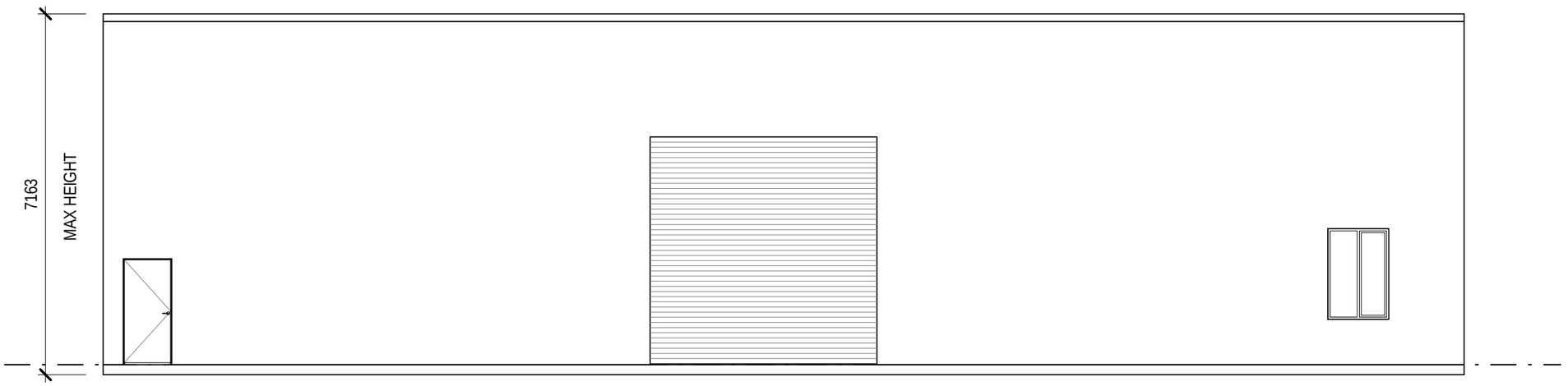
EAST ELEVATION
SCALE 1 : 100



SOUTH ELEVATION
SCALE 1 : 100



NORTH ELEVATION
SCALE 1 : 100



WEST ELEVATION
SCALE 1 : 100

0 1000 2000 3000mm
SCALE 1:100 AT ORIGINAL SIZE

No	Revision	Drawn	Job Manager	Project Director	Date

Drawing Revisions
Note: * indicates signatures on original issue of drawing or last revision of drawing

*ALL PLANS ARE INDICATIVE AND SUBJECT TO DETAILED DESIGN

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E adimail@ghd.com **W** www.ghd.com

Client **TRUST POWER**

Project **PALMER WIND FARM**

Title **SUBSTATION, OPERATIONS AND MAINTENANCE WORKSHOP ELEVATIONS**

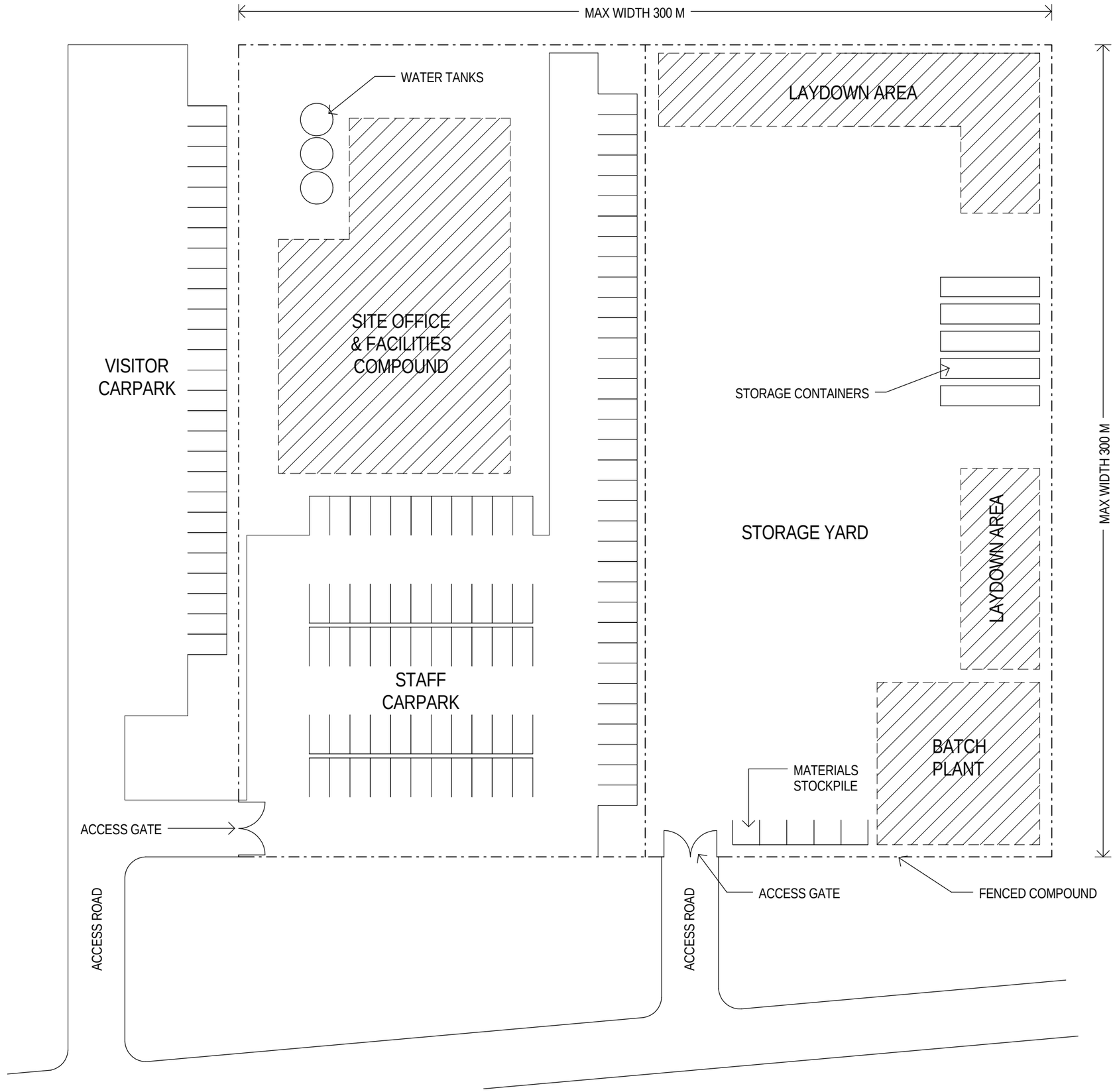
Scale	1 : 100		**DO NOT SCALE**
Drawn	JB	Designer	JB
Drafting Check		Design Check	Checker
Approved (Project Director)	Approver		
Date	15.08.2014		

This Drawing must not be used for Construction unless signed as Approved

Drawing No: **33-17234 - A107**

Original Size A3

Rev:



0 5 10 15 m
SCALE 1:500 AT ORIGINAL SIZE

No	Revision	Drawn	Job Manager	Project Director	Date

Drawing Revisions
Note: * indicates signatures on original issue of drawing or last revision of drawing

*ALL PLANS ARE INDICATIVE AND SUBJECT TO DETAILED DESIGN

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E adimail@ghd.com **W** www.ghd.com

Client **TRUST POWER**

Project **PALMER WIND FARM**

Title **MAIN CONSTRUCTION SITE**

INDICATIVE LAYOUT

Scale	1 : 500		**DO NOT SCALE**
Drawn	JB	Designer	JB
Drafting Check		Design Check	Checker
Approved (Project Director)	Approver		
Date	15.08.2014		

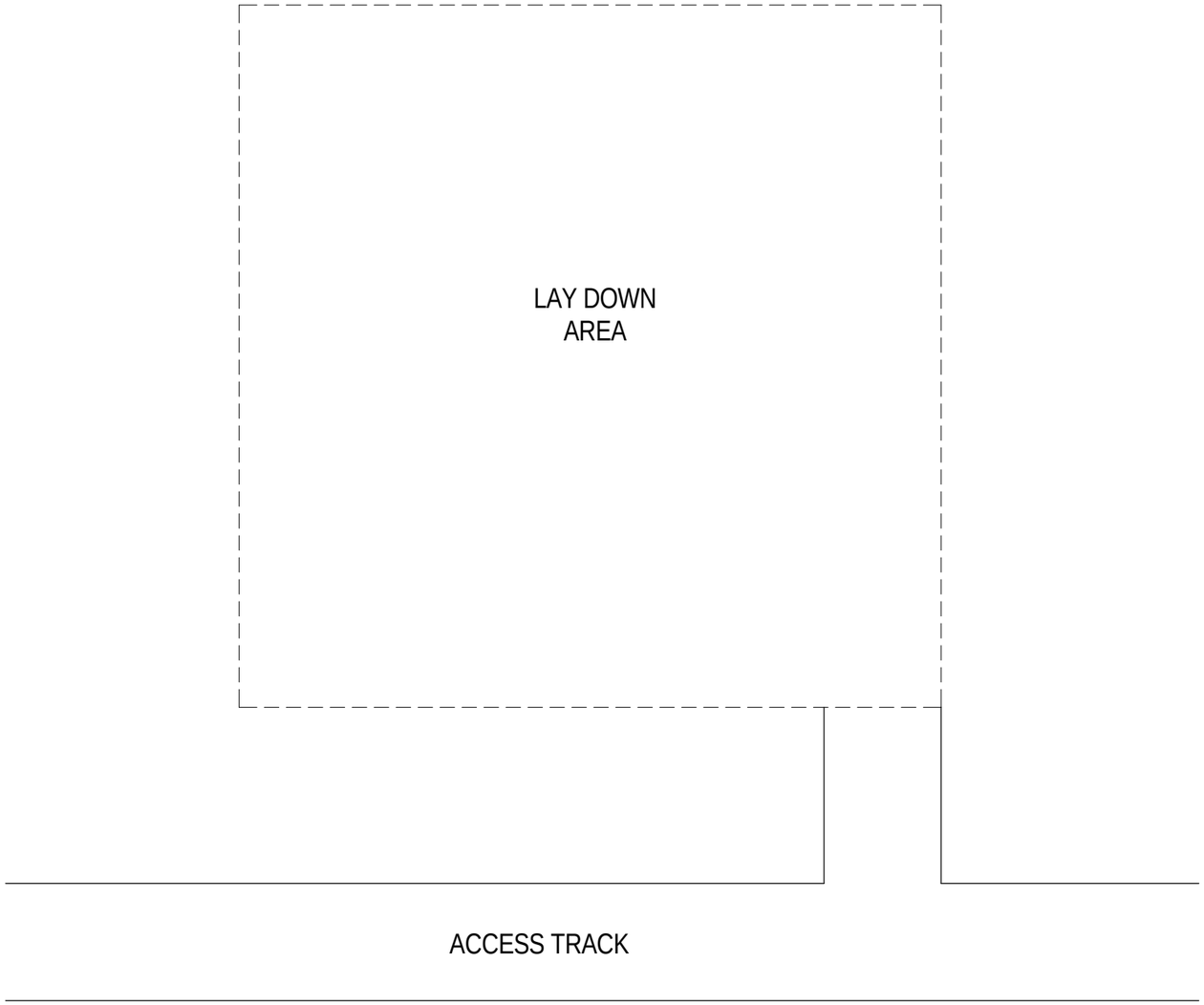
This Drawing must not be used for Construction unless signed as Approved

Drawing No: **33-17234 - A108**

Original Size A3

Rev:

Plot Date: 15/08/2014 3:19:51 PM Cad File No: G:\33\17234\CADD\Drawings\REVIT\SK01.rvt



0 5 10 15 m
SCALE 1:500 AT ORIGINAL SIZE

No	Revision	Drawn	Job Manager	Project Director	Date

Drawing Revisions
Note: * indicates signatures on original issue of drawing or last revision of drawing

*ALL PLANS ARE INDICATIVE AND SUBJECT TO DETAILED DESIGN

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E adimail@ghd.com **W** www.ghd.com

Client **TRUST POWER**

Project **PALMER WIND FARM**

Title **LAYDOWN AREA**

INDICATIVE LAYOUT

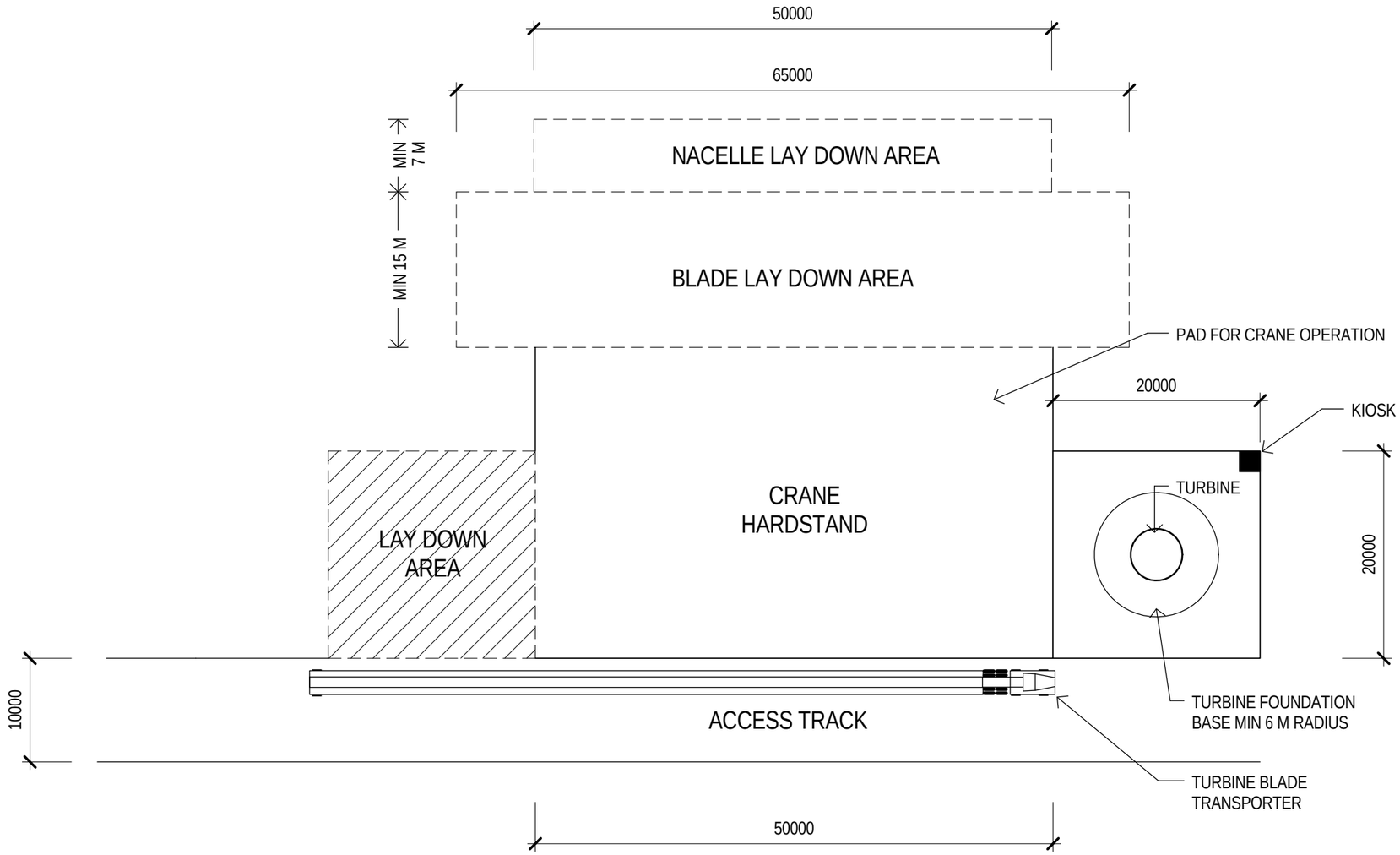
Scale	1 : 500		**DO NOT SCALE**
Drawn	JB	Designer	KS
Drafting Check		Design Check	Checker
Approved (Project Director)	Approver		
Date	15.08.2014		

This Drawing must not be used for Construction unless signed as Approved

Drawing No: **33-17234 - A109**

Original Size A3

Rev:



* NOTE: APPROX. LENGTHS SHOWN

0 5 10 15 m
SCALE 1:500 AT ORIGINAL SIZE

No	Revision	Drawn	Job Manager	Project Director	Date

Drawing Revisions

Note: * indicates signatures on original issue of drawing or last revision of drawing

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Client **TRUST POWER**

Project **PALMER WIND FARM**

Title **TOWER SITE**

INDICATIVE LAYOUT

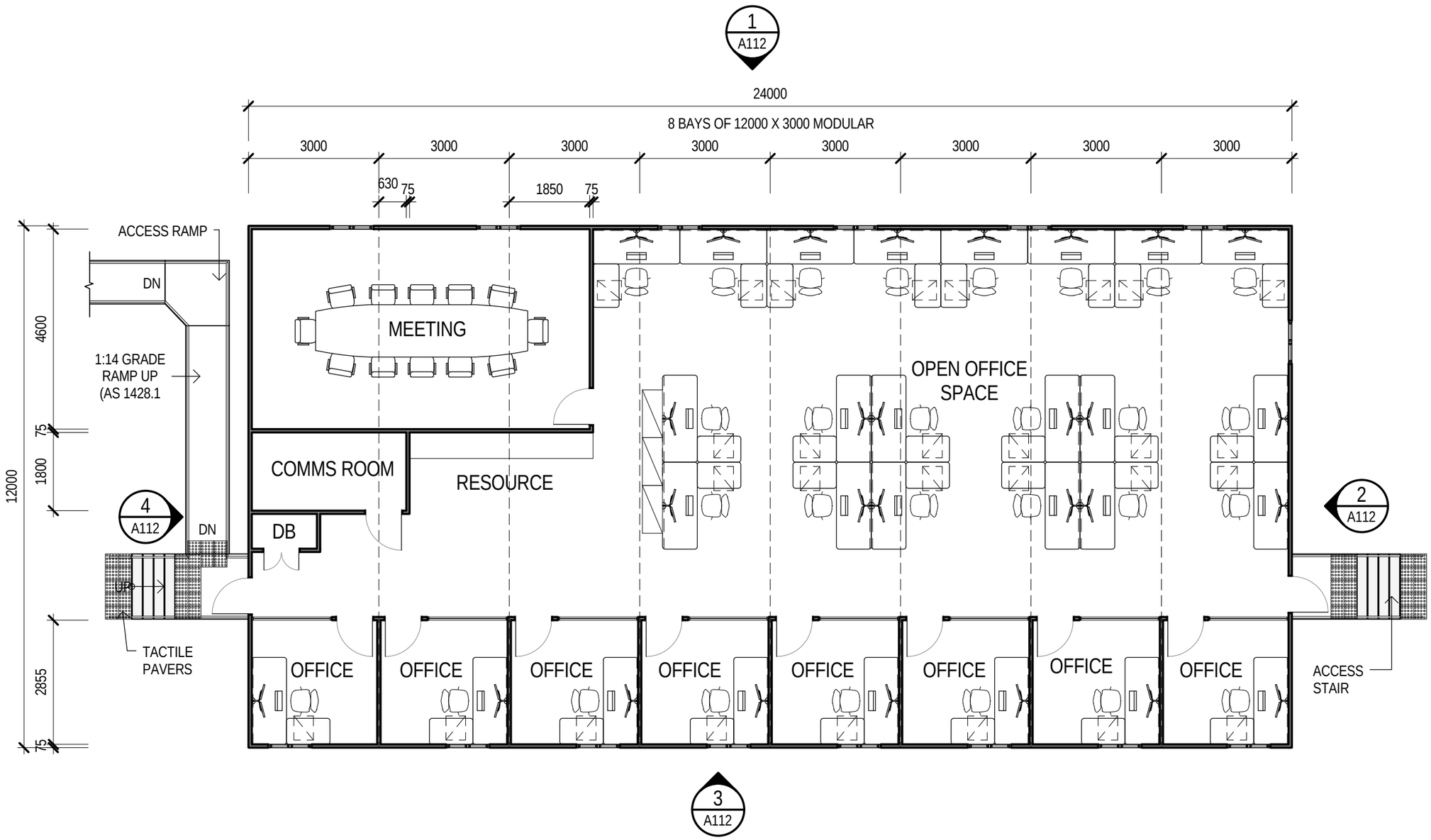
Scale	1 : 500		**DO NOT SCALE**
Drawn	JB	Designer	KS
Drafting Check		Design Check	Checker
Approved (Project Director)	Approver		
Date	15.08.2014		

This Drawing must not be used for Construction unless signed as Approved

Drawing No: **33-17234 - A110**

Original Size A3

Rev:



0 1000 2000 3000mm
SCALE 1:100 AT ORIGINAL SIZE

No	Revision	Drawn	Job Manager	Project Director	Date

Drawing Revisions

Note: * indicates signatures on original issue of drawing or last revision of drawing

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Client **TRUST POWER**

Project **PALMER WIND FARM**

Title **SITE OFFICE AND FACILITIES COMPOUND OFFICE FLOORPLAN**

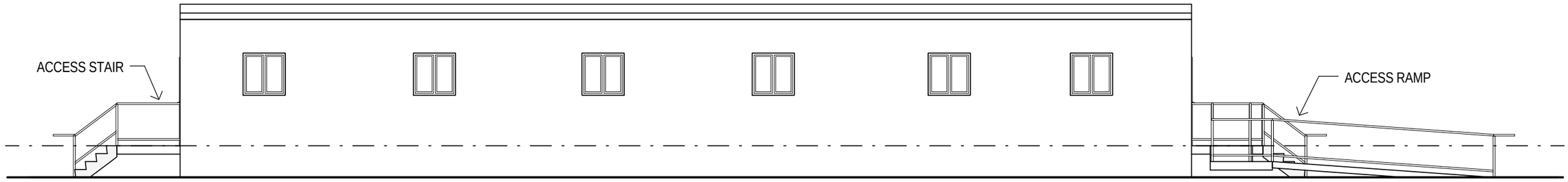
Scale	1 : 100		**DO NOT SCALE**
Drawn	JB	Designer	JB
Drafting Check		Design Check	Checker
Approved (Project Director)	Approver		
Date	15.08.2014		

This Drawing must not be used for Construction unless signed as Approved

Drawing No: **33-17234 - A111**

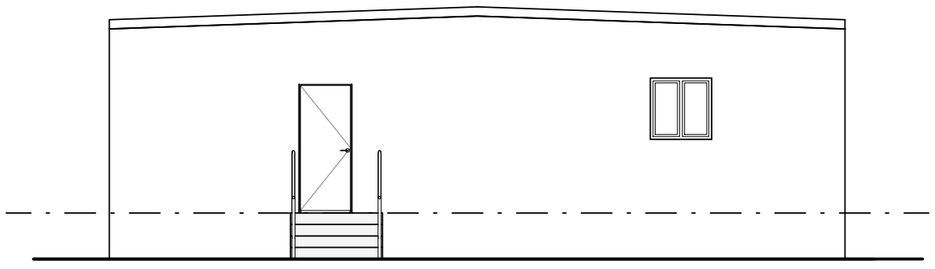
Original Size A3

Rev:



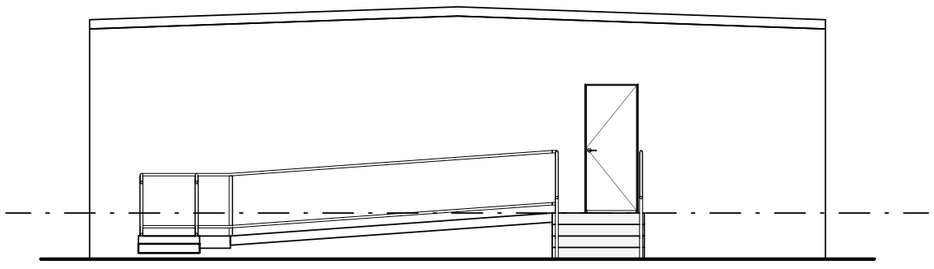
NORTH ELEVATION

SCALE 1 : 100



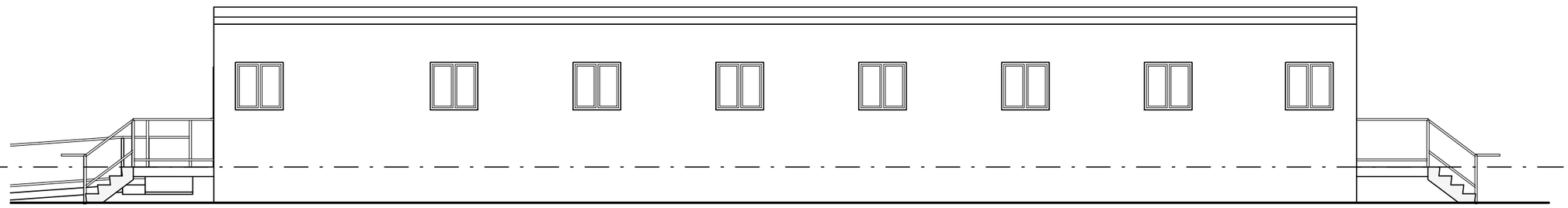
EAST ELEVATION

SCALE 1 : 100



WEST ELEVATION

SCALE 1 : 100



SOUTH ELEVATION

SCALE 1 : 100

0 1000 2000 3000mm

SCALE 1:100 AT ORIGINAL SIZE

No	Revision	Drawn	Job Manager	Project Director	Date

Drawing Revisions

Note: * indicates signatures on original issue of drawing or last revision of drawing

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Client **TRUST POWER**

Project **PALMER WIND FARM**

Title **SITE OFFICE AND FACILITIES COMPOUND OFFICE ELEVATIONS**

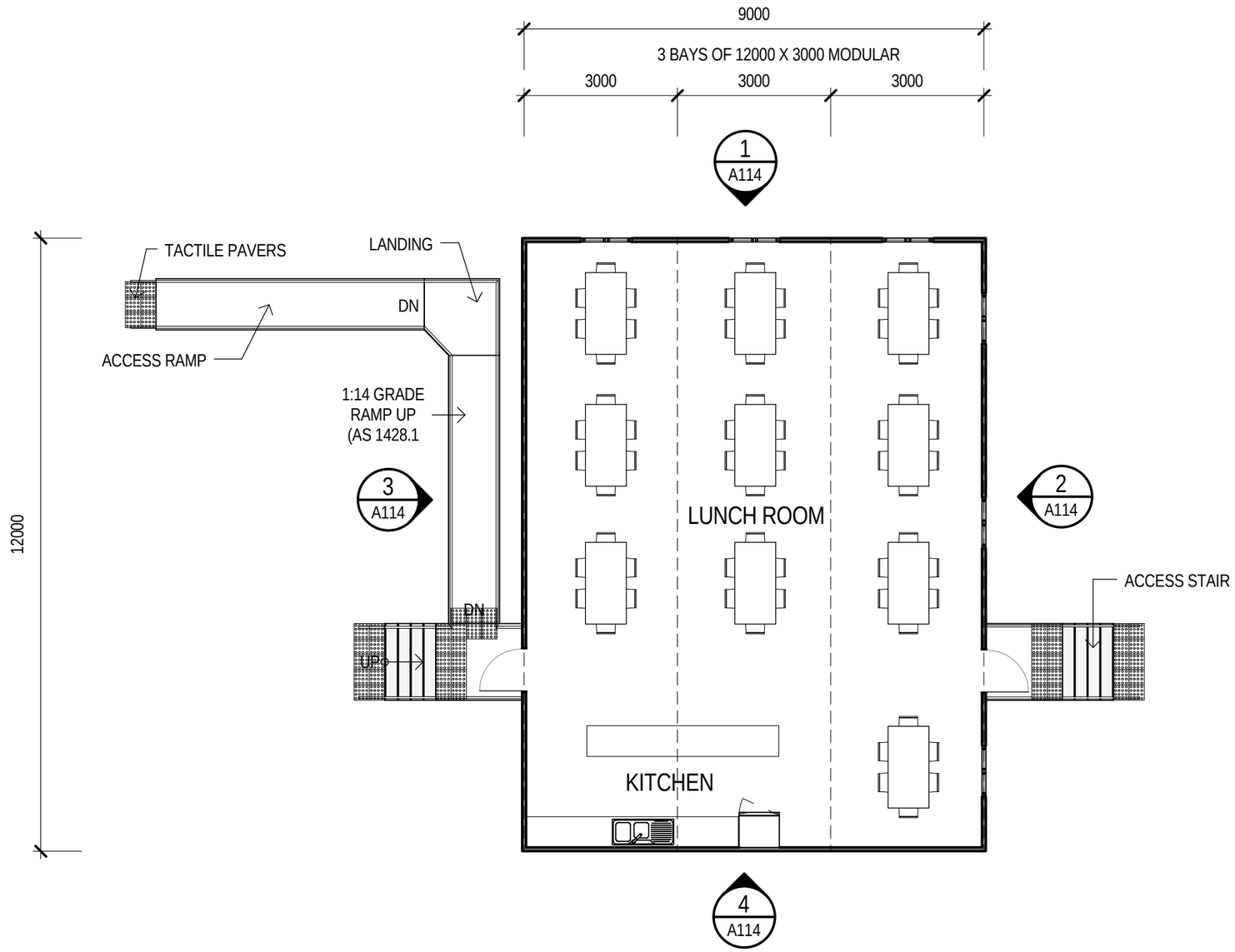
Scale	1 : 100		**DO NOT SCALE**
Drawn	JB	Designer	JB
Drafting Check		Design Check	Checker
Approved (Project Director)	Approver		
Date	15.08.2014		

This Drawing must not be used for Construction unless signed as Approved

Drawing No: **33-17234 - A112**

Original Size A3

Rev:



0 1000 2000 3000mm

SCALE 1:100 AT ORIGINAL SIZE

No	Revision	Drawn	Job Manager	Project Director	Date

Drawing Revisions

Note: * indicates signatures on original issue of drawing or last revision of drawing

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Client **TRUST POWER**

Project **PALMER WIND FARM**

Title **SITE OFFICE AND FACILITIES COMPOUND LUNCHROOM FLOOR PLAN**

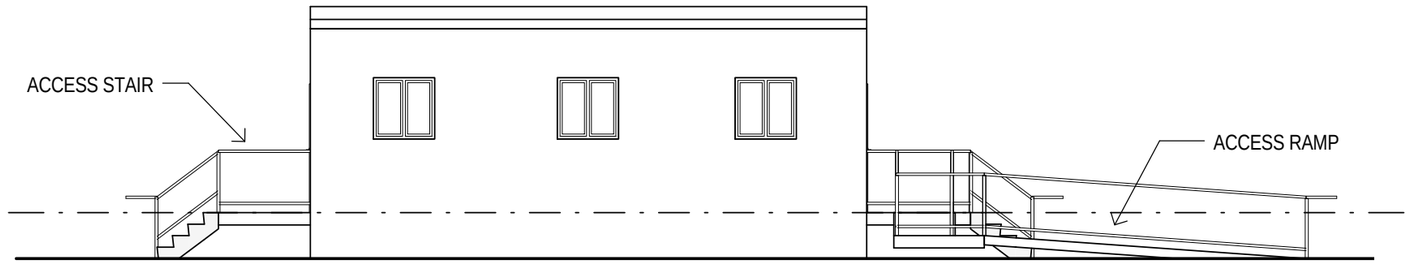
Scale	1 : 100		**DO NOT SCALE**
Drawn	JB	Designer	JB
Drafting Check		Design Check	Checker
Approved (Project Director)	Approver		
Date	15.08.2014		

This Drawing must not be used for Construction unless signed as Approved

Drawing No: **33-17234 - A113**

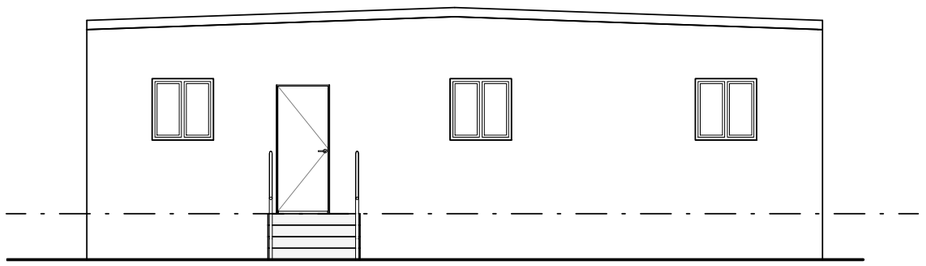
Original Size A3

Rev:



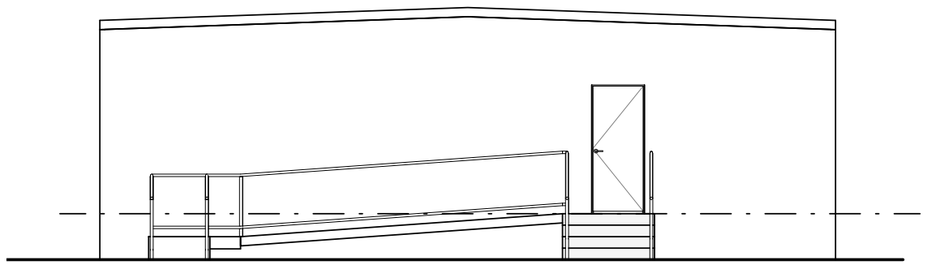
.NORTH ELEVATION

SCALE 1 : 100



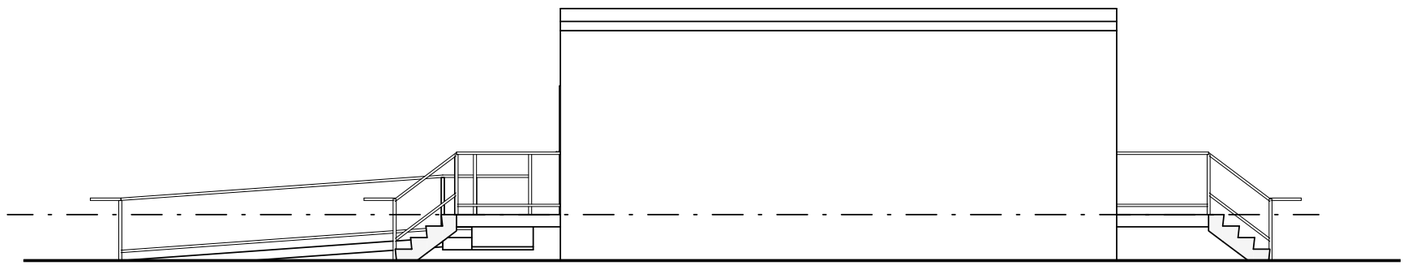
.EAST ELEVATION

SCALE 1 : 100



.WEST ELEVATION

SCALE 1 : 100



.SOUTH ELEVATION

SCALE 1 : 100

0 1000 2000 3000mm

SCALE 1:100 AT ORIGINAL SIZE

No	Revision	Drawn	Job Manager	Project Director	Date

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Client **TRUST POWER**

Project **PALMER WIND FARM**

Title **SITE OFFICE AND FACILITIES COMPOUND LUNCHROOM ELEVATIONS**

Scale	1 : 100		**DO NOT SCALE**
Drawn	JB	Designer	JB
Drafting Check		Design Check	Checker

Approved (Project Director) Approver

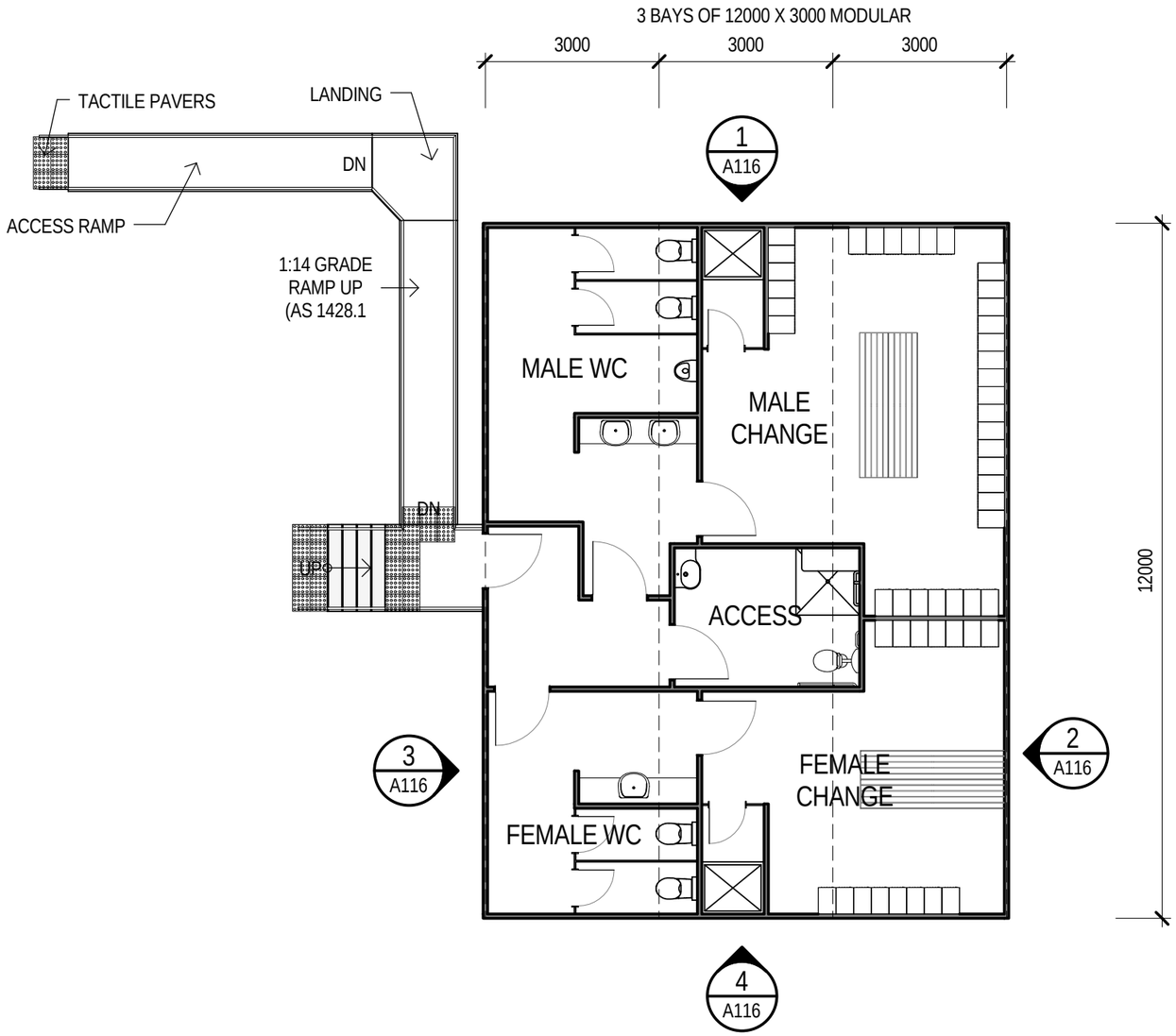
Date 15.08.2014

This Drawing must not be used for Construction unless signed as Approved

Drawing No: **33-17234 - A114**

Original Size A3

Rev:



0 1000 2000 3000mm

SCALE 1:100 AT ORIGINAL SIZE

No	Revision	Drawn	Job Manager	Project Director	Date

Drawing Revisions

Note: * indicates signatures on original issue of drawing or last revision of drawing

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Client **TRUST POWER**

Project **PALMER WIND FARM**

Title **SITE OFFICE AND FACILITIES COMPOUND TOILET FLOOR PLAN**

Scale	1 : 100		**DO NOT SCALE**
Drawn	JB	Designer	JB
Drafting Check		Design Check	Checker
Approved (Project Director)	Approver		
Date	15.08.2014		

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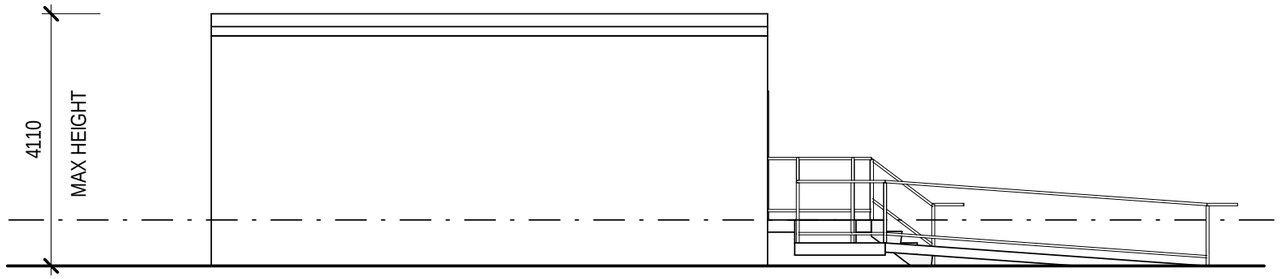
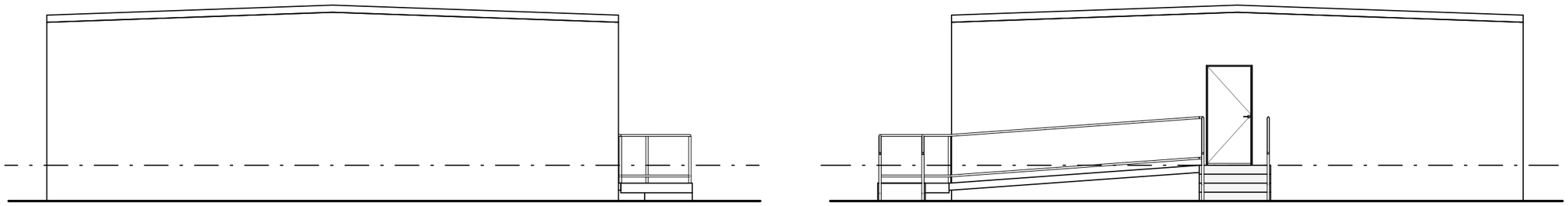
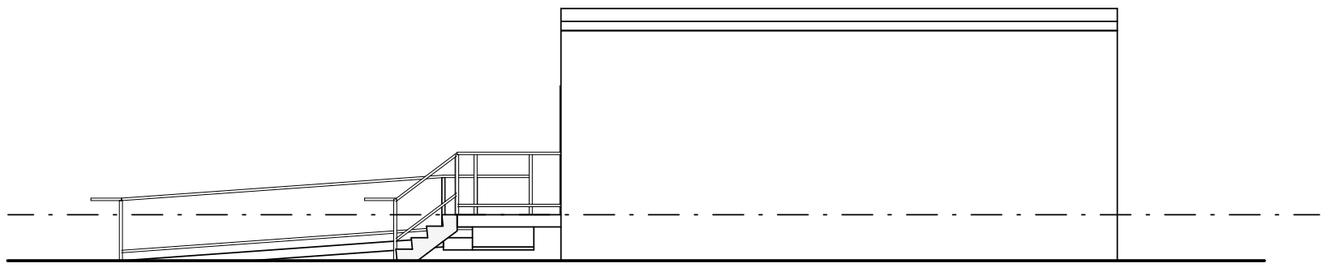
Drawing No: **33-17234 - A115**

Original Size A3

Rev:







0 1000 2000 3000mm
SCALE 1:100 AT ORIGINAL SIZE

No	Revision	Drawn	Job Manager	Project Director	Date

Drawing Revisions

Note: * indicates signatures on original issue of drawing or last revision of drawing

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Client **TRUST POWER**

Project **PALMER WIND FARM**

Title **SITE OFFICE AND FACILITIES COMPOUND TOILET ELEVATIONS**

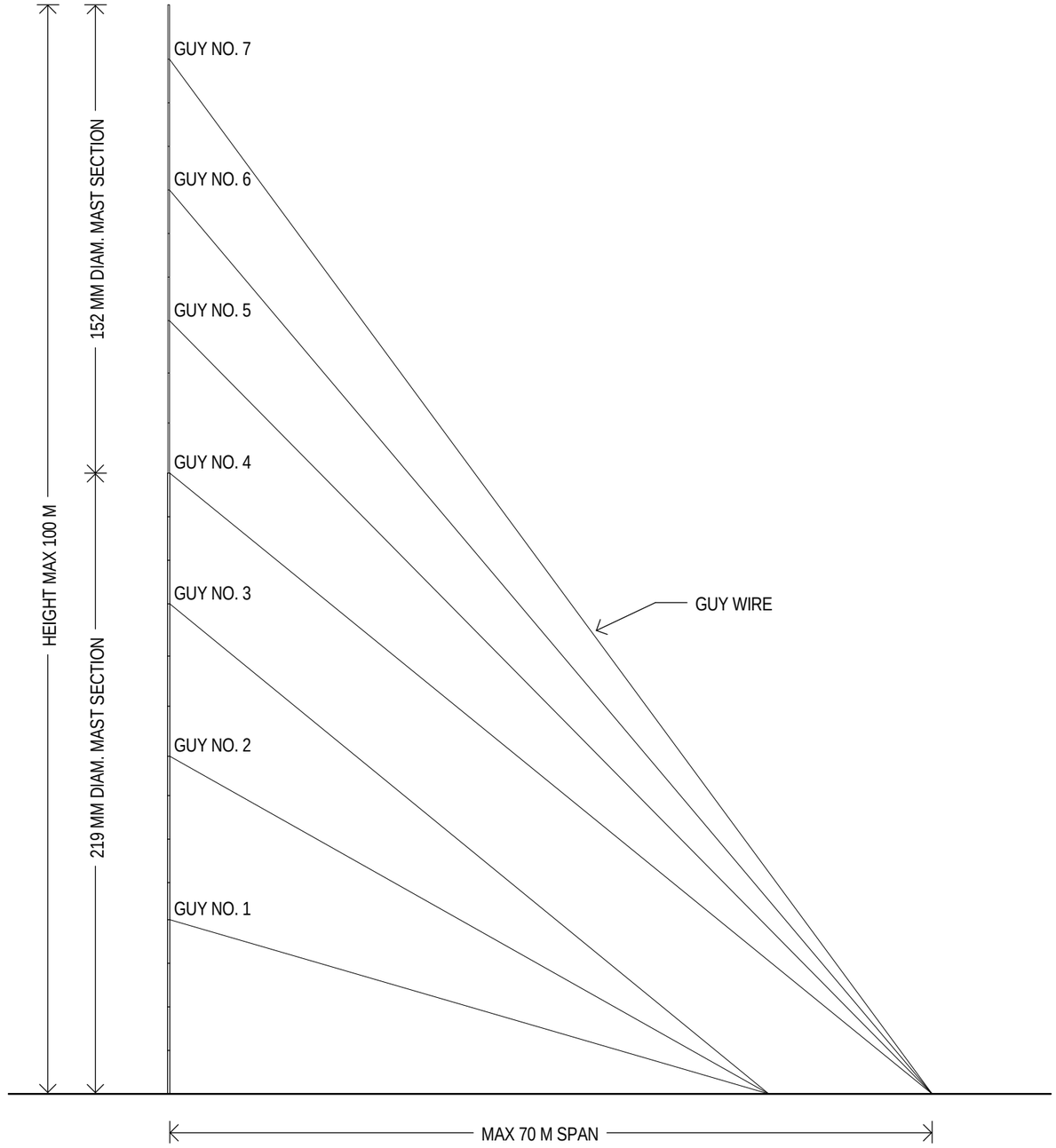
Scale	1 : 100		**DO NOT SCALE**
Drawn	JB	Designer	JB
Drafting Check		Design Check	Checker
Approved (Project Director)	Approver		
Date	15.08.2014		

This Drawing must not be used for Construction unless signed as Approved

Drawing No: **33-17234 - A116**

Original Size A3

Rev:



0 5 10 15 m
SCALE 1:500 AT ORIGINAL SIZE

No	Revision	Drawn	Job Manager	Project Director	Date

Drawing Revisions
Note: * indicates signatures on original issue of drawing or last revision of drawing

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Client **TRUST POWER**

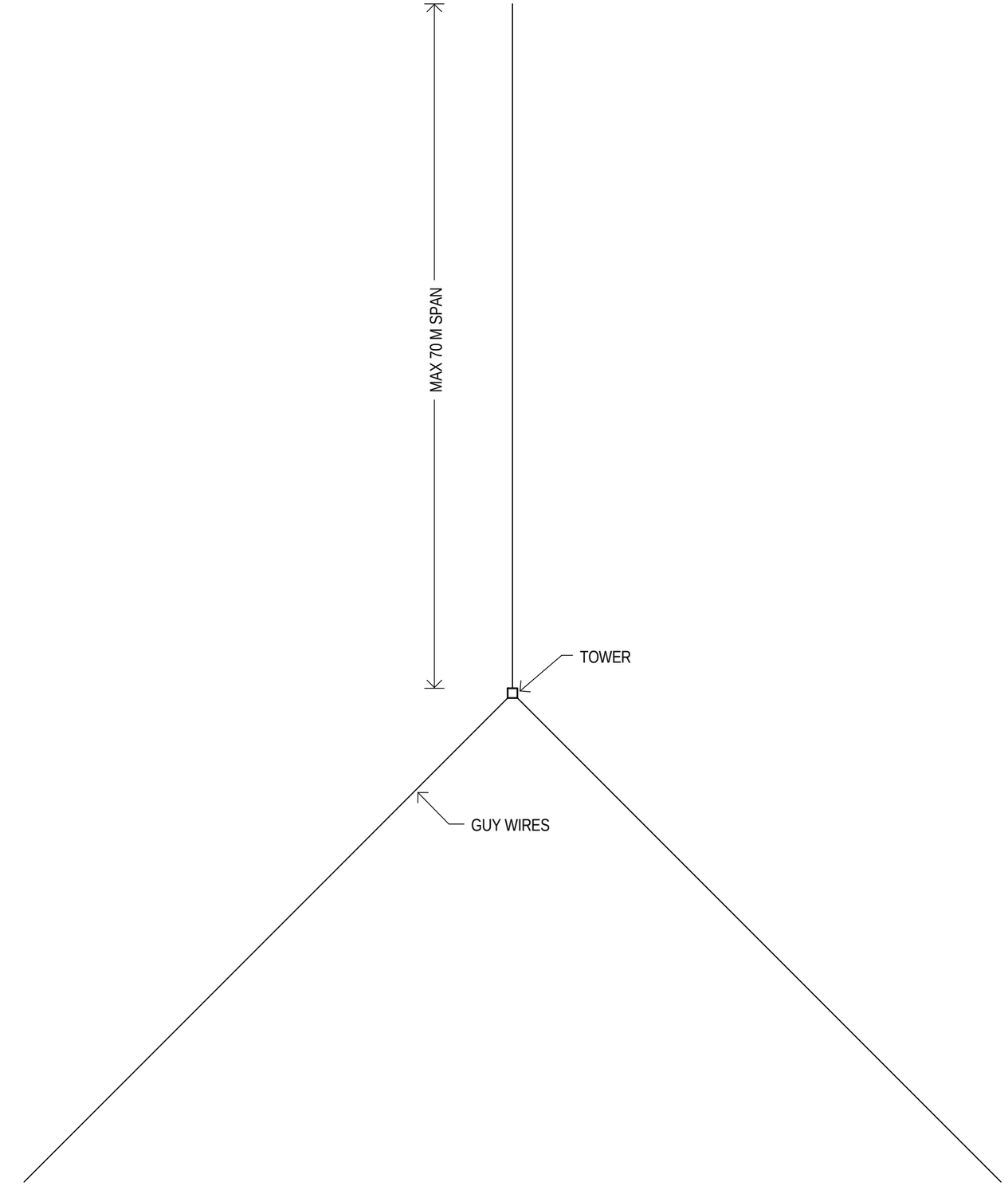
Project **PALMER WIND FARM**

Title
METEOROLOGICAL MAST TYPICAL ELEVATION

Scale	1 : 500		**DO NOT SCALE**
Drawn	JB	Designer	JB
Drafting Check		Design Check	Checker
Approved (Project Director)	Approver		
Date	15.08.2014		

This Drawing must not be used for Construction unless signed as Approved

Drawing No: **33-17234 - A117**
Original Size A3
Rev:



0 5 10 15 m
SCALE 1:500 AT ORIGINAL SIZE

No	Revision	Drawn	Job Manager	Project Director	Date

Drawing Revisions

Note: * indicates signatures on original issue of drawing or last revision of drawing

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Client **TRUST POWER**

Project **PALMER WIND FARM**

Title

METEOROLOGICAL MAST TYPICAL FOOTPRINT

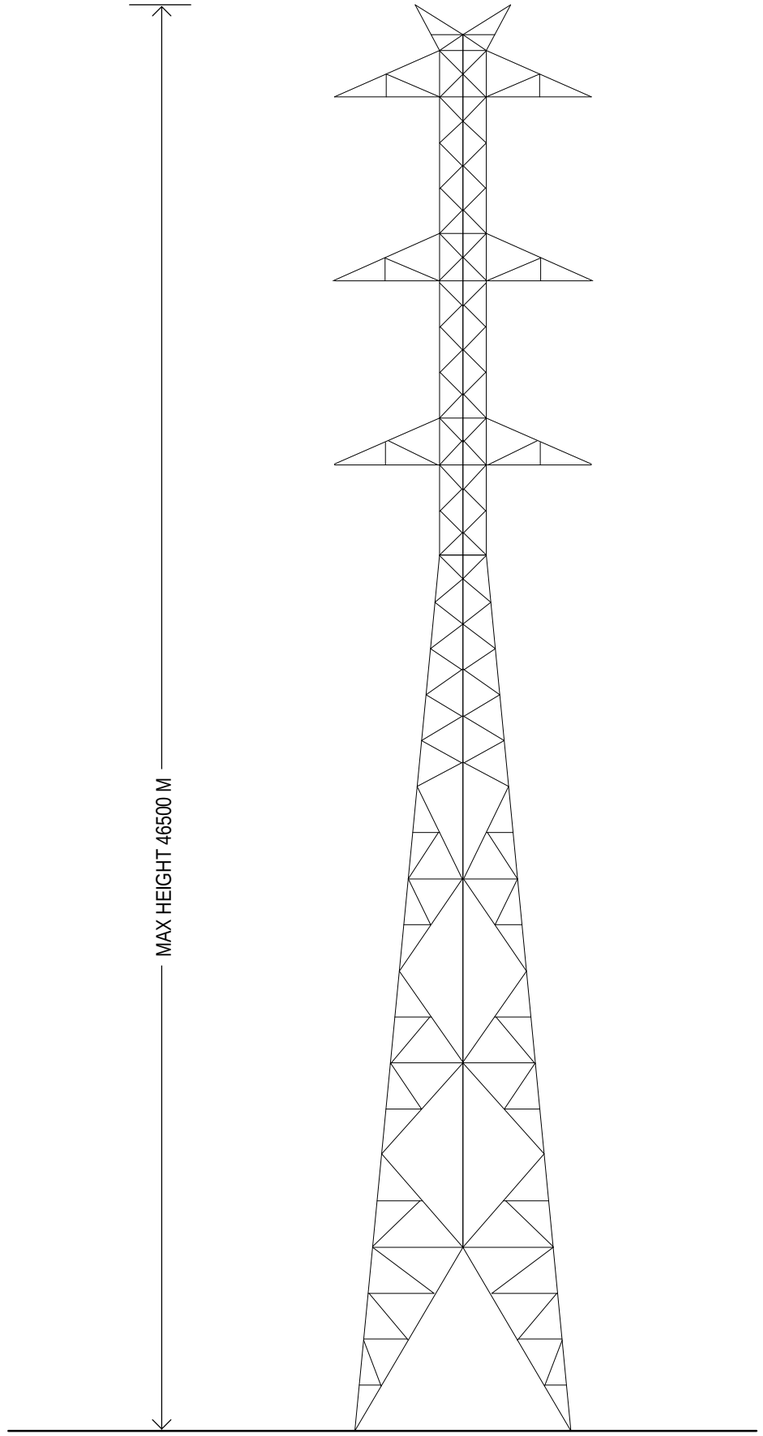
Scale	1 : 500		**DO NOT SCALE**
Drawn	JB	Designer	JB
Drafting Check		Design Check	Checker
Approved (Project Director)	Approver		
Date	15.08.2014		

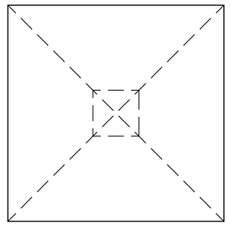
This Drawing must not be used for Construction unless signed as Approved

Drawing No: **33-17234 - A118**

Original Size A3

Rev:





0 2000 4000 6000mm

SCALE 1:200 AT ORIGINAL SIZE

No	Revision	Drawn	Job Manager	Project Director	Date

Drawing Revisions

Note: * indicates signatures on original issue of drawing or last revision of drawing

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Client **TRUST POWER**

Project **PALMER WIND FARM**

Title **275 KV TRANSMISSION LINE TYPICAL ELEVATION & FOOTPRINT**

Scale	1 : 200		**DO NOT SCALE**
Drawn	JB	Designer	JB
Drafting Check		Design Check	Checker

Approved (Project Director) Approver

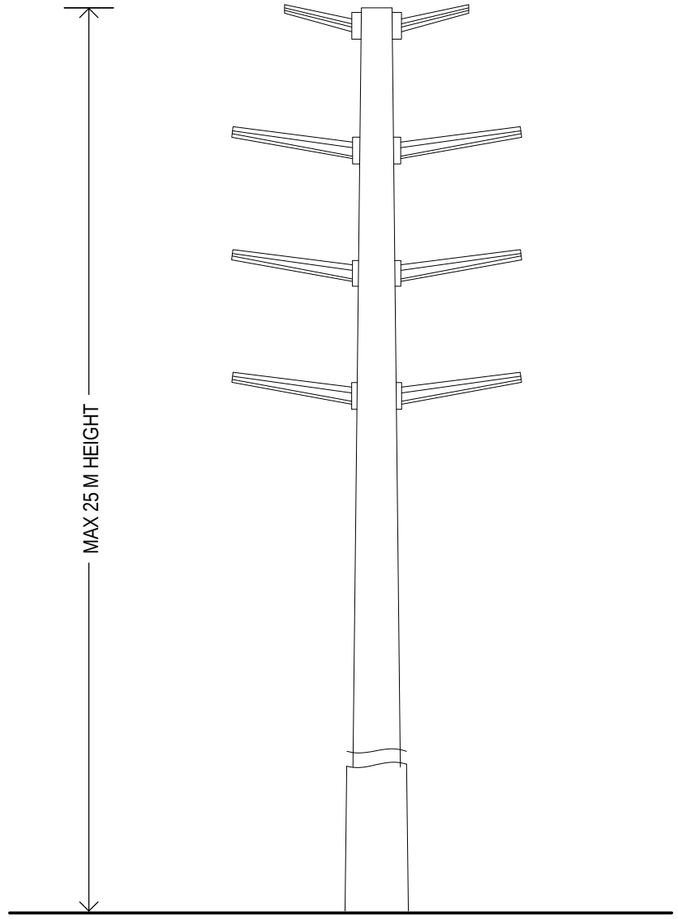
Date 15.08.2014

This Drawing must not be used for Construction unless signed as Approved

Drawing No: **33-17234 - A119**

Original Size A3

Rev:



0 1000 2000 3000mm

SCALE 1:100 AT ORIGINAL SIZE

No	Revision	Drawn	Job Manager	Project Director	Date

Drawing Revisions

Note: * indicates signatures on original issue of drawing or last revision of drawing

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Client **TRUST POWER**

Project **PALMER WIND FARM**

Title

33 KV TRANSMISSION LINE TYPICAL ELEVATION

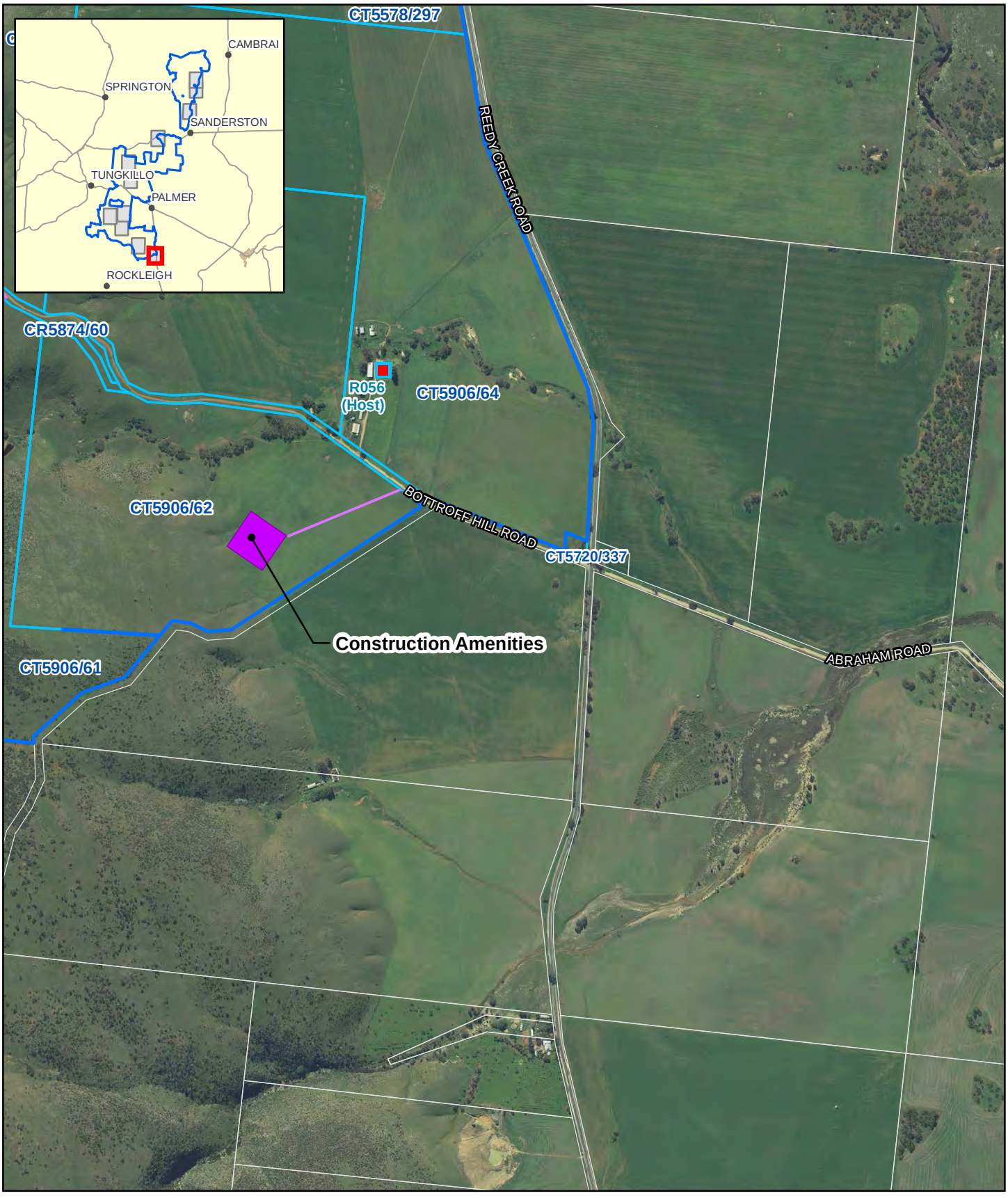
Scale	1 : 100		**DO NOT SCALE**
Drawn	JB	Designer	JB
Drafting Check		Design Check	Checker
Approved (Project Director)	Approver		
Date	15.08.2014		

This Drawing must not be used for Construction unless signed as Approved

Drawing No: **33-17234 - A120**

Original Size A3

Rev:



Legend

- Project Boundary
- Titles Inside Project Boundary
- Indicative Turbine Location
- Proposed Access Tracks
- Construction Facility / Key Sites
- Dwellings within 500m from Constr. Facility
- Host Landowner
- Cadastre

Paper Size A4

0 37.5 75 150 225 300 375 450

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 54

N

TrustPower Australia Holdings Pty Ltd
Palmer Wind Farm Technical Studies

Job Number 33-17234
Revision B
Date 05 Jul 2016

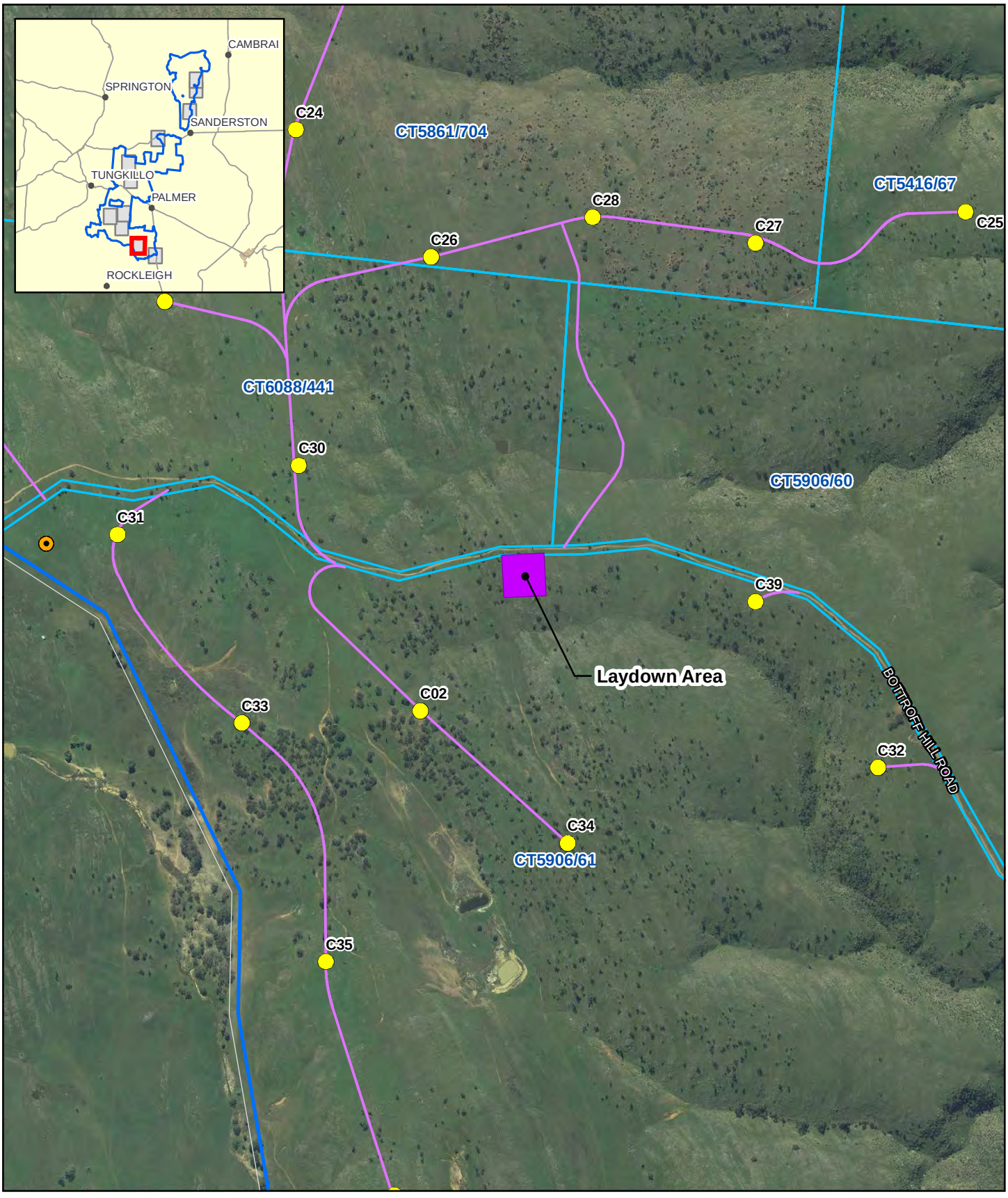
Palmer Wind Farm
Indicative Construction Facility Location

Figure A121

G:\33\17234\GIS\Maps\Deliverables\PostSubmission_Changes\33-17234_002_PalmerWF_CF_MB_A4P_RevB.mxd

180 Lonsdale Street Melbourne VIC 3000 Australia T 61 3 8687 8000 F 61 3 8687 8111 E melmail@ghd.com W www.ghd.com

Data source: TrustPower Australia Holdings Pty Ltd: Aerial; Design - 201400123. GA: Geodata Topo 250K Series 3 - 2006, Roads - 2006. DPTI - Land Use - 2013 Created by:lrsmith



Legend

- Project Boundary
- Titles Inside Project Boundary
- Indicative Turbine Location
- Meteorological Mast
- Proposed Access Tracks
- Construction Facility / Key Sites
- Cadastre

Paper Size A4

0 37.575 150 225 300 375 450

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 54

N

TrustPower Australia Holdings Pty Ltd
Palmer Wind Farm Technical Studies

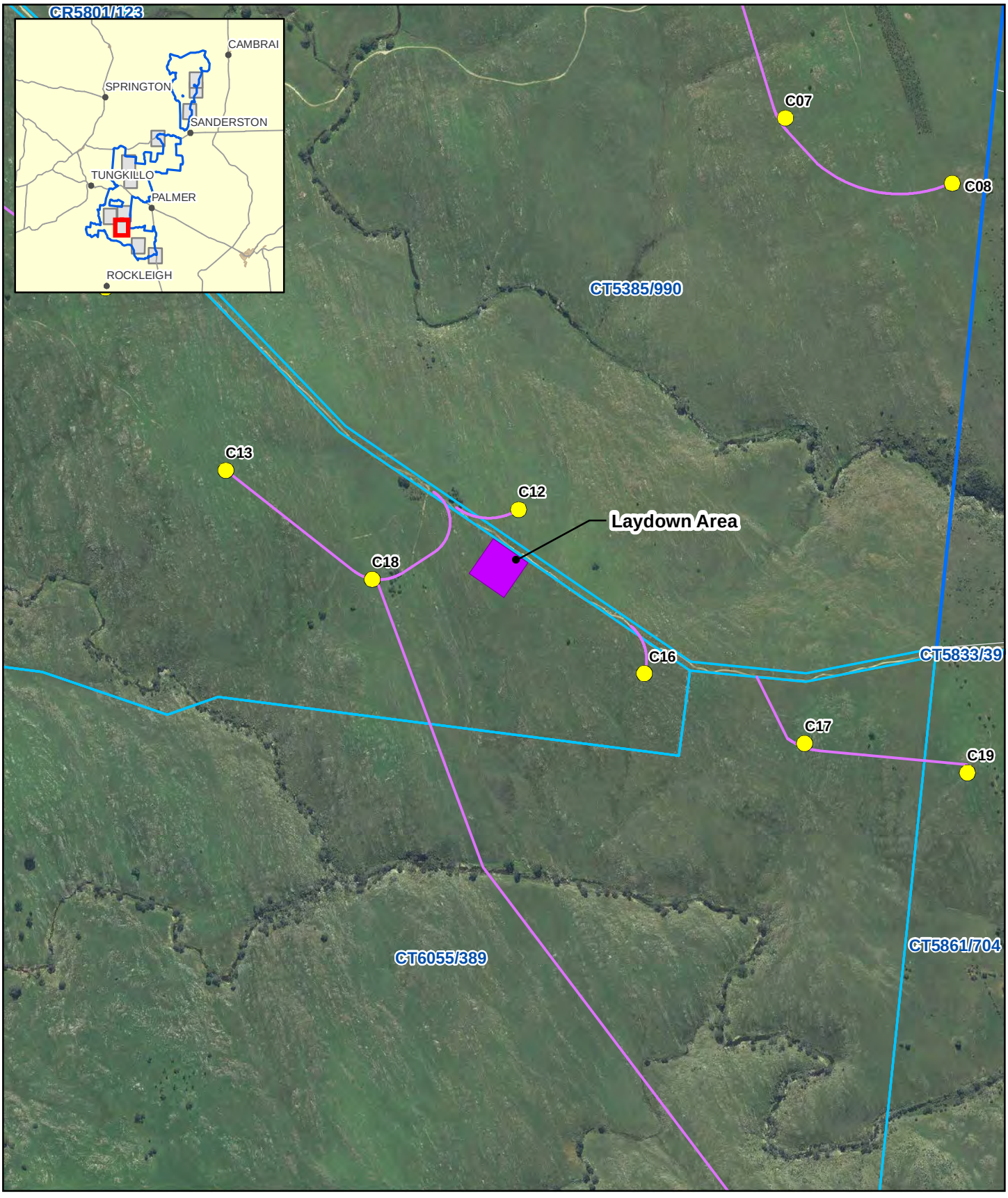
Job Number 33-17234
Revision B
Date 05 Jul 2016

Palmer Wind Farm
Indicative Construction Facility Location

Figure A122

G:\33\17234\GIS\Maps\Deliverables\PostSubmission_Changes\33-17234_002_PalmerWF_CF_MB_A4P_RevB.mxd 180 Lonsdale Street Melbourne VIC 3000 Australia T 61 3 8687 8000 F 61 3 8687 8111 E melmail@ghd.com W www.ghd.com

Data source: TrustPower Australia Holdings Pty Ltd: Aerial; Design - 201400123. GA: Geodata Topo 250K Series 3 - 2006, Roads - 2006. DPTI - Land Use - 2013 Created by:lrsmith



Legend

- Project Boundary
- Titles Inside Project Boundary
- Indicative Turbine Location
- Proposed Access Tracks
- Construction Facility / Key Sites
- Cadastre

Paper Size A4

0 37.575 150 225 300 375 450

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 54

N

TrustPower Australia Holdings Pty Ltd
Palmer Wind Farm Technical Studies

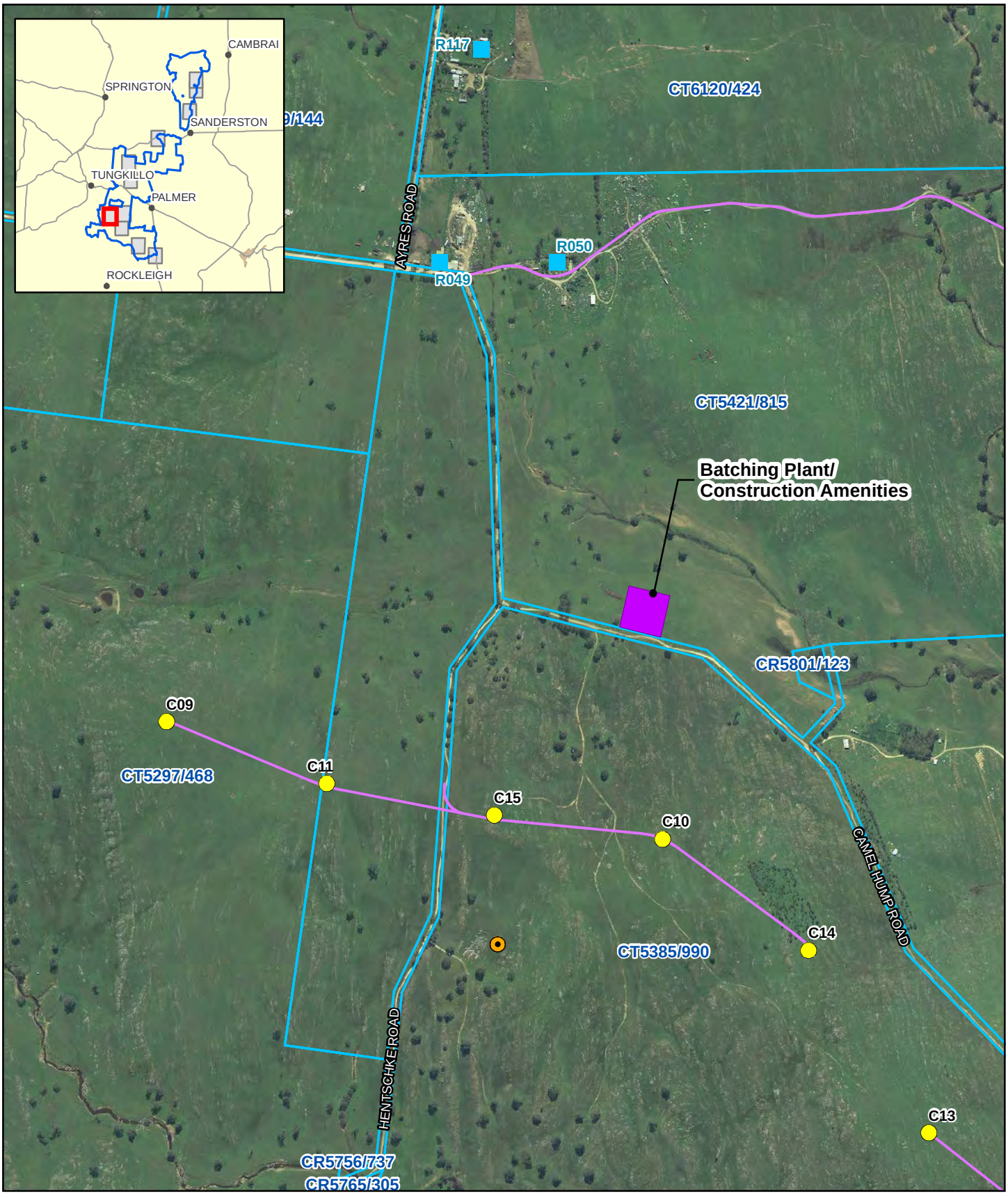
Job Number 33-17234
Revision B
Date 05 Jul 2016

Palmer Wind Farm
Indicative Construction Facility Location

Figure A123

G:\33\17234\GIS\Maps\Deliverables\PostSubmission_Changes\33-17234_002_PalmerWF_CF_MB_A4P_RevB.mxd 180 Lonsdale Street Melbourne VIC 3000 Australia T 61 3 8687 8000 F 61 3 8687 8111 E melmail@ghd.com W www.ghd.com

Data source: TrustPower Australia Holdings Pty Ltd: Aerial; Design - 201400123. GA: Geodata Topo 250K Series 3 - 2006, Roads - 2006. DPTI - Land Use - 2013 Created by:lrsmith



Legend

- Project Boundary
- Titles Inside Project Boundary
- Indicative Turbine Location
- Meteorological Mast
- Proposed Access Tracks
- Construction Facility / Key Sites
- Host Landowner
- Cadastre

Paper Size A4

0 37.575 150 225 300 375 450

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 54

N

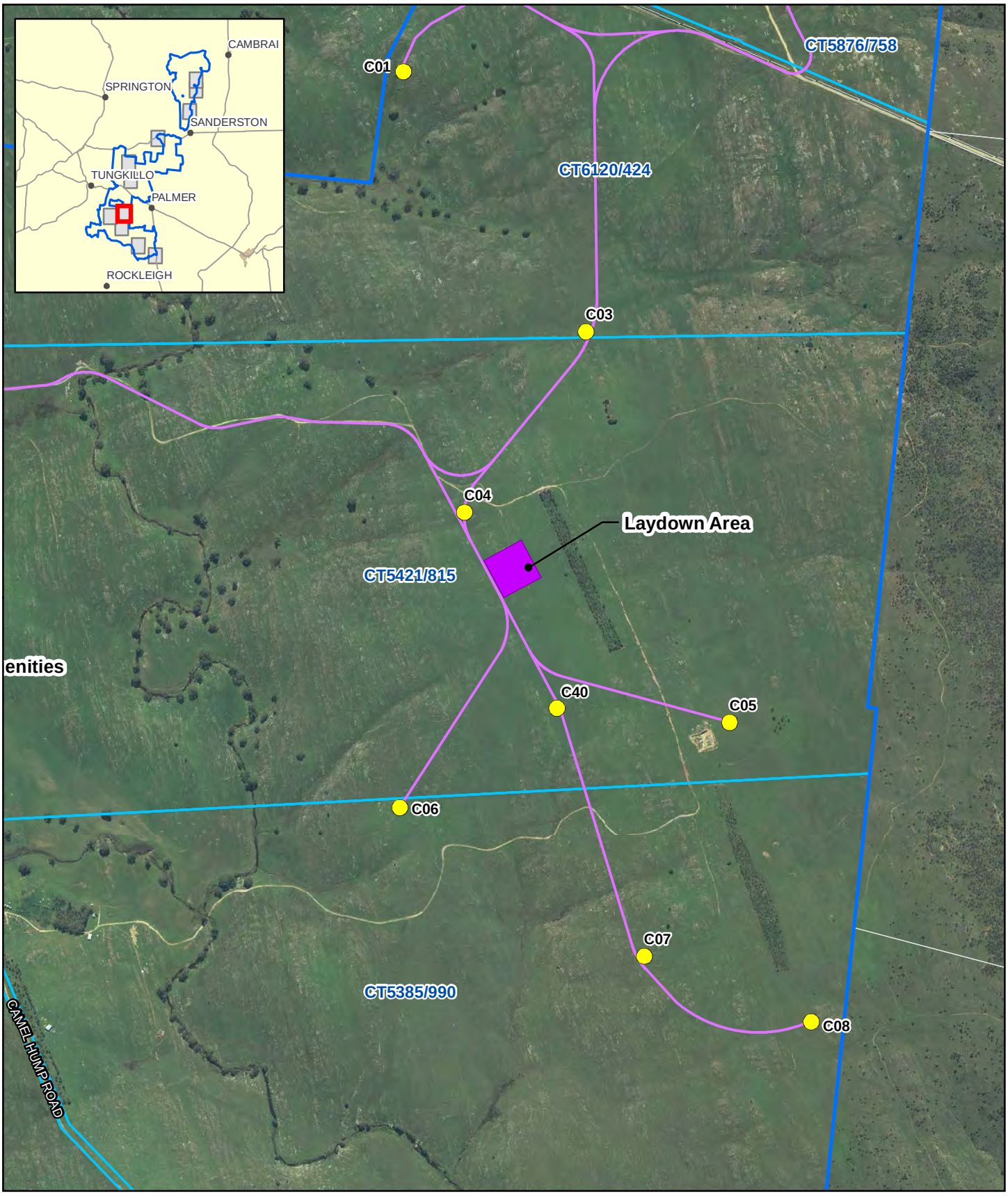
TrustPower Australia Holdings Pty Ltd
Palmer Wind Farm Technical Studies

Job Number 33-17234
Revision B
Date 05 Jul 2016

Palmer Wind Farm
Indicative Construction Facility Location Figure A124

G:\33\17234\GIS\Maps\Deliverables\PostSubmission_Changes\33-17234_002_PalmerWF_CF_MB_A4P_RevB.mxd 180 Lonsdale Street Melbourne VIC 3000 Australia T 61 3 8687 8000 F 61 3 8687 8111 E melmail@ghd.com W www.ghd.com

Data source: TrustPower Australia Holdings Pty Ltd: Aerial; Design - 201400123. GA: Geodata Topo 250K Series 3 - 2006, Roads - 2006. DPTI - Land Use - 2013 Created by:lrsmith



Legend

- Project Boundary
- Titles Inside Project Boundary
- Indicative Turbine Location
- Proposed Access Tracks
- Construction Facility / Key Sites
- Cadastre

Paper Size A4

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Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 54

N

TrustPower Australia Holdings Pty Ltd
Palmer Wind Farm Technical Studies

Job Number 33-17234
Revision B
Date 05 Jul 2016

Palmer Wind Farm
Indicative Construction Facility Location

Figure A125

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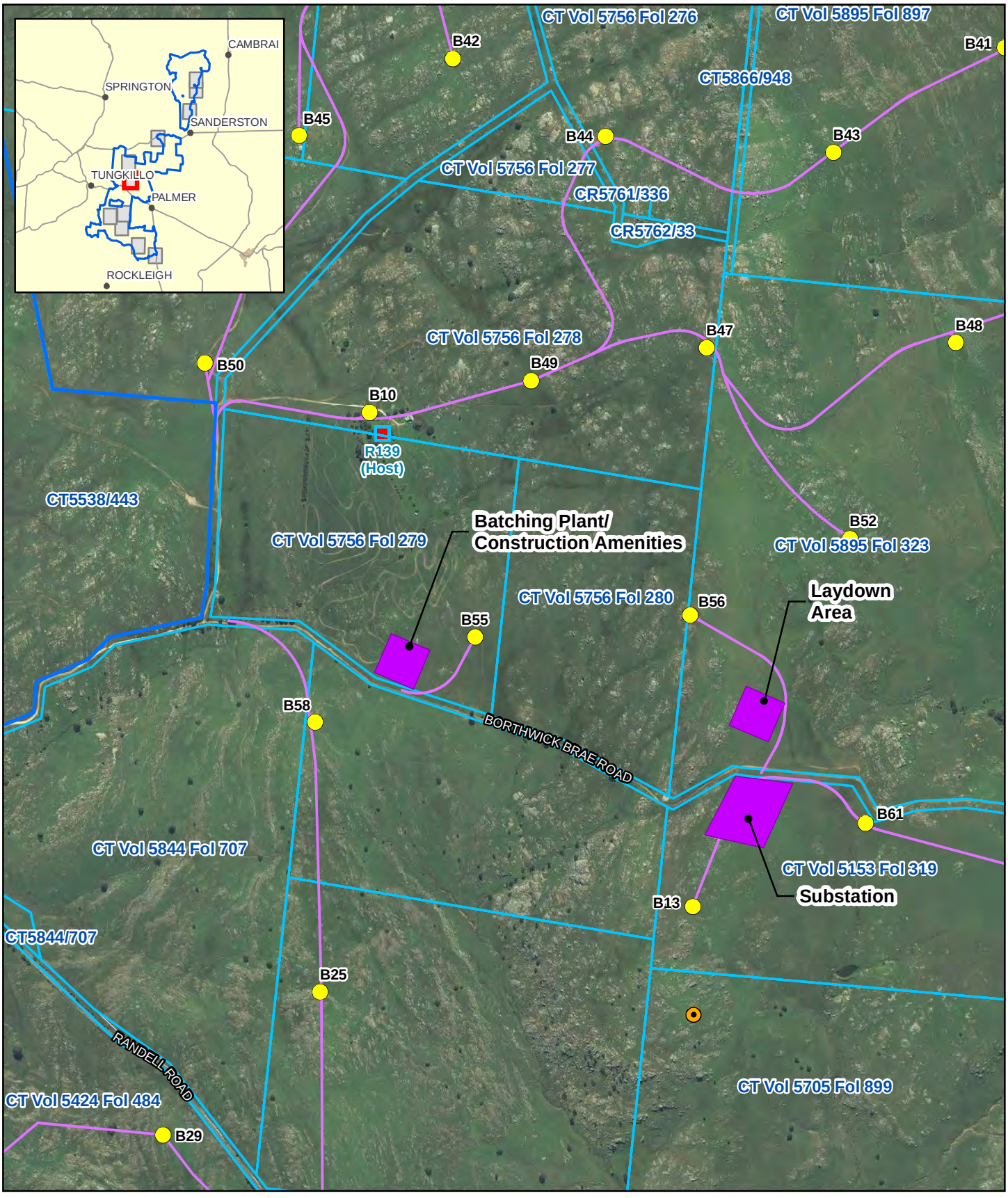

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- Project Boundary
- Titles Inside Project Boundary
- Indicative Turbine Location
- Meteorogical Mast
- Proposed Access Tracks
- Construction Facility / Key Sites
- Dwellings within 500m from Constr. Facility
- Host Landowner
- Cadastre

Paper Size A4

0 37.575 150 225 300 375 450

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 54

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TrustPower Australia Holdings Pty Ltd
Palmer Wind Farm Technical Studies

Job Number 33-17234
Revision B
Date 05 Jul 2016

Palmer Wind Farm
Indicative Construction Facility Location

Figure A126

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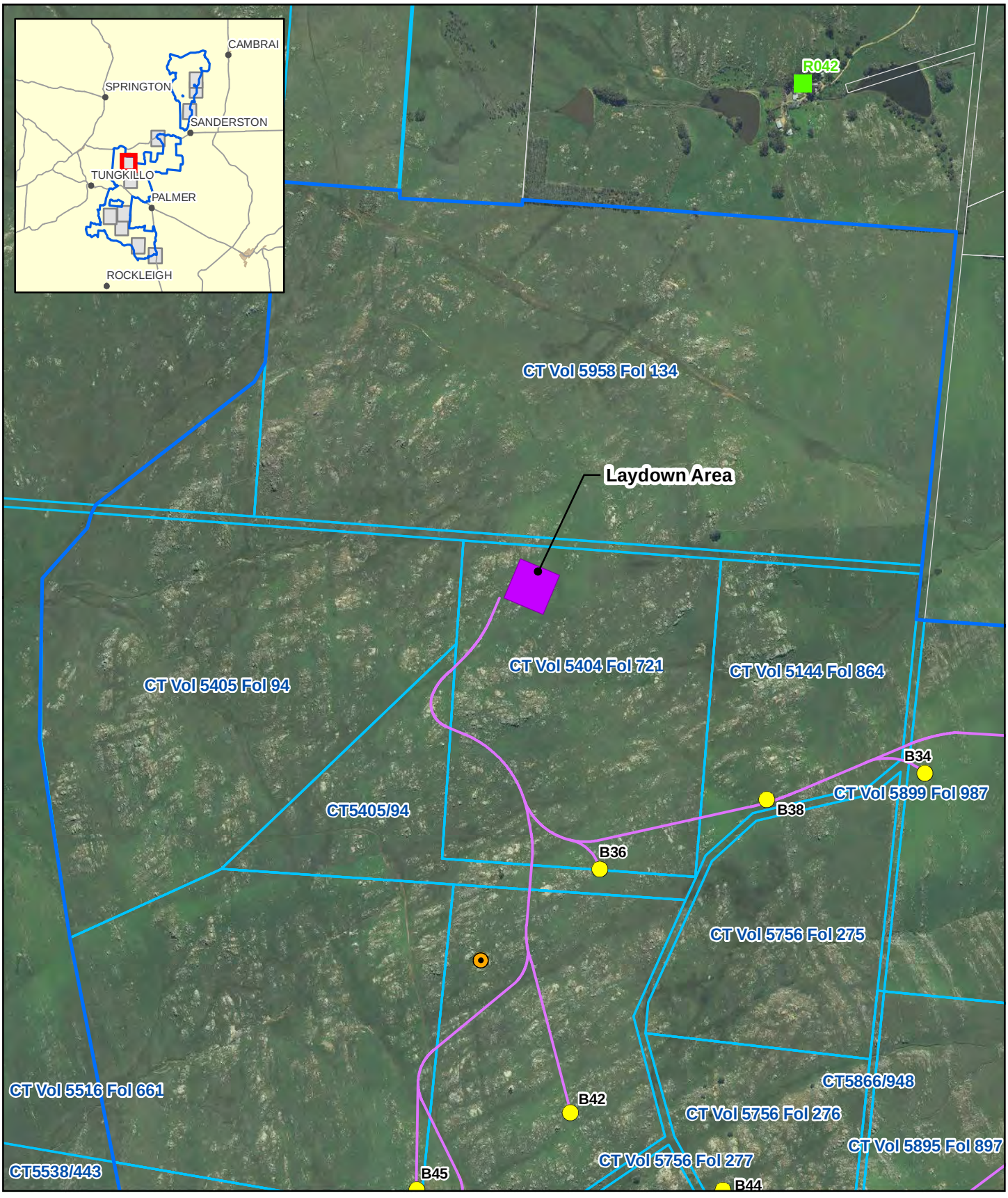

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- Indicative Turbine Location
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- Proposed Access Tracks
- Construction Facility / Key Sites
- Non Host Landowner
- Cadastre

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Metres

Map Projection: Transverse Mercator
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Palmer Wind Farm Technical Studies

Job Number 33-17234
Revision B
Date 05 Jul 2016

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Figure A127

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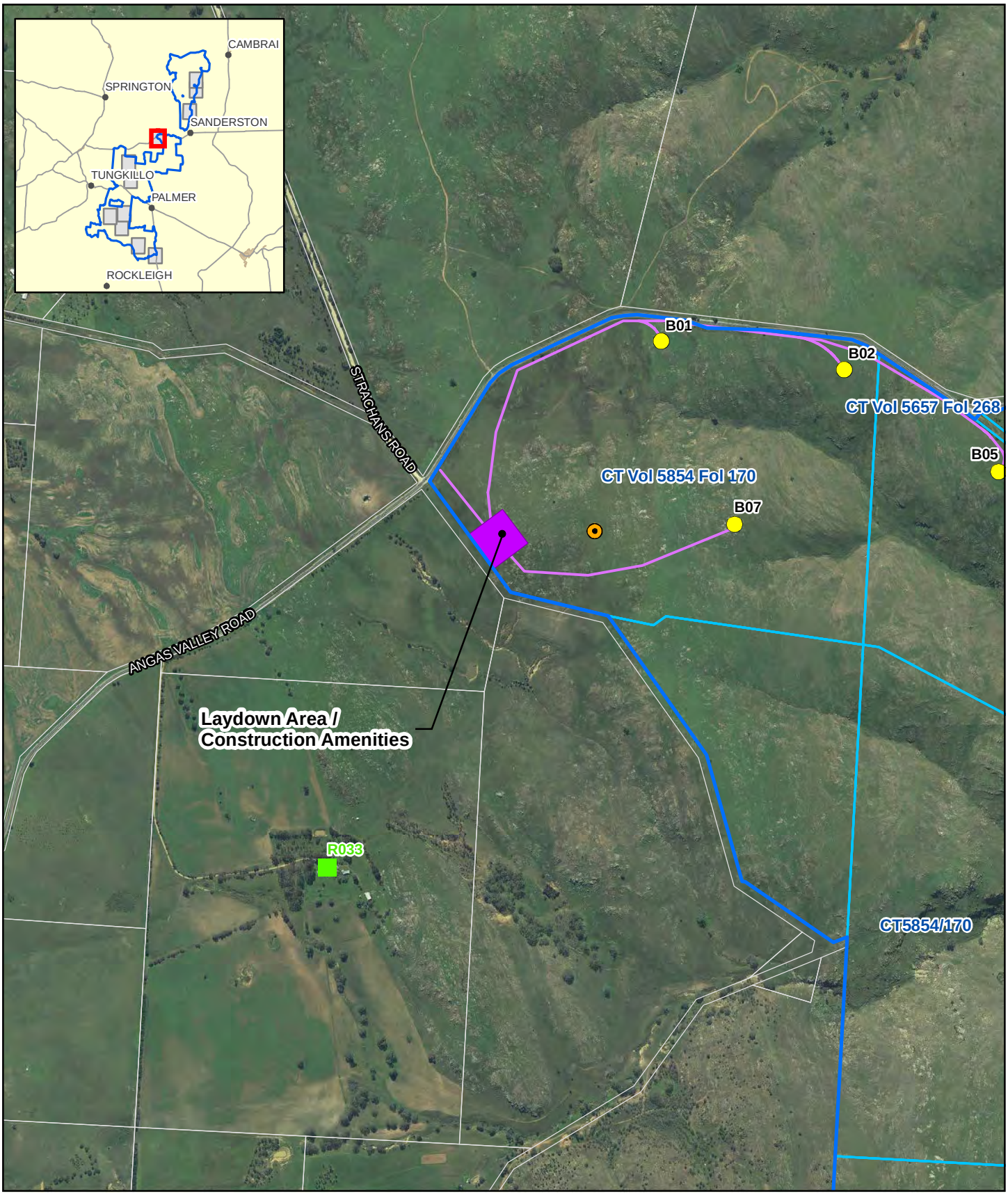

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Figure A128

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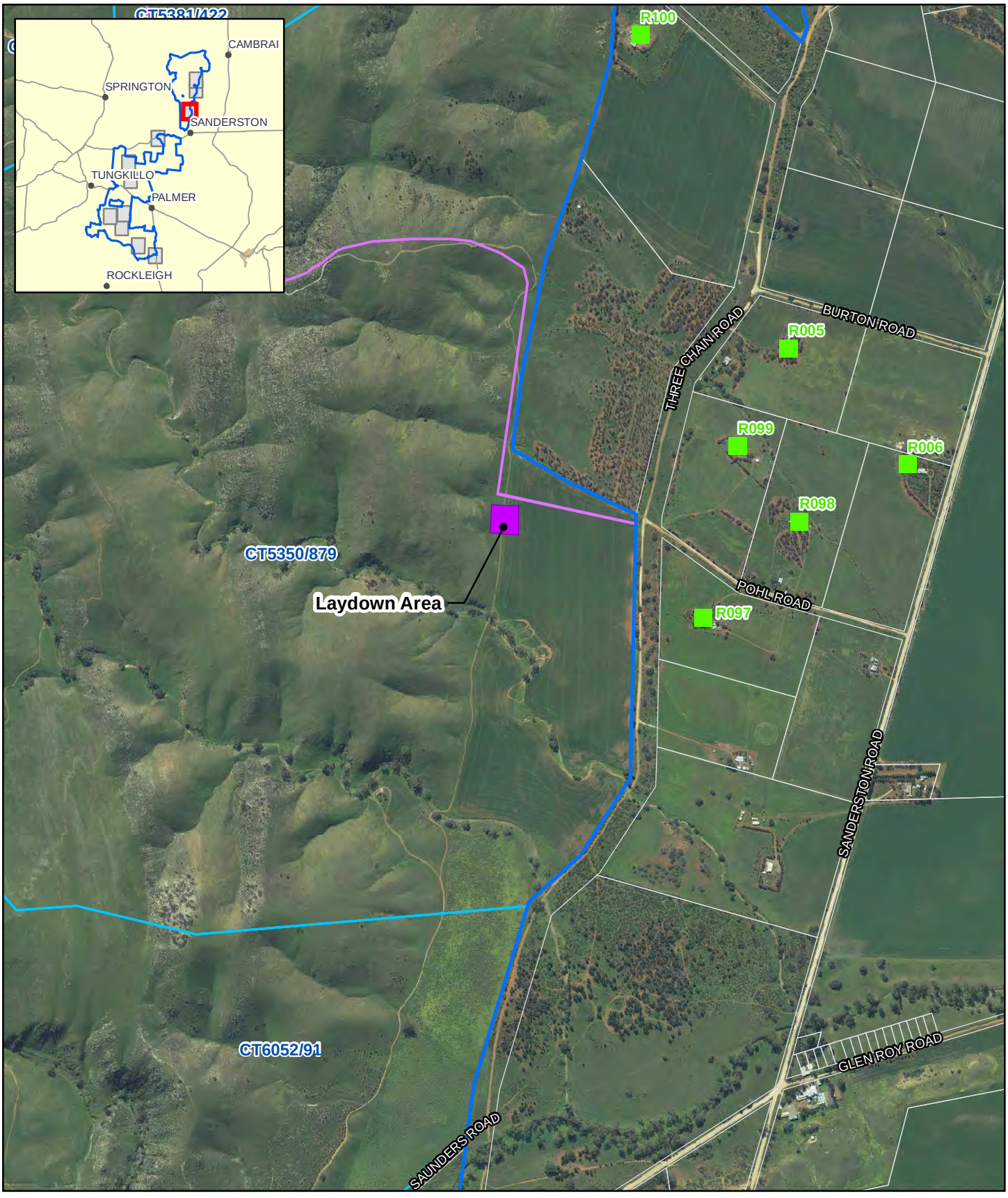

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Figure A129

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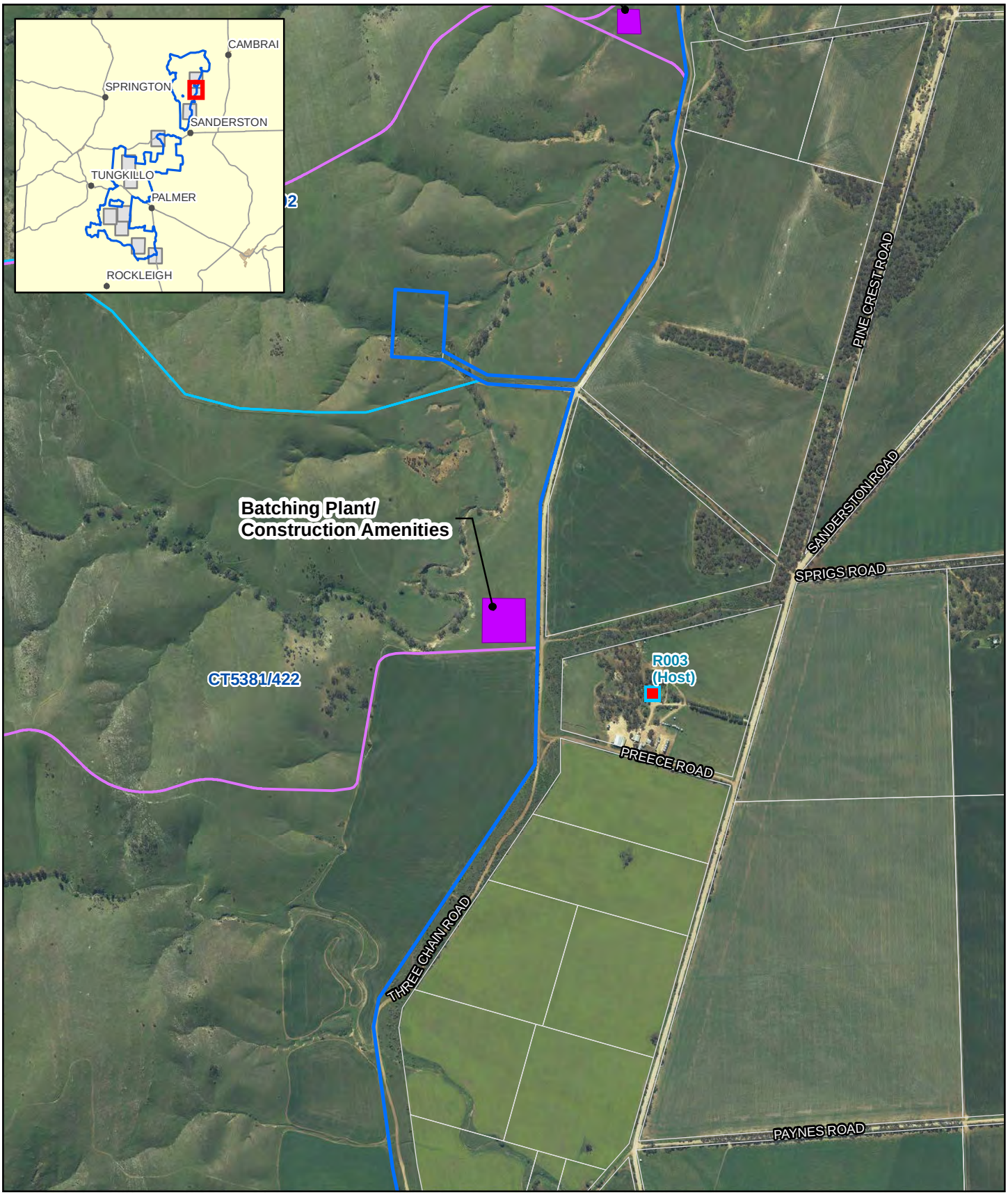

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Metres

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TrustPower Australia Holdings Pty Ltd
Palmer Wind Farm Technical Studies

Job Number	33-17234
Revision	B
Date	05 Jul 2016

Palmer Wind Farm
Indicative Construction Facility Location

Figure A130

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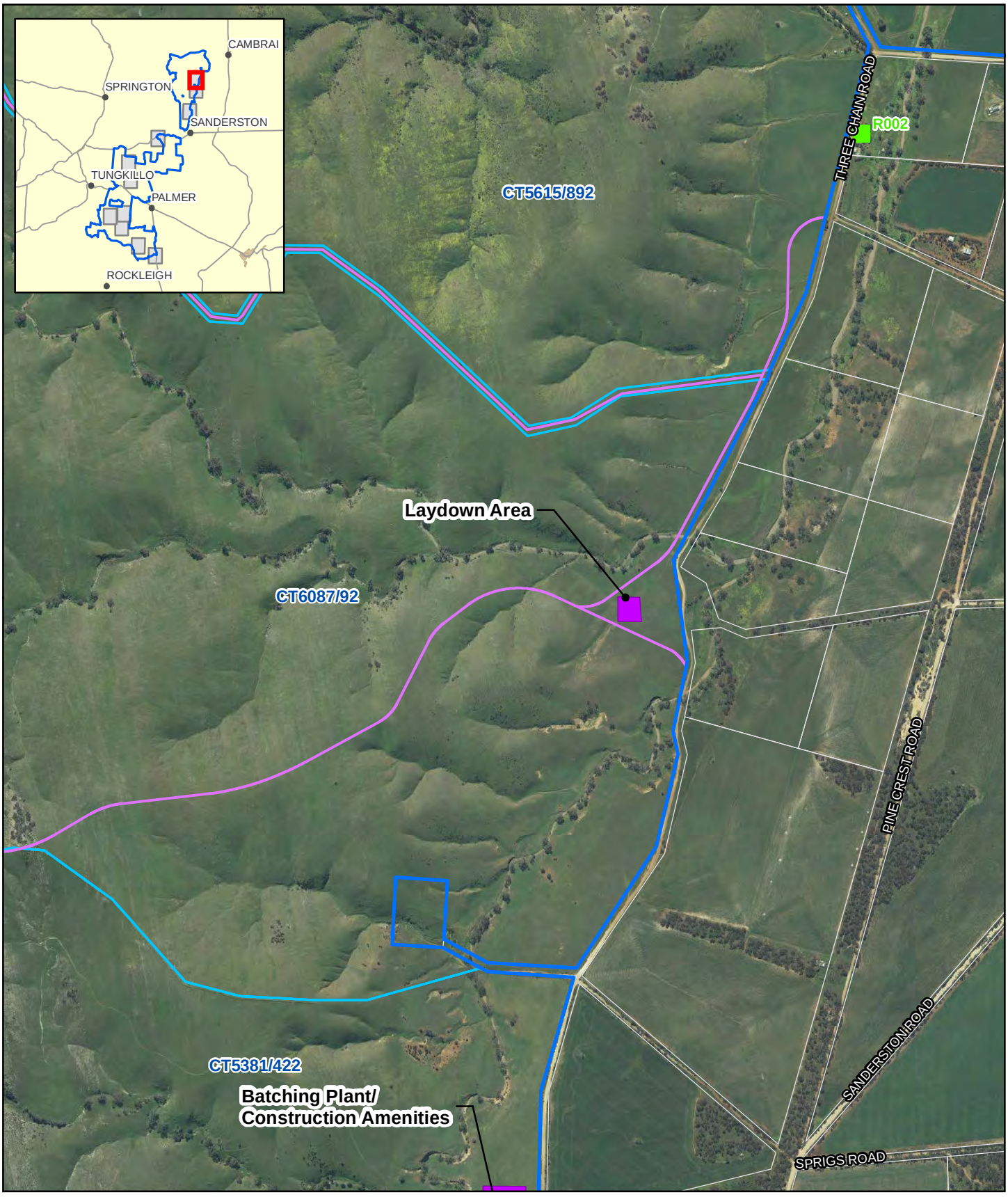

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Palmer Wind Farm Technical Studies

Job Number 33-17234
Revision B
Date 05 Jul 2016

Palmer Wind Farm
Indicative Construction Facility Location

Figure A131

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Data source: TrustPower Australia Holdings Pty Ltd: Aerial; Design - 201400123. GA: Geodata Topo 250K Series 3 - 2006, Roads - 2006. DPTI - Land Use - 2013 Created by:lrsmith

Appendix C – Batching Plant Documentation

Trustpower

Palmer Wind Farm

Construction & Operation Environmental Management Plan

- Temporary Concrete Batching Plant

July 2016

Table of Contents

Table Index

Figure Index

Appendices

1. Introduction

1.1 Introduction

This Construction and Operation Environmental Management Plan (COEMP) has been prepared to accompany a development application for the proposed Palmer Wind Farm, specifically in relation to the proposed temporary Concrete Batching Plants (CBPs).

This document has been prepared to cover the following CBP phases:

- Implementation and construction phase
- Operational phase
- Decommissioning and rehabilitation phase

The proposed temporary batching plants are located within a River Murray Protection Area and Prescribed Water Resource Areas. As such the Objectives for a Healthy River Murray, particularly in relation to river health and water quality, are key considerations for the operation of the batching plants in this potentially sensitive environment.

It should be noted that a final decision as to whether the temporary batching plant sites will be used (all or some) will occur closer to the time of the actual wind farm construction phase. It is likely that, should they be established, each site will operate for approximately one year correlating with the overall project staging.

1.2 Purpose of this COEMP

This COEMP will operate under the broader umbrella CEMP that will apply to the construction phase of overall Palmer Wind Farm development. The contractor responsible for one or more CBP will be required to conform to both the overarching CEMP (where relevant) as well as the requirements of the COEMP and any supplementary management plans.

This COEMP seeks to provide high level guidance to avoid and/or minimise potential environmental impacts specifically associated with the installation, use and removal of the temporary concrete batching plants. These CBPs will only exist as part of the construction phase of the Palmer Wind Farm.

Additional management plans relating to detailed elements and site specific mitigation measures will be prepared by the respective construction contractors as supplements to the COEMP. As a whole this COEMP and the supplementary management plans are intended to b dynamic and responsive to changes to site conditions or scheduled works. The construction contractor(s) will take responsibility for reviewing and managing the outcomes identified in the COEMP and supplementary management plans.

The purpose of the COEMP and the supplementary management plans is to:

- Provide for concrete batching plant works to be carried out in accordance with the environmental conditions outlined in the Development Approval and EPA Licence requirements;
- Provide for works to be carried out in accordance with the applicable environmental legislation and standards;
- Outline how the environmental features of the site are to be protected during construction;
- Ensure all potential environmental risks associated with construction are identified, assessed and mitigated or minimised;

- Protect environmental features and sensitive receptors;
- Outline measures to monitor and control potential environmental impacts associated with the CBPs on their respective sites;
- Provide government, community and other stakeholders with assurance that environmental issues associated with the works are managed appropriately;
- Allocate clear responsibilities for the environmental management at all levels;
- Optimise construction methods; and
- Provide guidance for decommissioning and rehabilitation.

1.3 Data Sources

The following reports and data sources have been reviewed during the preparation of this COEMP:

- EPA Industry Guideline for Concrete batching (Updated September 2009)
- Palmer Wind Farm Flora and Fauna Survey (EBS Ecology Feb 2014);
- Environmental Noise Assessment (Sonus Feb 2014, S4171C4);
- Construction Noise and Vibration Management Plan (Sonus August 2014) – Provided in Appendix A to this COEMP;
- Trustpower Palmer Wind Farm Cultural Heritage Desktop Assessment (ACHM, Oct 2013)
- Civil, Geology, Geotechnical and Hydrology Assessment (GHD, Oct 2013);
- Australian Heritage Places Inventory – online database (planning.sa.gov.au);
- South Australian Heritage Places Database – online database (heritage.gov.au); and
- NatureMaps – online database (naturemaps.sa.gov.au).

These studies, and any others finalised post production of this document, will need to be reviewed by the contractor prior to completion of any supplementary management plans.

2. Project Information

2.1 Project Description

2.1.1 Site Location

The wind farm site is located in the eastern Mount Lofty Ranges, South Australia, approximately 50 km east of the Adelaide CBD. There are five key localities near the development: Palmer, Tungkillo, Cambrai, Sanderston and Milendella. The area of Tungkillo has a population of approximately 600 people, and includes the township of Tungkillo and the town of Palmer, a small township (approximate population 75 people) that consists of a general store, hotel and a small primary school consisting of approximately 25 students.

Mount Pleasant is the regional centre of the area with a population of approximately 1000 people. Mount Pleasant has a number of facilities, including a small primary school.

The wind farm will be located on a number of private properties, primarily used for farming (involving approximately 20-30 landowners). The project area is predominantly rural in nature with limited residential properties.

The topography of the area comprises undulating hills of the eastern Mount Lofty Ranges, with steep escarpments present along geological fault zones, particularly at the eastern extent of the ranges. Steep sided valleys occur where watercourses cross the escarpments. There are a number of watercourses within the area, with the majority being ephemeral.

Transportation networks in the wider area consist of mainly unsealed gravel roads owned and maintained by the Mid Murray Council, plus regional / collector sealed roads servicing the townships.

2.1.2 Description of works

This wind farm site is approximately 30km long along the ridgelines of the eastern Mount Lofty Ranges on roughly 11,000 hectares and is in close proximity to the Tungkillo substation.

The windfarm will include up to 103 turbines. Each turbine will have a maximum tip height of 165m. The turbines will be connected by underground and overhead electrical cables to substations.

The current layout has three distinct clusters of turbines. :

- Area A Northern Site – South of Walker Flat-Mt Pleasant Road, on the eastern ridges of the hills before descending into Sanderston;
- Area B Central Site – between Walker Flat-Mt. Pleasant Road and Adelaide-Mannum Road along Davenport Road; and
- Area C Southern Site – between Adelaide –Mannum Road and Bottroff Hill Road.

Up to three temporary CBPs may be operated on site during the construction of the wind farm. Indicative locations of the plants are shown in Figures 1, 2 and 3. These will be located within temporary construction facility areas (which may include materials storage, laydown areas for equipment and parts etc.). The following plans also identify the general context of the potential batching plant sites and the proximity of drainage lines.

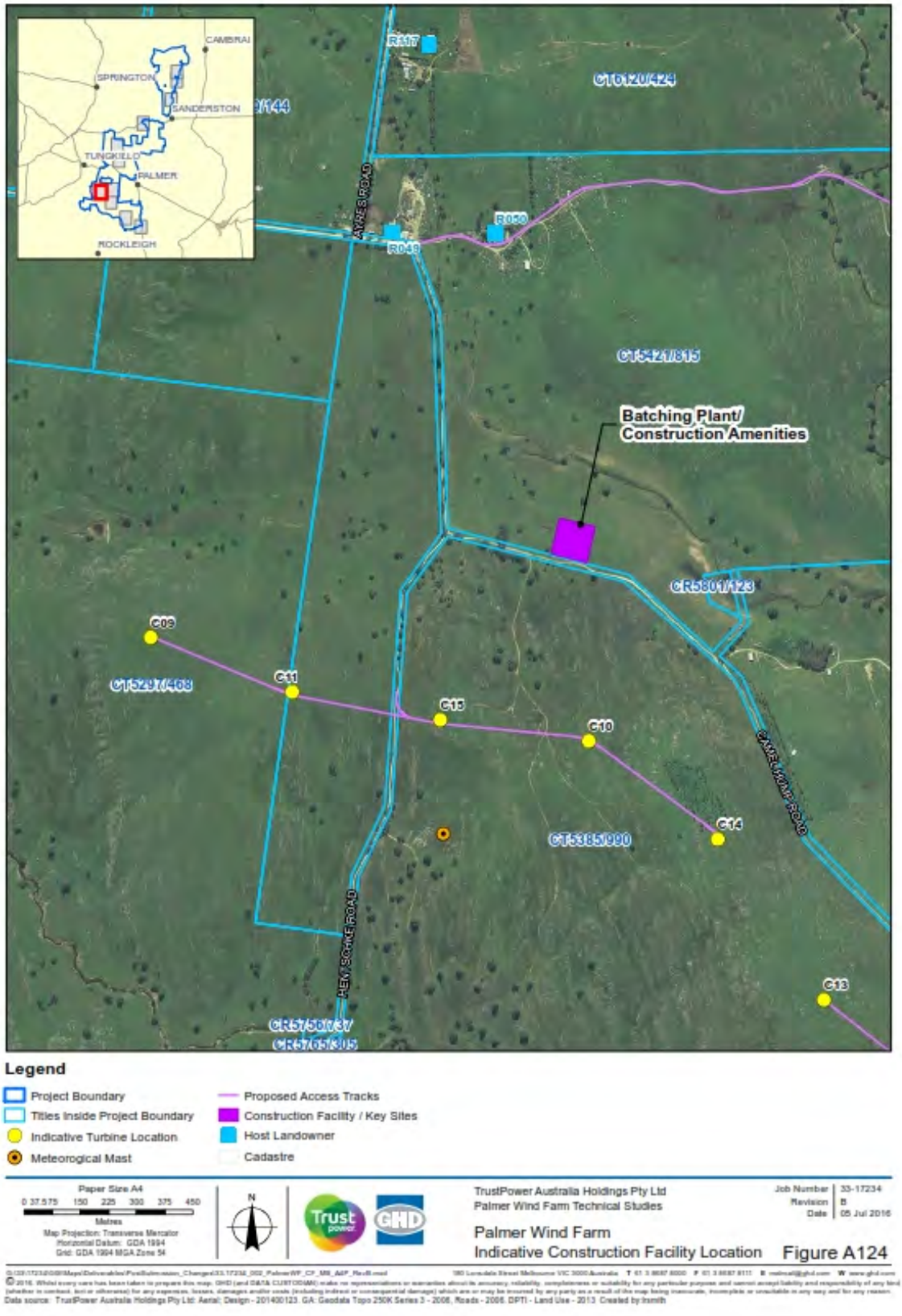


Figure 1 Proposed location for Area C temporary CBP

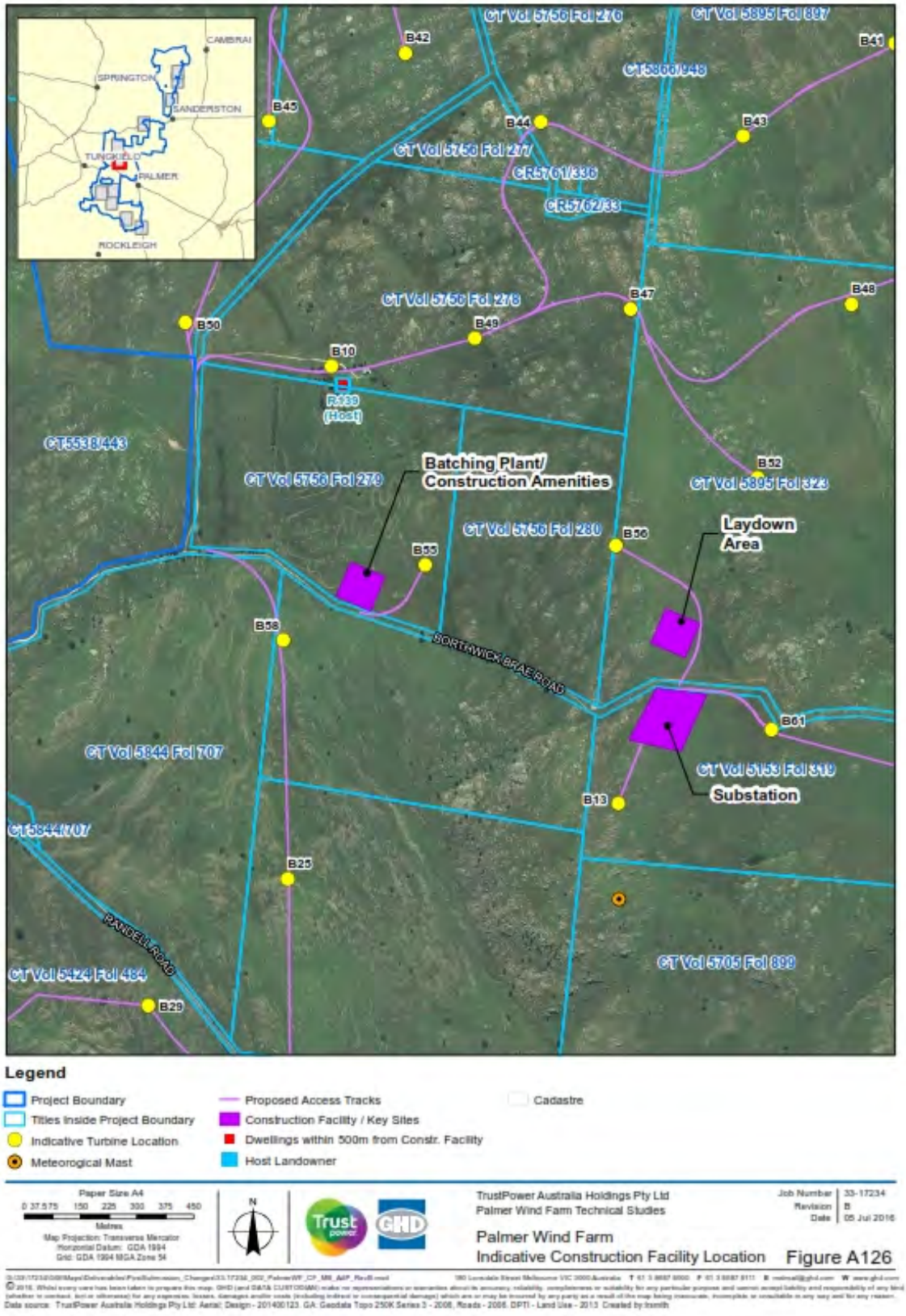


Figure 2 Proposed location for Area B temporary CBP

Figure 3 Proposed location for Area A temporary CBP

Plant details are set out below.

- Each plant will be sized to accommodate a complete foundation pour each day, which comprises approximately 500m^3 of concrete.
- The plant will occupy an area of approximately 100m by 100m, including the stockpile area for aggregate, sand and cement.
- The plant will be removed from the site upon completion of the construction works. The site of the plant will be remediated to its original condition upon removal.

Each plant will include the following components:

- Trailer mounted concrete mixer
- Cement bins
- Sand and aggregate stockpiles
- Storage container for equipment and tools
- Diesel generators unless local power is available
- Storage of water for concrete manufacturing (potable) and dust suppression (carted to site)
- Wash-down facilities.

The principal activities associated with the temporary CBP are listed below:

- Site establishment and set up,
- Topsoil stripping and vegetation removal,
- Water provision and management,
- Dust suppression,
- Temporary storage of chemicals, spoil and equipment,
- Concrete mixing,
- Construction traffic movement,
- Decommissioning and rehabilitation of each site.

2.2 Sensitive Receptors

This section provides a high level context and summarises the broader environmental features which have been identified as potential sensitive receptors for the overall project. The batching plant sites have all been selected to comply with the EPA separation distances which should minimise impacts on sensitive receptors in the majority of cases.

Nevertheless, there may be condition or situations where sensitive receptors could be affected by CBP activities. This includes vehicles travelling to and from the CBP sites.

Table 1 Sensitive Receptors

Receptor	Description
Community	The wind farm will be located on a number of private properties primarily used for farming which will involve approximately 20-30 landowners. There are five towns in the location of the development: Palmer, Tungkillo, Cambrai, Sanderston and Milendella. In addition Mount Pleasant is the regional centre of the area. There are also a number of rural properties in the area around the wind farm. The majority of these communities are serviced by unsealed gravel roads with sealed roads located around the towns. The existing traffic volumes along these roads are low and the roads are generally only used by local residents and farmers for access to their properties and transportation of farming equipment and materials. The Project Area includes traditional lands of the Peramangk Aboriginal group. The Peramangk Aboriginal group does not have a native title claim lodged over its asserted traditional land and is represented for heritage matters by the Mannum Aboriginal Community Association Incorporated (MACAI). A work area clearance agreement is in place with MACAI for the management of aboriginal heritage aspects and potential impacts.
Ecology	The soil condition of the project site has made it favourable for agricultural land use, which in turn has resulted in the clearing of the majority of native vegetation in the area. Remnant native vegetation only exists in discrete parcels in the project area and is categorised as woodland transiting to scrub and grassland. This vegetation is usually found in very steep locations such as gullies. It is noted that an ecological survey has identified Iron-grass Natural Temperate Grassland of South Australia as existing in the proposed development area. This is a threatened ecological community listed under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). The project has been designed to avoid impacts on these communities. Part of the project area includes a Vegetation Heritage Agreement area which is protected. The project area is upstream of a Wetland of International importance, being the RAMSAR listed Coorong and Lake Alexandrina.
Water Resources	There are a number of watercourses within the wind farm area, predominantly fed by rainfall and the majority are ephemeral. The average rainfall in the area generally decreases in an easterly direction. The groundwater table is closely linked to rainfall, falling during dry winters and rising during wet winters. As at late 2011 depth to the groundwater table below ground surface varied across the site from less than 2 metres in a relatively small area south west of site B, to greater than 20 metres in larger areas south of Tungkillo, in the vicinity of Palmer, and isolated areas north of Palmer. No strong correlation between depth to groundwater and surface elevation was noted, indicating that other factors affect groundwater levels such as upstream catchment sizes and local extraction rates. Both surface water and groundwater are prescribed within the area, requiring permits for use.
Soils and Geology	The topography of the Project Area comprises undulating hills of the eastern Mount Lofty Ranges, with steep escarpments present along geological fault zones, particularly at the eastern extent of the ranges. Steep sided valleys occur where watercourses cross the escarpments. The soils of the eastern slopes of the Mount Lofty Ranges generally have a high to very high erosion potential by water and are likely to be subject to soil erosion by water, and potentially wind, if ground is disturbed. The site is in an area bounded by known fault lines that are seismically active. The likelihood of a major earthquake occurring is not known, however no significant (>4 magnitude) earthquakes have been recorded in the area. The Granite Boulders Area Geological Site is located in the project area.

Receptor	Description
Cultural Heritage	There are numerous recorded sites of Aboriginal or European heritage within close proximity of the Wind Farm Project Area. The Project Area includes Traditional lands of the Peramangk Aboriginal group. Further details of local cultural and heritage sites are provided in the final Trustpower Palmer Wind Farm Cultural Heritage Assessment Study. This study indicates the areas that indigenous heritage features are more likely to be located. Dry stone walls are a noticeable feature on the landscape. Some parts of the walls are in a good state of repair.

3. Environmental Management System

Managing environmental issues and promoting environmental awareness during the site works is an essential component of responsible project management. It requires the active consideration of environmental issues and health and safety as a prerequisite to all construction operations. This section identifies the key management measures which will be required to avoid or minimise these likely impacts as they relate to the CPB sites and activities. The contractor Environmental Management System (EMS) is expected to include an environmental policy and reflect the basic elements indicated in this section.

Where required, detailed management plans for specific issues will need to be prepared and added to this COEMP prior to the construction and operation of the batching plants.

3.1 Implementation Responsibility

The roles and responsibilities of the following key participants in the construction works for the project are outlined below:

- Trustpower Principal
- Contractor appointees and Staff.

The Trustpower Principal will engage a construction company ("the Contractor") who will be responsible for ensuring the COEMP is developed and implemented by all staff and their subcontractors involved with the construction works.

The Principal should ensure that all contractual documents specifically quote a COEMP in terms of responsibility for addressing and implementing relevant environmental requirements for the temporary batching plants. The contractual documents should also indicate that the Contractor is responsible for ensuring legislative and COEMP compliance controls are maintained on site.

The Contractor is responsible for obtaining all relevant approvals/permits/licences prior to works commencing. The Contractor will appoint suitably qualified and competent staff to ensure that this COEMP is implemented, detailed engineering and management plans are prepared and compliance is checked.

Trustpower Principal (the "Principal")

- Key contact and representative of Trustpower.
- Ensure contractual documents include environmental responsibilities, adequate training and preparation of detailed management plans to supplement the COEMP prior to construction of the batching plants commencing.
- Overall responsibility for ensuring the project meets its compliance obligations and environmental requirements are implemented.
- Agree procedures for emergency response.
- Agree frequency and method of auditing, monitoring and other matters which are to be reported to Trustpower.

Design Engineer (appointed by the Contractor)

- Responsible for the detailed design and layout of the batching plants, water and wastewater management systems, ponds and washout pits, storage and stockpile areas and batching plant emission/materials management equipment.
- Checks on-site implementation of the above design requirements.

Environmental Manager (appointed by the Contractor)

- Responsible for managing environmental aspects during the construction and site closure phases and that the Superintendent has the information required to implement site controls successfully.
- Checks all environmental requirements, licences and procedures are implemented.
- Advises staff of special requirements.
- Conducts or commissions a consultant to undertake environmental audits/monitoring during all stages to ensure implementation of requirements.
- Determines and/or ensures environmental controls and procedures are in place and maintained during all phases of the project.
- Determines the training/instructions required for staff to be able to meet their environmental obligations.
- Reports environmental incidents during construction.
- Responsible for the emergency response procedure for environmental incidents.

Superintendent (appointed by the Contractor)

- Supervises and implements environmental controls on site during the construction works.
- Ensures training/instructions required by staff to be able to meet their environmental obligations, are undertaken and recorded.
- Reporting of environmental incidents to the Environmental Manager.
- During an emergency situation, responsible for informing the Environmental Manager and activating the response procedure.

Contractor(s) Staff

- Implement environmental controls as directed
- Report environmental incidents to the superintendent.

3.2 Site Establishment

Each temporary batching plant site shall be established in accord with the site plans contained in Appendix A of this COEMP document. These plans have been developed with the advice of civil engineers and based on topography surveys to ensure appropriate management of site access and site stormwater.

In particular, the layouts aim to separate clear stormwater from the potentially contaminated surfaces associate with the batching plant operations.

3.3 COEMP Review, Reporting and Monitoring

The COEMP and supplementary management plans must be appropriately managed and utilised. Consequently, it is important that the COEMP and management plans be regularly reviewed and updated to reflect changing circumstances. This will ensure that the measures, responsibilities, criteria and corrective actions remain achievable, effective and suitable to the project, whilst maintaining compliance with relevant legislation and policy.

An important principle that is embodied in this COEMP is that of “continuous improvement”. To facilitate this process it is critical that an appropriate monitoring, reporting and review process be developed and adopted.

3.3.1 Review of COEMP

The COEMP is to be reviewed throughout the construction and operation phase of the batching plants monthly (or at a frequency determined by the Contractor). The review is to examine the following as a minimum:

- The implemented environmental management activities
- The incident reporting and preventative action procedures
- The complaints handling procedures
- The emergency response procedures for environmental incidents.

3.3.2 Monitoring Records

The results of any monitoring required by any approvals, licences or Conditions of Consent granted for the construction phase of the development must be:

- In a legible form
- Kept for at least 4 years after the monitoring or event to which they relate/took place
- Be available upon request to any authorised person.

The following minimum records will be kept in regards to any monitoring / sampling activity:

- The date(s) on which the monitoring was undertaken
- The time(s) at which the monitoring was undertaken
- The location at which the monitoring was undertaken
- The name of the person who collected the sample.

3.3.3 Sampling Quality Control Plan

Where practicable NATA accredited laboratories will be used for any testing of samples taken in association with approvals, licences or consent conditions. Laboratory detection limits must be below the adopted assessment criteria.

Quality Assurance / Control measures such as collection and testing of duplicates and blind duplicates will be used to ensure the accuracy and quality of the required monitoring.

3.3.4 Follow Up Action

Where adherence to the requirements in this document are found to be unsatisfactory in achieving broader environmental and site management goals, action will be taken to investigate the cause and make amendments to the COEMP as required.

3.3.5 Reporting

The Contractor shall provide a fortnightly report to the Principal to cover the following circumstances:

- Include a report on any monitoring undertaken in accordance with licences, approvals or conditions of consent
- Provide a summary of complaints received during the construction phase of this project
- Report of compliance with the COEMP.

3.4 Training and Site Induction

The Principal is responsible for overseeing that the contractual agreement with the Contractor specifies the necessity of providing adequate training to the CBP teams. This responsibility is to be assigned to the Superintendent who can liaise with the Principal and other agencies, if required. During construction works, the Contractor must ensure that each operative is trained to use the machinery and materials on site efficiently to avoid environmental nuisance, including noise, air pollution, impacts on water quality, spread of waste material and land contamination.

3.5 Emergency Response and Incident Management

The Contractor will develop site specific details of emergency response procedures, with clear lines of responsibility to enable effective response with minimal environmental harm or disruption. The following sections provide an outline of procedures and protocols that should be included in these site specific plans.

3.5.1 Environmental Incidents (Notification of Environmental Harm)

The type of incidents that may require notification in accordance with legislation depends on the extent of harm or the potential damage to the environment. To ensure that Trustpower has a consistent approach to incident reporting, the Principal must be contacted immediately after the site has been made safe. The Contractor's Environmental Manager and Superintendent will be responsible for ensuring:

- An immediate assessment of the potential onsite and offsite impacts of the incident
- Consulting (if necessary) with emergency services
- Instigating appropriate steps to mitigate the impacts
- Advising regulatory authorities, where these authorities can provide assistance with mitigation of impacts.

Failure to report an incident may result in enforcement action on all involved.

The Principal will provide written details of the notification to the appropriate authorities within 7 days of the dates on which the incident occurred.

The Principal will liaise with the appropriate authorities to provide suitable details within the time specified.

3.5.2 Emergency Response Plan

Emergencies that may occur at CBP sites include:

- Fire
- Chemical spill
- Flooding
- Explosion
- Wildlife Injury
- Damage to power or services cables
- Personnel injury
- Seismic activity.

Prior to the commencement of the construction phase, the Principal and the Contractor are to agree on procedures for emergency response. It is the responsibility of the Contractor to develop, implement and train staff in the emergency response procedures.

To ensure emergencies are managed in an appropriate manner the Contractor is to follow the general procedures outlined in Table 2.

Table 2 General Emergency Response Plan

Standard	Management Criteria
Policy	To minimise the risk of an environmental accident or emergency during construction phase of the Project.
Performance Objective	Ensure that an Emergency Response Plan is kept in place to respond to any accidents or incidents that may impact on the environment and that all personnel are inducted in its application.
Implementation Strategy/ Mitigation Measures	Material Safety Data Sheets for all materials used or stored on site relevant to the concrete batching plant, regardless of quantity, for the construction works shall be kept on site by the Contractor.
	Spill Response Kits, fire extinguishers and other emergency response equipment should be fully maintained and readily available.
	In the event of an emergency the Contractor's Superintendent is to immediately notify the Principal. The Superintendent will also notify the relevant emergency services.
Monitoring	Following an emergency, the affected areas shall be monitored as required. In the event of a spill, it should be ensured that all contaminated material, including soil, has been removed and properly disposed of by a suitably qualified contractor.
	Follow up action is to be undertaken to ensure adequate provisions are implemented to minimise or eliminate the risk of reoccurrence of the emergency.
Reporting	Once immediate mitigation steps have been undertaken and the incident contained. All incidents/emergencies will be reported to the Principal. The Contractor is to record emergency information on an Incident/Complaints Form and will include the following: • Location of the emergency or incident • Name and telephone number of the designated contact person • Time of the emergency/incident • The environmental harm or nuisance caused, threatened, or to be caused by the emergency/incident • Any remediation work undertaken • Actions to be taken to prevent further incidents/emergencies and mitigate any environmental harm and/or nuisance caused by the incident/emergency.
Corrective Action	Non-conformance with this plan shall be documented by the Principal and corrective action undertaken to ensure future conformance. All non-conformances shall be documented and passed onto the Contractor.

3.5.3 Incident and Corrective Action Records

All environmental incidents need to be documented, recorded and followed up with identified corrective action(s). Incident Reporting documentation needs to be completed by those personnel involved along with the Contractor's Environment Manager; approval should be sought from the Principal. Corrective actions should be identified and documented in Corrective

Action documentation and approved by the Principal's Representative. While identifying corrective actions to be taken, personnel responsible for implementing the corrective action need to be identified and informed of their responsibilities. Corrective Action documentation should be updated throughout the course of the construction works and/or until the identified actions have been fully completed.

Incident/Emergency Response Plan Contact Register

In the event of an incident or emergency occurring at the site, contact will be made with the key emergency services as identified in Table 3.

Table 3 Incident/Emergency Contact Register

Organisation	Title	Telephone Number
Principal (Trustpower)	TBC	TBC
Trustpower Representative	TBC	TBC
Contractor Environmental Manager	TBC	TBC
Contractor nominated Superintendent	TBC	TBC
EPA	Pollution and Environmental Incident reporting (24 hour)	(08) 8204 2004
Fire Brigade **Police** **Ambulance**	Emergency	000

3.6 Community information and grievance procedure

A programme will be established of public information provision to residents or other nearby sensitive receptors which may be impacted by the construction works, including the concrete batching plants and haul traffic. A grievance procedure will be included in the final COEMP and implemented during the construction phase. A complaints register including details of the complaint, how the complaint was actioned / resolved should be maintained and retained throughout the construction period.

3.7 Fire prevention

Fires can eventuate from work activities or during operation. The dry grass may ignite causing damage to the grazing paddocks and adjacent dwellings. Fire may spread causing damage to the ancillary services and structures and smoke may disrupt traffic on adjacent roads.

Liaison with the CFS will be required prior to construction commencing, with regards to requirements during the "Fire Danger Period". The Contractor will determine, in consultation with CFS, the appropriate firefighting measure and equipment required on site during construction and operation of a CBP site.

The site specific fire prevention plans should incorporate the matters set out in Table 4.

Table 4 Fire prevention outline plan

Objective	Minimise the risk of fire resulting from a concrete batching plant during the construction of the Palmer Wind Farm.
Legislation / Policy	*Electricity Act 1996* *Fire and Emergency Services Act 2005* *Electricity Regulations 2012- General* *Electricity Regulations 2010 – Principles of Vegetation Clearance* *Australian Standard 1851(2012) – Portable Fire Extinguishers* *Australian Standard 1940(2004) – The storage and handling of flammable and combustible liquids.*
Potential Impacts	Fires can eventuate from work activities or during operation. The dry grass may ignite causing damage to the grazing paddocks and adjacent dwellings. Fire may spread causing damage to the wind turbines and ancillary services and structures. Smoke may disrupt traffic on adjacent roads.
Mitigation	Liaise with CFS during the **pre-construction** stage with regards to requirements surrounding compound areas, during the "Fire Danger Period" Determine, in consultation with CFS, the appropriate fire fighting measure and equipment required on site during construction. Provide CFS and SES information regarding the location of the equipment and measures implemented during the construction and operation phases of the CBPs. A site specific Fire Prevention Management Plan will be provided as a supplement to the COEMP and will considering the following: • Management of fuel loads on the perimeter of the CBP site; • Maintenance works such as mowing and tree pruning to be done before entering the Fire Danger Season or under CFS supervision. • Leaf litter must be less than 20mm deep; • No fires would be lit at any time, for any purpose, including burning waste materials; • Spark-arrestors to be installed on all vehicle and machinery powered by internal combustion engines; • Vehicles may only be operated on approved roads and tracks for that class of vehicle. Only diesel powered vehicles may operate "off road" at any time. • Welding to be undertaken under controlled manner; • Minimise on-site storage of flammable materials; and • All vehicles to be equipped with compliant fire extinguishers. When conducting work using or generating intensive heat: • Use a fire resistant shield to prevent sparks or hot material from leaving the work area; • Provide a fire proof container for off-cuts; • The work area around active grinding equipment (10m) and hot work source (1.5m) to be kept clear of flammable material or will be kept wet; and • Fire extinguishers and water tap to be made available in close proximity of the hot works area. During periods of High Fire Danger: • All hot work will be banned and no permits will be issued (including explosives)

4. Environmental Sub-management Plans

The following section outlines mitigation strategies to avoid and/or minimise potential impacts to various environmental aspects associated with the concrete batching plants. Key legislative considerations and potential approvals/permits are highlighted. The Contractor's Environmental Manager will need to determine the Inspection / Criteria/ Target / Evidence required to determine compliance with each element of the COEMP. The mitigation measures provided represent the minimum requirements that should be adopted prior to commencement of construction. Where indicated, management plans should be prepared as supplements to this COEMP prior to the construction of the batching plants.

The following outline sub-management plans provided here are:

- Flora and Fauna Protection
- Weed, Pest and Disease Control
- Water Quality Protection
- Erosion and Sediment Control
- Construction Noise and Vibration Control
- Air Quality Control
- Materials, Fuels and Waste Management
- Protection of Sites of Cultural and Natural Heritage Significance.
- Decommissioning and Rehabilitation

4.1 Flora and Fauna and Rehabilitation

Table 5 Flora and Fauna Protection

Objective	Minimise Impacts to flora and fauna including vegetation clearance and manage the works so as to avoid damage to retained vegetation and fauna.
Legislation / Policy	*Native Vegetation Act 1991* *Native Vegetation Regulations 2003* *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* *Natural Resources Management Act 2004* *National Parks and Wildlife Act 1972*
Permits/Approvals	Submission of an EPBC referral for Lomandra Grassland. Consent to clear Native Vegetation under Native Vegetation Act 1991.

Table 6 Flora and Fauna Protection Mitigation and Controls

Key Construction Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
Site establishment and set up, Topsoil stripping and vegetation removal, Aggregate storage and stockpiles, Temporary storage of chemicals, spoil and equipment, Concrete mixing	Potential disturbance to fauna located in areas to be cleared. Potential disturbance to fauna residing in habitats adjacent works area. Native vegetation located within the works area could be impacted. Vegetation within the footprint of the proposal may require clearance.	Locate concrete batching works within temporary construction facility areas in order to minimise the construction area footprint and avoid where possible disturbance to preferred habitat of conservation significant species predicted as likely to occur at the site and those recorded during the Flora and Fauna survey (EBS Ecology 2014). Vegetation exclusion zones should be clearly identified and communicated to site personnel. Place site depots, equipment compounds and stockpile areas on previously cleared areas away from trees, bushes and native grasses, where possible. Avoid work/storage within the drip-line of trees to prevent damage to the tree roots and soil compaction. If there is any removal of native vegetation required during construction, it will be conducted in accordance with the requirements of and approvals under Native Vegetation Act 1991. Any direction provided by the NVC must be adhered to.	TBC	Environmental Manager Superintendent

Key Construction Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
		Do not burn off cleared vegetation; reuse cleared vegetation, where possible.		
Construction traffic movement	Increased potential for wildlife vehicle strike on haul roads to and from site.	Use existing access tracks where possible to minimise additional disturbance Speed limits on haulage traffic may be required to be imposed to prevent increased occurrence of wildlife strike.	TBC	Environmental Manager Superintendent
Tidy and make good work areas	Minimise permanent impacts to flora and fauna.	Reinstatement of any areas of vegetation, including road verges, which have been impacted during the construction phase in accordance with Native Vegetation Council Approval requirements, conditions and directives. In areas of native vegetation return topsoil and mulched vegetation to approximately the same area of the roadside it came from.	TBC	Environmental Manager Superintendent

4.2 Weed, Pest and Disease Control

Table 7 Weed, Pest and Disease Control

Objective	Prevent the movement or increase in weeds, pests or diseases.
Legislation / Policy	*Native Vegetation Act 1991* *Native Vegetation Regulations 2003* *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* *Natural Resources Management Act 2004* *National Parks and Wildlife Act 1972*
Permits/Approvals	Permit to move pest plants or animals (Natural Resources Management Act 2004)

Table 8 Weed, Pest and Disease Mitigation and Controls

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
Site establishment and set up, Topsoil stripping and vegetation removal, Aggregate storage and stockpiles, Tidy and make good work areas.	Potential spreading of weeds, pests and diseases. Potential increase in prevalence of pest animals.	Control weeds on site during construction and monitor the site for any outbreaks. Ensure that raw materials, such as rubble, gravel, sand and water brought into the construction site are free of Phytophthora. Check rock prior to transportation and clean/spray as appropriate. Vegetation from weed species should be disposed of separately at a licensed waste depot.	TBC	Environmental Manager Superintendent
Construction traffic movement	Potential spreading of weeds and pests. Potential increase in prevalence of pest animals.	Follow weed or disease hygiene procedures ensuring vehicles and equipment are cleaned as required.	TBC	Superintendent

4.3 Water Quality Protection

Table 9 Water Quality Protection

Objective	Minimise impact to surface and ground water quality within works area and haul routes.
Legislation / Policy	*Environment Protection Act 1993* *Environment Protection Regulations 2009* *Environment Protection (Water Quality) Policy 2003* *Natural Resources Management Act 2004* *Stormwater Pollution Prevention, Code of Practice for the Building and Construction Industry* *EPA Guidelines (EPA 396/10) - Water Quality, Dredging and Earthworks Drainage.* *Guidelines for separation distances* (EPA) 2007 *Concrete batching Industry Guidelines (EPA) 2009*
Permits/Approvals	Earthworks drainage authorisation (section 7(6) of Schedule 1 of the Environment Protection Act 1993). Approvals may be required for actions/activities that have an impact on water resources such as up-grades of watercourse crossings, water extraction, water degradation (Natural Resource Management Act, 2004). EPA licensing (e.g. a concrete batching plant)

Table 10 Water Quality Mitigation and Controls

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
Site establishment and set up, Topsoil stripping and vegetation removal, Water provision and management, Aggregate storage and stockpiles, Temporary storage of chemicals, spoil and equipment, Concrete mixing,	Impact to the natural movement of surface and groundwater affecting availability to flora and fauna and local communities and landowners. Impacts to water quality can affect aquatic fauna, decrease the aesthetic value of a watercourse or water body and/or damage transport infrastructure.	Ensure any conditions/obligations relating to a Permit for surface or groundwater extraction is complied with. Chemical testing of any identified water source should be carried out to determine the suitability of water for use in mixing concrete, or for dust suppression. Consideration to stormwater drainage control will be given when establishing the construction site. The following objectives will be considered: • Limit site access to designated routes and controlled area;	TBC	Environmental Manager Superintendent

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
Construction traffic movement		• Locate and secure all stockpiles areas away from watercourses and concentrated water flow paths; • Ensure that all the stormwater drainage are in place before site clearing works begin; • Assess the impact of the proposed stormwater drainage systems on the adjacent properties; • Consideration to existing underground services will be given when establishing the access tracks and construction site, and protection will be provided where required. • Construction of access road networks may alter surface drainage paths. Drainage should be installed to mitigate potential effects, taking into consideration ephemeral watercourses • Minimise areas of vegetation loss to areas identified for clearance as part of the scheme. Control surface run-off entering and leaving the work area: • Existing natural drainage paths and stormwater facilities must not be blocked or restricted. • Runoff from unsealed areas at the construction site must not enter stormwater drains or natural drainage lines. • Stormwater should be diverted around stockpiles.		
Waste Water Management	Reduction in quality of water resources.	The site must incorporate a wastewater management system; and effectively operate the system in respect of any wastewater generated at the site. Regular inspection and maintenance of the system is necessary. Waste water generated at the premises must not be discharged into any waters; or onto land in a place from which it is reasonably likely to enter any waters (including by processes such as seepage or	TBC	Design Engineer, Environmental Manager Superintendent

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
		infiltration or carriage by wind, rain, or by the rising of the water table). Settling ponds should be lined with an impervious liner capable of containing all contaminants found within the water they are designed to collect. Concrete agitator bowls and chutes must not be washed out to the stormwater system or roadways. A wastewater collection and recycling system should be designed to collect contaminated water from: • agitator washout • truck washing • yard washdown • contaminated stormwater • concrete batching area • slump stand • any other wastewater from the batching plant operation.		
Tidy and make good work areas	Long term effects arising from the development of the project.	Cleared areas to be stabilised / rehabilitated promptly and where possible enhance the natural value of these areas.	TBC	Superintendent

4.4 Soil Management, Erosion and Sediment Control

Table 11 Erosion and Sediment Control

Objective	Minimise erosion within works area and haul routes and minimise sediment laden stormwater leaving the site.
Legislation / Policy	*Environment Protection Act 1993* *Environment Protection Regulations 2009* *Environment Protection (Water Quality) Policy 2003* *Natural Resources Management Act 2004* *Stormwater Pollution Prevention, Code of Practice for the Building and Construction Industry* *Concrete batching Industry Guidelines (EPA) 2009*
Permits/Approvals	Earthworks drainage authorisation (section 7(6) of Schedule 1 of the Environment Protection Act 1993.) EPA licensing (concrete batching plant)

Table 12 Erosion and Sediment Mitigation and Controls

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
Erosion Control	Release of unsuitable substances to the terrestrial or water environment	Preparation of plans detailing Soil, Erosion and Sedimentation techniques to be applied for the construction, operation and decommissioning phases of the batching plant sites	Prior to construction	Superintendent
Site establishment and set up	The soil characteristics are likely to be subject to soil erosion by water and potentially wind if ground is disturbed.	Soil erosion and generation should be minimised during construction. Erosion and sedimentation control devices installed prior to commencement of construction/works.	TBC	Environmental Manager Superintendent
Topsoil stripping and vegetation removal	Damage to top soil and subsoil.	A site specific management plan should be developed that includes the following: • Maps showing the areas to be stripped and left in-situ. • Minimise areas of vegetation loss to areas identified for clearance as part of the scheme.	TBC	Environmental Manager Superintendent

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
		• The appropriate method for stripping, stockpiling, respreading and ameliorating the soils. • The location of soil stockpiles and content (e.g. Topsoil type A subsoil type B). • Schedules of volumes for each material. • Expected after-use for each soil whether topsoil to be used on site, used or sold off site, or subsoil to be retained for landscape areas, used as structural fill or for topsoil manufacture. • Identification of person responsible for supervising soil management. Soil should be handled in the right conditions of weather and soil moisture and using suitable machinery in an appropriate way. Soil that is wet or very moist (wetter than the plastic limit) should ideally be allowed to dry further. Use tracked equipment wherever possible to reduce compaction. Confine movement of trucks or dumpers to designated temporary haul routes. Multiple handling of soil materials increases the risk of damage to soil structure so should be minimised. Avoid stripping topsoil for reuse too deeply so that subsoil becomes incorporated, thereby reducing fertility. Do not remove topsoil from below the spread of trees to be retained.		
Water provision and management, Aggregate storage and stockpiles,	Soil erosion can contaminate watercourses, lead to loss of vegetation, impact on aquatic fauna, decreases the aesthetic value of a watercourse, reduce	Implement controls to prevent and minimise the risk of any sediment from earthworks entering the stormwater system. Areas of exposed soil, including stockpiles, are protected from erosion, or that suitable control measures are in place to	TBC	Design Engineer, Environmental Manager Superintendent

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
Concrete mixing,	the agricultural capacity of land and can damage transport infrastructure.	prevent any mobilised soil being transported off site. Locate stockpiles away from watercourses and not in drainage lines. Stormwater diverted around stockpiles. Any dewatering on site to be undertaken in a manner which prevents sediment entering stormwater drains and water course. Use of sediment curtains, cofferdams or similar to prevent suspended sediment movement during construction within water or areas likely to be inundated. Maintain the sediment control and stormwater drainage devices at all times.		
Tidy and make good work areas	Long term effects arising from the development of the project.	All stockpiles resulting from the concrete batching works will be removed from site. The access tracks width will be reduced to approximately 5 metres. Top soil will be spread over exposed batters and vegetation will be reinstated. The reinstatement works will be undertaken as soon as practical after the completion of earthworks. Cleared/excavated areas to be stabilised / rehabilitated promptly and where possible enhance the natural value of these areas. Temporary or permanent measures will be implemented either to help with the revegetation process or to provide additional protection against erosion. On steep slopes erosion control matting will be used to provide interim protection until the vegetation cover is fully established.	TBC	Superintendent

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
Decommissioning and reinstatement of site	Long term impacts from degraded soil and vegetation conditions leading to exacerbated erosion and cycle of deterioration	A site decommissioning plan to be prepared to ensure all sites are remediated and rehabilitated to original condition (or better) post removal of temporary batching plant.	Within 6 months of commencement of operation	Environmental Manager Superintendent

4.5 Construction Noise and Vibration

Table 13 Construction Noise and Vibration

Objective	Avoid and/or minimise noise and vibration emissions during the temporary concrete batching works.
Legislation / Policy	*Environment Protection Act 1993* *Environment Protection Regulations 2009* *Environment Protection (Noise) Policy 2007* *AS2436 – 1981 "Guide to Noise Control on Construction, Maintenance and Demolition Sites"* *Concrete batching Industry Guidelines (EPA) 2009* *Australian Standard AS 1055−1997 Acoustics – Description and measurement of environmental noise* *Guidelines for separation distances* (EPA) 2007,
Permits/Approvals	EPA licensing (concrete batching plant)

Table 14 Construction Noise and Vibration Mitigation and Controls

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
Site establishment and set up, Topsoil stripping and vegetation removal, Concrete mixing, Tidy and make good work areas.	Noise and vibration from construction activities may impact on nearby sensitive receptors including residential dwellings and/or wildlife.	A Construction Noise and Vibration Management Plan has been developed by Sonus (2014) (see Appendix B of this COEMP). Site perimeter fencing may need to be established for the work area and include a noise and vibration barrier. Throughout construction activities the Contractor will be required to observe all obligations under the Environment Protection Act 1993 and Section 6 of AS2436 – 1981 "Guide to Noise Control on Construction, Maintenance and Demolition Sites". Activities to be undertaken must be compliant with requirements of Environment Protection (Noise) Policy 2007. Plant and equipment used to be properly maintained and have noise limitation equipment installed as per manufacturer's specification.	TBC	Environmental Manager Superintendent

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
		Plant and equipment used on site to be stood down when not required. Construction to occur only during the hours specified. (7:00 am to 7:00 pm Monday to Saturday). Works carried out outside of the hours will only entail: • works that do not cause noise emissions which exceed the noise limits of the Policy at any nearby dwelling not associated with the project; or • the delivery of materials as requested by Police or other authorities for safety reasons; or • emergency work to avoid the loss of lives, property, and/or to prevent environmental harm; or • works with the prior consent of the Environment Protection Authority (EPA) (an example might be occasional concrete pours on hot days). Nearby residents/stakeholders will be notified of construction activities. Noise monitoring/inspections to be undertaken as prescribed in the Construction Noise and Vibration Management Plan (Sonus 2014). Noise monitoring undertaken if required upon receipt of a complaint. To monitor potential vibration impacts from construction works on nearby structures, dilapidation surveys may be required.		

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
Construction traffic movement	Haul traffic may cause noise and vibration nuisance or damage to residential and sensitive receptors traveling to and from the site	Appropriate routes for light and heavy construction vehicles selected to minimise disturbance prior to commencement of construction works. Construction traffic must use agreed haul roads to travel to and from site. Approved areas for parking will be identified. All vehicles and equipment will be operated and maintained to comply with regulatory standards in order to control noise emissions. Best practice in regard to construction traffic in residential areas.	TBC	Environmental Manager Superintendent

4.6 Air Quality Control

Table 15 Air Quality Control

Objective	Avoid and/or minimise air quality impacts during construction works.
Legislation / Policy	*Environment Protection Act 1993* *Environment Protection Regulations 2009* *Environment Protection (Air Quality*) Policy *1994* *Guidelines for separation distances* (EPA) 2007 *Concrete batching Industry Guidelines (EPA) 2009*
Permits/Approvals	EPA licensing (e.g. a concrete batching plant)

Table 16 Air Quality Mitigation and Controls

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
Storage of raw materials	Release of unsuitable substances to the air	Bunkers shall be established on site prior to operation. The prevailing wind direction to be taken into account to ensure bunkers are orientated to minimise the effects of the wind. All stockpiles of raw materials to be located within storage bunkers/bays. Materials stored to a height less than two thirds of the height of the bunker wall.	Detailed design phase	Design Engineer Superintendent
Handling of raw materials	Release of unsuitable substances to the air	Batching plant hopper to be fitted with a 3 sided, roofed cover to minimise generation of windborne material.	Detailed design phase	Design Engineer Superintendent
Storage of raw materials	Release of unsuitable substances to the air	All storage silos to be fitted with an appropriately sized fabric filter incorporating an effective fabric-cleaning device to prevent emissions from the displacement of air whilst filling.	Detailed design phase	Design Engineer Superintendent
Designate storage areas	Materials stored in inappropriate locations leading to contamination of stormwater.	Designate temporary storage areas within approved layout plans.	Prior to construction	Superintendent

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
Control of Dust	Release of unsuitable substances to the air	Dust mitigation measures (including management of vehicle traffic areas, fitting of sprinklers, use of tarpaulins, use of fabric filters at cement storage silo)	During design, construction, operation and decommissioning	Superintendent
Control of Dust	Release of unsuitable substances to the air	Sprinklers to be installed on storage bunkers/bays and utilised as required to keep material damp to avoid wind erosion and dispersion.	During design, construction and operation	Superintendent
Control of Dust	Release of unsuitable substances to the air and the environment	All storage silos to be fitted with a high level visible and audible alarm, complete with a test circuit, to guard against overfilling and fitted with an automatic delivery shutdown.	During design, construction and operation	Superintendent
Site establishment and set up, Topsoil stripping and vegetation removal, Water provision and management, Aggregate storage and stockpiles, Temporary storage of chemicals, spoil and equipment, Concrete mixing, Tidy and make good work areas.	Dust from construction impacting surrounding environment including residential areas, water bodies and wildlife. Odour from construction works impacting amenity of surrounding area.	The selection of site location should as a minimum, accord with EPA separation distances to any sensitive receptors including nearby wildlife. The design of the site should consider provision of natural or artificial wind barriers such as trees, fences and landforms. Prevailing wind direction should be considered to ensure bunkers and conveyors are sited in a leeward position to minimising effects from wind. Dust controls to be implemented during construction including management of stockpiles (height, orientation etc.) and the use of suppressants including water spraying as required. Aggregate stored on site in stockpiles should be contained within three-sided storage bunkers with windshields that project 0.5 metre above the bunker wall. Drive-over in-ground aggregate storage bins should be shielded on at least two sides. Concrete batching sides to 0.5 metre high for the full length and width of the bin. Where aboveground aggregate storage bins are not totally enclosed, aggregate should not be loaded within 0.5 metre of the top of the walls.	TBC	Environmental Manager Superintendent

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
		If conveyors are used they must be designed and constructed to prevent fugitive dust emissions e.g. covering the conveyor, installing side protection, equipping them with spill trays, including belt cleaning devices. Mixer loading areas, weigh bins and hoppers (if used) should be designed to reduce fugitive dust. Sweeping of floors, as necessary and after spills, should be considered to prevent dust build-up. Water should not be used in the process of cleaning up spills except where the area drains to a wastewater collection point where washing down would be preferable to generating dust by sweeping. Works that are likely to generate dust will cease when dry or windy conditions are conducive to the release of dust should dust suppression strategies be rendered ineffective. Air Quality monitoring undertaken if required upon receipt of a complaint. Stockpiles covered or watered down. Develop and follow a fire prevention plan.		

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
Construction traffic movement.	Exhaust fumes from construction and haulage to and from site impacting surrounding environment including residential areas and wildlife. Fugitive dust from transported loads or haul routes.	A project wide Construction Traffic Management Plan will be prepared prior to construction commencing which will identify the haul route and any specific mitigation required for the concrete batching plants i.e. management of potential fugitive material during transportation, operation of equipment to control exhaust emissions, a procedure for complaints. Travel distances within the site should be reduced by appropriate site layout and design. Hard-surface where necessary roadways and any other areas where there is a regular movement of vehicles. Where roads are temporary consider: • armouring (a thin layer of high quality pavement material is placed on the pavement surface) • chemical suppressant products • regular light watering. All vehicles and equipment will be operated and maintained to comply with regulatory standards for exhaust emissions. Construction site roads watered down. Spray with water and/or cover pavement materials and aggregates before transporting. Any loads of dust generating or odorous materials entering or leaving site to be covered.	TBC	Superintendent

4.7 Materials, Fuels and Waste Management

Table 17 Materials, Fuels and Waste Management

Objective	Avoid and/or minimise impacts associated with the release of hazardous substances or materials. Avoid and/or minimise waste generation during the construction works and concrete batching plant operation.
Legislation / Policy	*Environment Protection Act 1993* *Environment Protection Regulations 2009* *Dangerous Substances Act 1979* *Dangerous Substances Regulations 2002.* *Controlled Substances Act 1984* *Natural Resources Management Act 2004* *Environment Protection (Waste to Resources) Policy 2010* *EPA Guidelines for Stockpile Management – Waste and Waste Derived Fill* *EPA Guidelines for Bunding and Spill Management* *EPA Current criteria for the classification of waste - including Industrial and Commercial Waste (Listed) and Waste Soil* *Concrete batching Industry Guidelines (EPA) 2009*
Permits/Approvals	Waste Transporter's licence (Environment Protection Act 1993 and Environment Protection Regulations 2009.) EPA licensing (e.g. a concrete batching plant)

Table 18 Materials, Fuels and Waste Management Mitigation and Control

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
Management of waste	Release of unsuitable substances to the terrestrial environment	Each site shall have a clear system/process to collect, treat and re-use wastewater (including contaminated stormwater) and to suitably manage used materials (eg bad batches, putrescible, packaging etc…). This system/process must address how waste and wastewater not suitable for re-use or treatment will be handled and/or its disposal off-site.	During design, construction and operation.	Superintendent
Define containment details of all ponds and pits	Release of unsuitable substances to the terrestrial environment	Provide detail of linings and volumes of all ponds and washout pits	Prior to construction	Design Engineer

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
Storage of materials (of granular or liquid form) within defined, appropriately bunded areas)	Release of unsuitable substances to the terrestrial environment	All materials/substances likely to degrade water (eg fuel, concrete admixtures etc…) must be stored within a bunded areas(s), suitably sealed and sized (to at least 120% of the volume of the largest container within the bund), designed and constructed to prevent the escape of material into surface or underground water resources (refer EPA's *Bunding and Spill Management Guidelines*)	Detailed design phase	Design Engineer Superintendent
Site establishment and set up, Water provision and management, Aggregate storage and stockpiles, Temporary storage of chemicals, spoil and equipment, Concrete mixing, Construction traffic movement Tidy and make good work areas.	Contamination of the environment with hazardous substances and/or materials.	All hazardous chemicals and dangerous goods used or stored at the subject site during construction will be stored in accordance with the Dangerous Substances Act and the EPA Guidelines. Material Safety Data Sheets for all relevant materials used or stored on site, regardless of quantity, for the construction works shall be kept on site by the Contractor. Spill kits will be located on site to be used in the event that there is an incident and appropriate personnel will be trained in the use of this equipment. Storage of materials should not be in areas at risk of inundation. All hazardous chemicals and dangerous goods should be stored away from any drainage channels and stormwater drains. Decanting/pumping of hazardous substances and materials to occur in bunded area where possible. Spills cleaned up immediately (spill kit). Emergency procedures in the event of a spill should be documented.	TBC	Environmental Manager Superintendent

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
Site establishment and set up, Topsoil stripping and vegetation removal, Aggregate storage and stockpiles, Concrete mixing, Construction traffic movement Tidy and make good work areas.	Waste generated during construction impacting upon the environment. Waste generated during construction inappropriately disposed of offsite and impacting the environment.	Contaminated soil and/or groundwater disposed of appropriately, if required. Management of waste in accordance with all statutory and licensing requirements. Any food waste should be contained and removed from site regularly to prevent attracting pest species. Implement to reduce waste: • Re-use of materials and waste concrete wherever possible in accordance with legislative requirements. • Adequate waste separation repositories. • All waste generated during construction separated at source and taken to an appropriately licenced waste disposal facility if not able to be re-used on site. • No burning or waste burial on site. • Management of litter and site debris.	TBC	Environmental Manager Superintendent

4.8 Protection of Sites of Cultural and Natural Heritage Significance

Table 19 Protection of Sites of Cultural and Natural Heritage Significance

Objective	Manage the works to prevent or minimise impacts to sites or artefacts of Indigenous or European heritage.
Legislation / Policy	Native *Title (South Australia) Act 1994* *Aboriginal Heritage Act 1988* *Heritage Places Act 1993* *Aboriginal and Torres Strait Island Heritage Protection Act 1984 (Cth)* *Native Title Act 1993 (Cth)* *Environment Protection Act 1993*
Permits/Approvals	Authority to disturb an Aboriginal site or object (Section 23 approval under the Aboriginal Heritage Act 1988).

Table 20 Protection of Sites of Cultural and Natural Heritage Significance Mitigation and Controls

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
Site establishment and set up, Topsoil stripping and vegetation removal, Tidy and make good work areas.	Damage to sites or artefacts of indigenous or European heritage or to their setting.	Concrete batching plants should be located with the temporary construction facility sites, where any monitoring or surveys expected by Mannum Aboriginal Community Association Incorporated (MACAI) has been identified and incorporated into the overall project programme. Should any archaeological occurrences be located during the course of the works the contractor and the Principal must report such an occurrence to the appropriate Aboriginal organisations and AARD in accordance with the Aboriginal Heritage Act 1988. All work is to cease that may negatively impact on the sites integrity until it has been assessed by an appropriately qualified Cultural Heritage professional with representation from the Indigenous recognised Aboriginal stakeholders. Avoid damaging or altering any features relating to the State Heritage Place Geological Site or dry stone walls.	TBC	Environmental Manager Superintendent

Key Tasks	Potential impact	Control / Action	Inspection / Criteria/ Target / Evidence	Responsibility
Construction traffic movement.	Damage to sites or artefacts of indigenous or European heritage or to their setting.	Construction traffic must use agreed haul roads to travel to and from site. Approved areas for parking will be identified which are located away from heritage features.	TBC	Environmental Manager Superintendent

ACHM
AUSTRALIAN CULTURAL HERITAGE MANAGEMENT

Procedure to follow if potential Aboriginal skeletal remains and/or an archaeological site are found

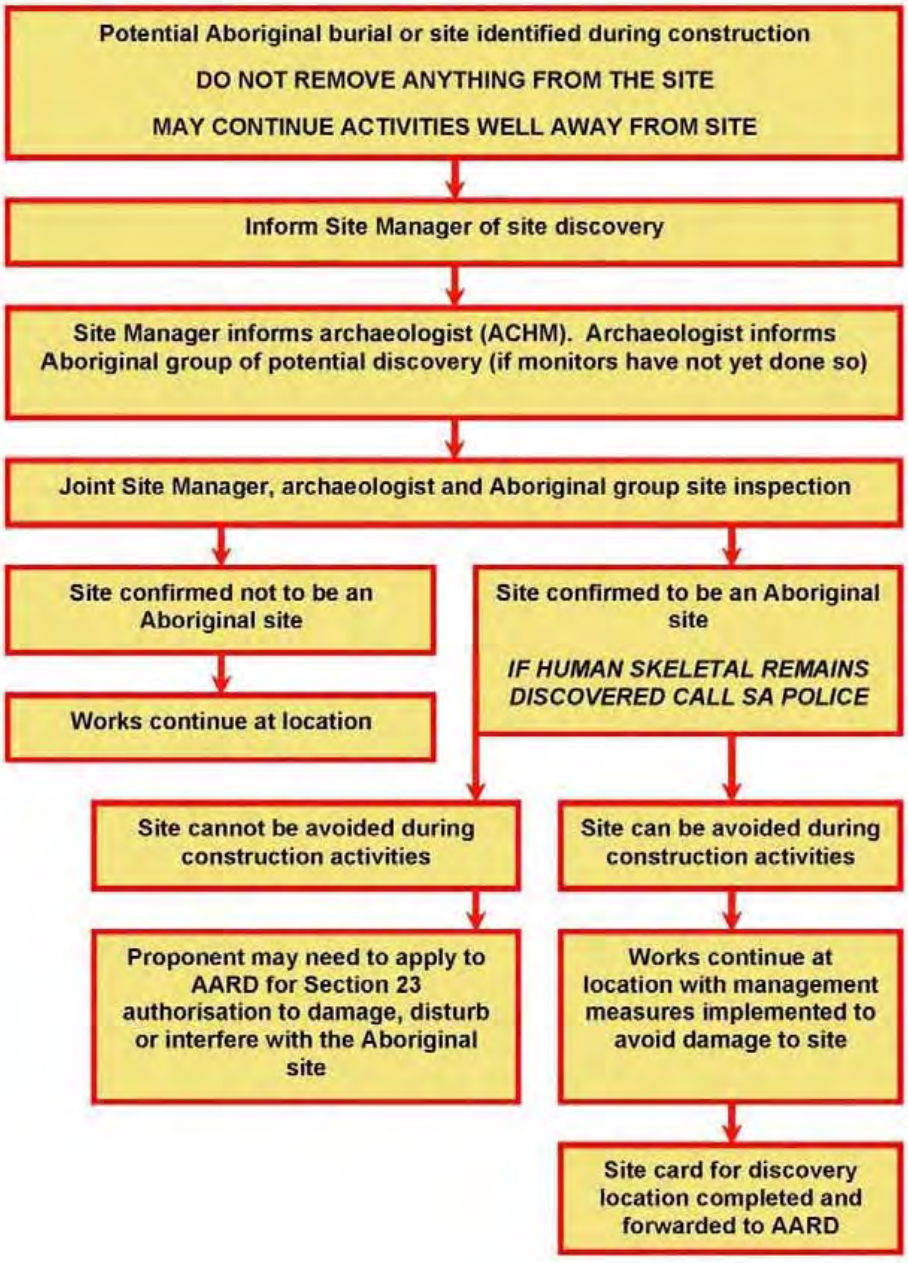
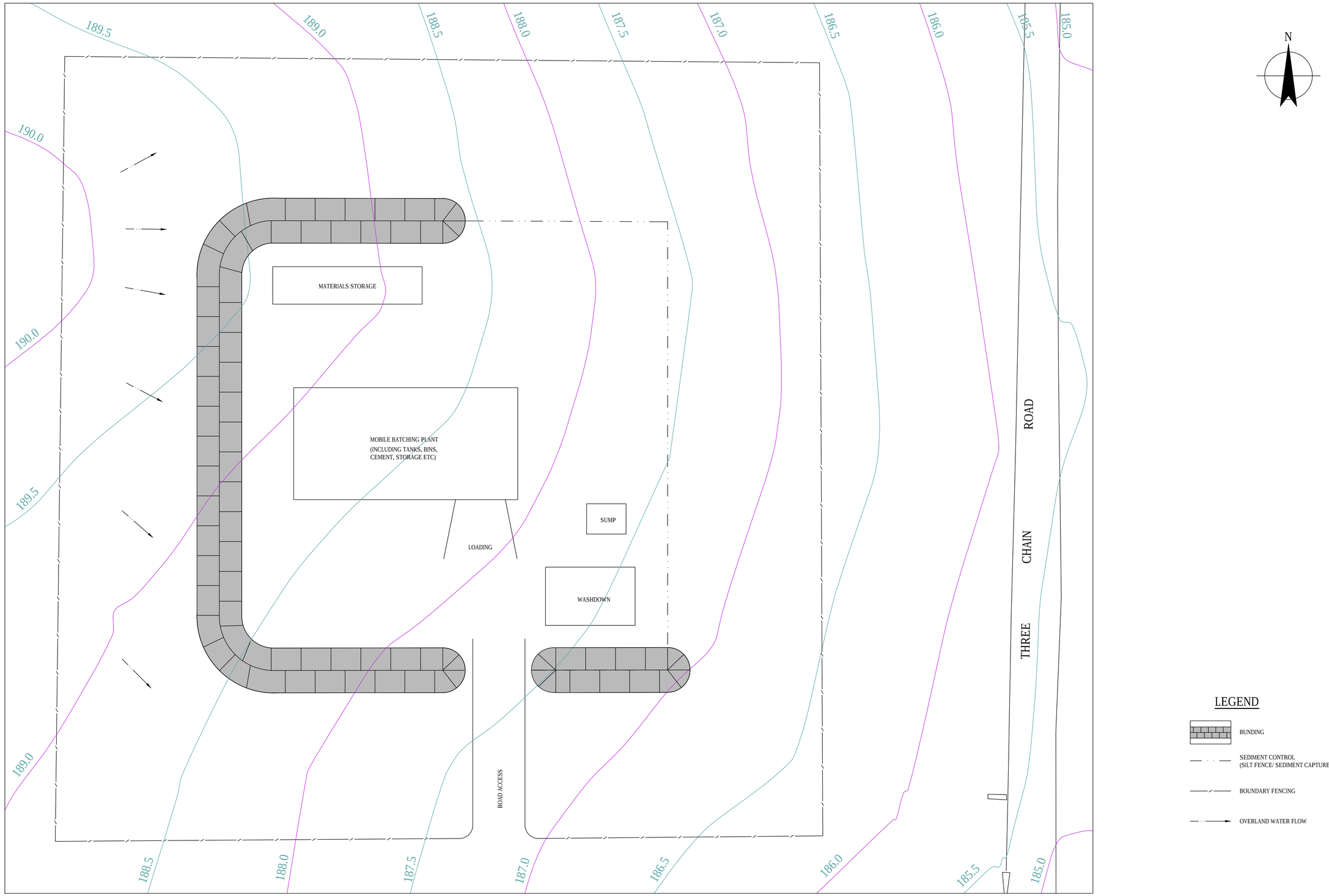


Figure 4 Site Discovery Procedure

Appendices

Appendix A – Site Layout Plans



LEGEND

- BUNDING
- SEDIMENT CONTROL (SILT FENCE/ SEDIMENT CAPTURE)
- BOUNDARY FENCING
- OVERLAND WATER FLOW

PRELIMINARY

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
A	ISSUE FOR INFORMATION		IO			24.06.16

GHD

Level 4, 211 Victoria Square Adelaide SA 5000 Australia
GPO Box 2052 Adelaide SA 5001
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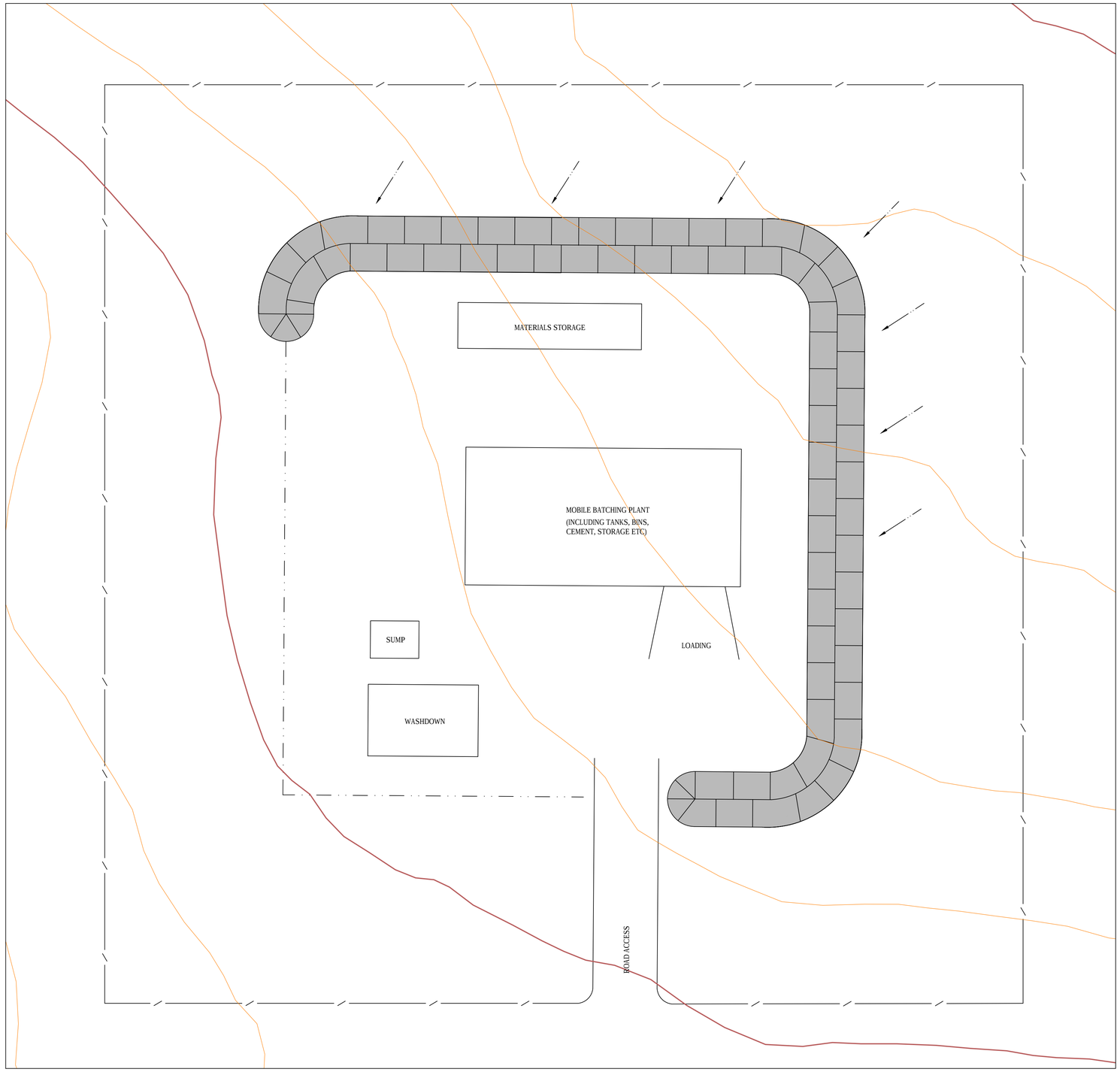
E adlmail@ghd.com.au **W** www.ghd.com

Drawn	I.ONOPKO	Designer	G.BOUMIS
Drafting Check		Design Check	
Approved (Project Director)			
Date	24.06.16		
Scale	NOT TO SCALE	This Drawing must not be used for Construction unless signed as Approved	

Client **TRUSTPOWER**
Project **PALMER WIND FARM**
Title **BATCH PLANT A**

Original Size **A1** Drawing No: Rev: **A**

Plot Date: 27 June 2016 - 12:07 PM Plotted by: Ivan Onopko Cad File No: G:\33\17234\CADD\Drawings\33-17234-BATCH PLANT A.dwg



N

LEGEND

- BUNDING
- SEDIMENT CONTROL (SILT FENCE/ SEDIMENT CAPTURE)
- BOUNDARY FENCING
- OVERLAND WATER FLOW

PRELIMINARY

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
A	ISSUE FOR INFORMATION		IO			24.06.16

GHD
Level 4, 211 Victoria Square Adelaide SA 5000 Australia
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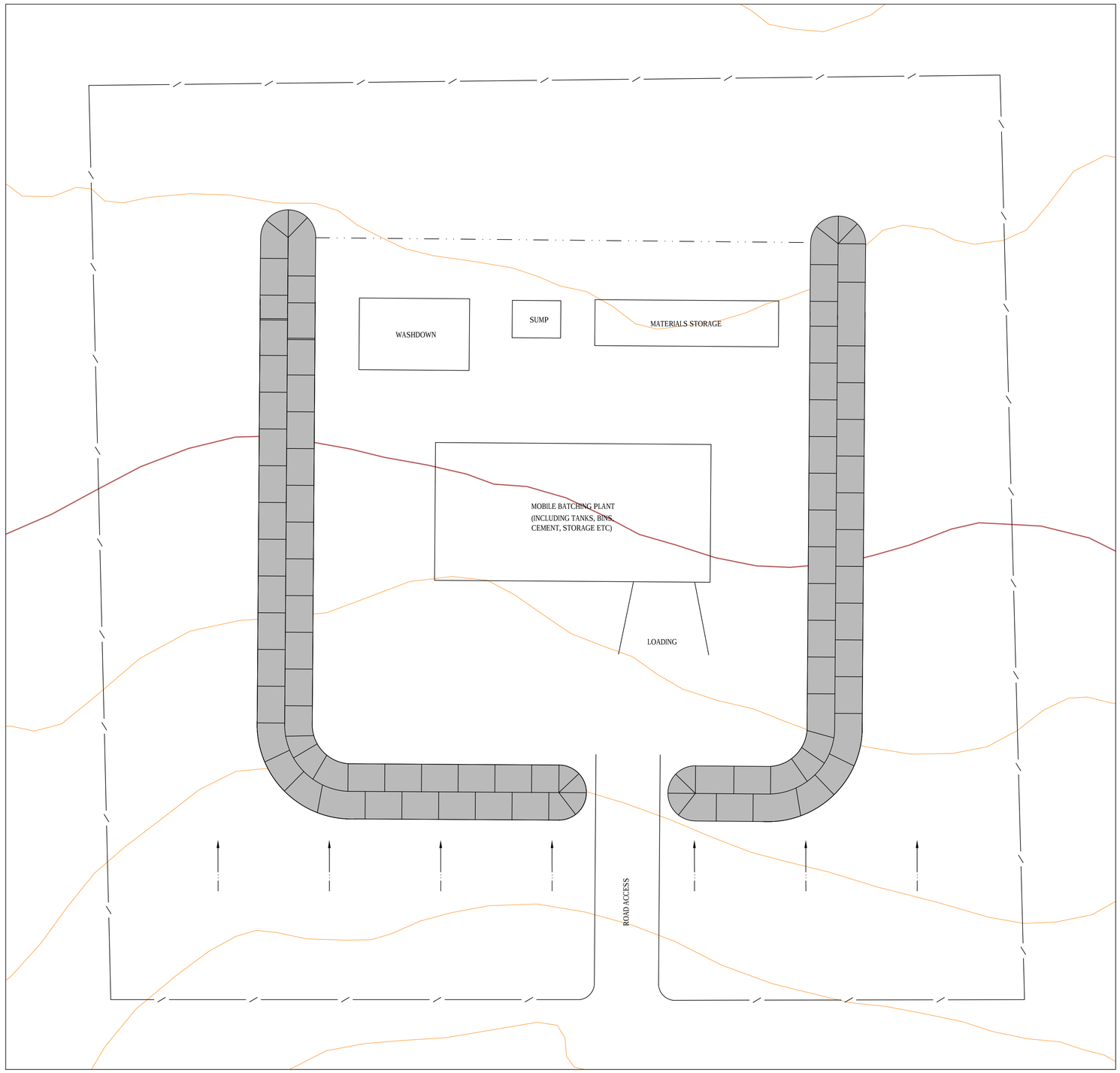
Drawn	I.ONOPKO	Designer	G.BOUMIS
Drafting Check		Design Check	
Approved (Project Director)			
Date	24.06.16		
Scale	NOT TO SCALE	This Drawing must not be used for Construction unless signed as Approved	

Client **TRUSTPOWER**
Project **PALMER WIND FARM**
Title **BATCH PLANT B**

Original Size **A1**
Drawing No:
Rev: **A**

Plot Date: 27 June 2016 - 11:44 AM Plotted by: Ivan Onopko Cad File No: G:\33\17234\CADD\Drawings\33-17234-BATCH PLANT B.dwg



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LEGEND

- BUNDING
- SEDIMENT CONTROL (SILT FENCE/ SEDIMENT CAPTURE)
- BOUNDARY FENCING
- OVERLAND WATER FLOW

PRELIMINARY

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
A	ISSUE FOR INFORMATION		IO			24.06.16

GHD
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Drawn	I.ONOPKO	Designer	G.BOUMIS
Drafting Check		Design Check	
Approved (Project Director)			
Date	24.06.16		
Scale	NOT TO SCALE	This Drawing must not be used for Construction unless signed as Approved	

Client **TRUSTPOWER**
Project **PALMER WIND FARM**
Title **BATCH PLANT C**

Original Size **A1**
Drawing No:
Rev: A

Plot Date: 27 June 2016 - 11:44 AM Plotted by: Ivan Onopko Cad File No: G:\33\17234\CADD\Drawings\33-17234-BATCH PLANT C.dwg

Appendix B - Construction Noise and Vibration Management Plan (Sonus August 2014)

Sonus Pty Ltd
17 Ruthven Avenue
ADELAIDE SA 5000
Phone: +61 8 8231 2100
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www.sonus.com.au
ABN: 67 882 843 130
Contact: Jason Turner
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PALMER WIND FARM

ENVIRONMENTAL NOISE ASSESSMENT

Construction Noise and Vibration Management Plan

For

Trustpower
Truman Road
Te Maunga, Mt Maunganui

S4171C13
August 2014

Sonus Pty Ltd
17 Ruthven Avenue
Adelaide SA 5000
Phone: +61 8 8231 2100
www.sonus.com.au

SUMMARY

The construction of a wind farm comprises activities such as road construction, civil works, excavation and hardstand construction, electrical infrastructure works and turbine erection requiring processes such as heavy vehicle movements, possible concrete batching, rock trenching, loaders, excavators, generators, cranes and possible blasting. These activities are similar to other construction projects in that they generally generate short term and transient noise; however, in the case of a wind farm, the construction occurs at significant separation distances. The separation distances will result in appreciable attenuation of the noise and vibration generated by the activity.

Notwithstanding, the management of construction noise requires appropriate programming, community consultation and the use of the best available and practical work practices and mitigation measures balanced against the requirement to expedite completion of the project.

This Construction Noise and Vibration Management Plan (CNVMP) has been prepared as a specific part of the broader Palmer Wind Farm Construction and Environmental Management Plan (CEMP). The proposed wind farm layout and receiver locations are provided in Appendix A.

The CNVMP aims to provide high level guidance to secure compliance of the construction activities with the general environmental duty of the *Environment Protection Act 1993*. As such, the CNVMP provides a framework document within which the final construction contractor can develop action plans for each individual activity once it is known and detailed.

The requirements for the CNVMP are based on the general environmental duty of the *Environment Protection Act 1993* (the EP Act) and the tailored requirements of Part 6 Division 1 Clause 23 of the *Environment Protection (Noise) Policy 2007*.

In broad terms, the legislative requirements effectively allow construction to occur between 7am and 7pm from Monday to Saturday, subject to the site taking reasonable and practicable noise reduction measures, and provides an opportunity to conduct works outside of these hours if noise limits can be met or “if other grounds exist that the Authority…….determines to be sufficient” (an example might be occasional concrete pours on hot days).

To this end, the CNVMP provides:

- An indication of the likely construction activities and associated details;
- Identification of the reasonable and practicable measures to minimise the construction noise activities;
- Recommendations for specific community consultation and notification methods;
- Recommendations for specific compliance monitoring plans;
- Recommendations for specific complaint handling procedures including corrective actions to be taken and feedback methods.

TABLE OF CONTENTS

CONSTRUCTION ACTIVITY CRITERIA

Construction Noise

The appropriate assessment methodology for noise from construction activities is provided by Part 6 Division 1 Clause 23 of the *Environment Protection (Noise) Policy 2007* (the Policy).

The Policy provides an emphasis on implementing reasonable and practicable noise reduction measures and does not set mandatory standards or objective criteria for activity which is conducted during typical day time construction hours. This approach is consistent with other jurisdictions.

The Policy establishes a quantitative approach for night time activity, whereby an average goal noise level of 45 dB(A) and a maximum goal noise level of 60 dB(A) are to be met for activity outside of typical day time hours. The goal noise level does not apply "if other grounds exist that the Authority…….determines to be sufficient".

Construction Vibration

Specific 'policy' providing objective vibration criteria do not exist in South Australian legislation; however, the general environmental duty of the EP Act can be interpreted to apply to vibration and there are accepted standards that are regularly referenced for projects where vibration might be an issue.

Vibration assessment can be separated into two categories, comprising levels at which the vibration might be felt to cause annoyance and concern, and levels at which building or infrastructure damage might occur. The vibration levels associated with human annoyance are significantly more onerous than those associated with structural damage.

The vibration criteria for human annoyance are based on human exposure provided by the Australian Standard AS2670.2 'Evaluation of human exposure to whole-body vibration (AS2670). AS2670 provides guidance on the levels of vibration at which annoyance might arise for different locations and scenarios.

Vibration criteria for structural damage are provided by the German Standard DIN 4150-3 'Effects of vibration on structures' (DIN 4150) which is a common reference in the absence of a specific Australian Standard relating to structural building damage. DIN 4150 establishes limits for residential, commercial, industrial and heritage listed buildings, and states that damage will not occur at these properties when exposed to vibration within those limits.

The human annoyance criteria are generally only used for assessment of ongoing operations whereas the structural damage limits are generally applied to construction activity due to its transient nature. Structural damage limits are provided in the following table based on DIN4150-3 'Structural Vibration Part 3 – Effects of vibration on structures':

Structure	Peak Particle Velocity (PPV) level in any direction in mm/s (rms)		
	Main driving frequency less than 10Hz	Main driving frequency between 10 to 50 Hz	Any frequency
Commercial, industrial and similar buildings	20	40	50
Dwellings and buildings of similar design and/or use	5	15	20
Structures sensitive to vibration and that have intrinsic value (eg heritage listed buildings without modern foundations)	3	8	10

The levels have been established such that no damage will occur up to the limits and that vibration above the limits will not necessarily translate into damage, defined as cracking forming in plastered surfaces of walls, existing cracks in a building becoming enlarged, and separation of lightweight walls from load bearing walls. A dilapidation survey is therefore an important element in the assessment of vibration impacts from construction activity when it is conducted in close proximity to a dwelling.

In the case of a wind farm, construction vibration is rarely of concern due to the separation distances involved in comparison to other intensive construction sites.

Blasting Noise and Vibration

Whilst the need for and the extent of a blasting regime is yet to be established, the appropriate assessment methodology for noise from on-site blasting activities is provided by the *Australian Standard AS2187.2-2006 "Explosives – Storage, Transport and Use – Pt 2: Use of Explosives"* (the Standard). The Standard provides the following "human comfort limits" for sensitive sites for operations lasting longer than 12 months or more than 20 blasts:

- Peak component particle velocity of 5 mm/s for 95% blasts per year and 10 mm/s maximum unless agreement is reached with the occupier that a higher limit may apply.
- Peak sound pressure level of 115 dBL for 95% blasts per year and 120 dBL maximum unless agreement is reached with the occupier that a higher limit may apply.

CONSTRUCTION ACTIVITIES

Construction Noise

The equipment and activities that are present at the site will vary throughout the project, depending on the construction phase. The envisaged phase, associated plant and equipment, and duration are provided in Table1.

Table1: Construction activity.

Construction Phase	Main Plant and Equipment	Start (Month)	Duration (Months)
Site Set-Up and Civil Works	Generator Transport truck Excavator Low loader	*1*	*3*
Road and Hard Stand Construction	Mobile crushing and screening plant Dozer Roller Low loader Tipper truck Excavator Scraper Transport truck	*4*	*7*
Excavation and Foundation Construction	Concrete batching plant Mobile crushing and screening plant Truck-mounted concrete pump Concrete mixer truck Excavator Front End Loader Mobile crane Transport truck Tipper truck	*6*	*5*
Earthing	Percussion drilling rig	*7*	*8*
Electrical Installation	Rock trencher Concrete mixer truck Low loader Tipper truck Mobile crane	*10*	*14*
Turbine Delivery and Erection	Extendable trailer truck Low loader Mobile crane Impact rattle gun	*14*	*4.5*

Construction Vibration

It is expected that the main sources of vibration will be a percussion drilling rig (if used), rock trenching equipment and roller operation during the road and hard stand construction. The level of vibration at a distance will be subject to the energy input of the equipment and the local ground conditions. Typically, the distances required to achieve the construction vibration criteria are in the order of 20m to 100m. The 100m distance is a conservative estimate, with vibration from these activities unlikely to be detectable to humans at such a distance.

Based on the separation distances between the construction activities and the nearest dwellings being well in excess of the conservative distance of 100m, vibration levels are expected to easily achieve the criteria.

Blasting Noise and Vibration

The levels of airblast and ground vibration experienced at residences from blasting operations are generally dependent on a number of factors, including:

- the distance between the blast site and the residence;
- the type, size and number of charges used, and;
- the depth and manner in which the charge is installed.

The separation distances between the potential blasting activity and the nearest dwellings are of the order of magnitude for which ground vibration and airblast levels have been adequately controlled at other sites. Given the range of factors associated with both the generation and control of blasting noise and vibration, it is recommended that a monitoring regime, in accordance with the Monitoring section of this CNVMP, is implemented to ensure the objective criteria provided by the *Australian Standard AS2187.2-2006* are achieved.

Comparison with assessment criteria

Based on the above, vibration and blasting activity associated with the proposed construction activities are expected to achieve the relevant assessment criteria and, with the exception of the implementation of a monitoring regime for blasting activity, no further noise or vibration measures need to be considered for these aspects of the construction.

Traffic and general construction activity have the potential to trigger the adoption of “all reasonable and reasonable” noise mitigation measures. These measures are provided below.

PROJECT MITIGATION MEASURES

Pro-active noise control strategies to minimise noise during construction may include engineering measures such as the construction of temporary acoustic barriers, the use of proprietary enclosures around machines, the use of silencers, the substitution of alternative construction processes and the fitting of broadband reversing signals. It may also include administrative measures such as inspections, scheduling and providing training to establish a noise minimisation culture for the works.

The following mitigation measures provide a suite from which the construction contractor can develop action plans for each individual activity, construction phase or stage. The action plans will be the "tool on the ground" for implementation and ongoing use by the construction contractor.

Scheduling

Construction works and any blasting activity, excluding heavy vehicle movements into and out of the site, should generally be restricted to between 7am and 7pm Monday to Saturday.

Works carried out outside of the hours will only entail:

- works that do not cause noise emissions which exceed the noise limits of the Policy at any nearby dwelling not associated with the project; or
- the delivery of materials as requested by Police or other authorities for safety reasons; or
- emergency work to avoid the loss of lives, property, and/or to prevent environmental harm; or
- works with the prior consent of the Environment Protection Authority (EPA) (an example might be occasional concrete pours on hot days).

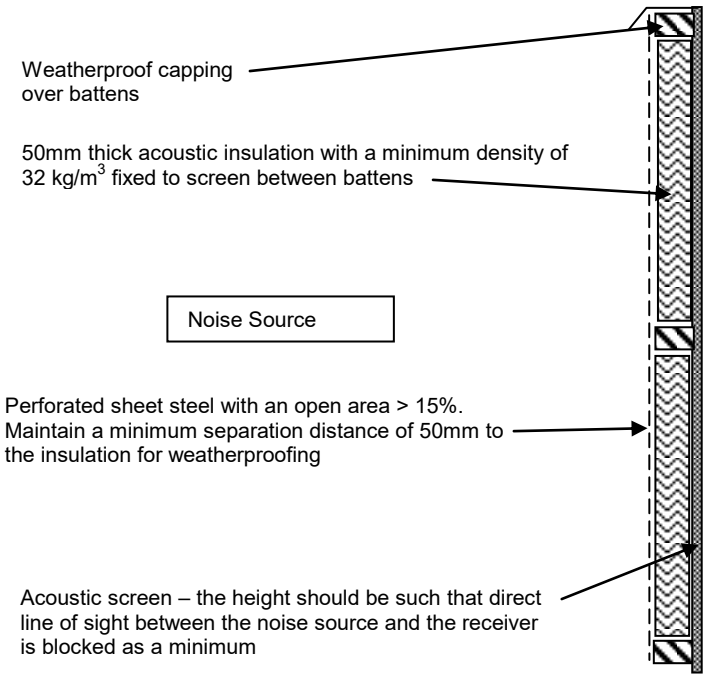
Location of Fixed Noise Sources

Locate fixed noise sources such as crushing and screening plant, concrete batching plant, percussion drilling rigs and generators and compressors at the maximum practicable distance to the nearest dwellings.

Provide Acoustic Screens around Fixed Noise Sources

Provide acoustic screens or mounding for fixed crushing and screening plant, concrete batching plant and percussion drilling rigs wherever these noise sources are located within 1000m of a non-associated dwelling and do not have direct line of sight blocked to that dwelling, in accordance with the following requirements:

- Locate as close as practicable to the noise source;
- Construct from mounding using excavated soil from the site, or a material with a minimum surface density of 10 kg/m^2, such as 1.2mm thick sheet steel or 9mm thick compressed fibre cement sheeting. Alternatively, proprietary portable noise barriers, such as *Peace Engineering* "SOUND BARRIERS" may be utilised;
- Construct to a minimum height that blocks direct line of sight between the noise source and any receiver within the 1000m limit;
- Construct such that there are no air gaps or openings at joints;
- Extend such that the length is at least 5 times greater than its height or so that it is bent around the noise source;
- If barriers (rather than mounding from excavated soil) are constructed, then include acoustic insulation facing into the noise source in accordance with the following detail should there be a dwelling in the direction of the insulated face within 1000m.



In addition, the site topography, and other shielding features (e.g. large stationary machines, mounds of topsoil and piles of materials) should be used to an advantage in terms of increased shielding when locating fixed noise sources within the 1000m distance.

With acoustic screens installed around a noise source to block line of sight to dwelling, a minimum noise reduction of 5 dB can be achieved, which subjectively will result in a clearly noticeable reduction.

Enclose Generators and Compressors

Provide proprietary acoustic enclosures for site compressors and generators.

Alternative Processes

Investigate and implement alternative processes where feasible and practicable, such as hydraulic or chemical splitters as an alternative to impact rock breaking, or the use of broadband reversing alarms in lieu of the high pitched devices (a broadband reversing alarm emits a unique sound which addresses the annoyance from the high pitched devices. The fitting of a broadband alarm should be subject to an appropriate risk assessment, with the construction team being responsible for ensuring the alarms are installed and operated in accordance with all relevant occupational, health and safety legislative requirements).

Site Management

- Select and locate centralised site activities and material stores and work compounds as far from noise-sensitive receivers as possible;
- Care should be taken not to drop materials such as rock, to cause peak noise events, including materials from a height into a truck. Site personnel should be directed as part of an off-site training regime to place material rather than drop it;
- Plant known to emit noise strongly in one direction, such as the exhaust outlet of an attenuated generator set, shall be orientated so that the noise is directed away from noise sensitive areas if practicable;
- Machines that are used intermittently shall be shut down in the intervening periods between works or throttled down to a minimum;
- Implement worksite induction training, educating staff on the requirements of the CNVMP.

Equipment and Vehicle Management

- Ensure equipment has Original Equipment Manufacturer (OEM) mufflers installed;
- Ensure equipment is well maintained and fitted with adequately maintained silencers which meet the OEM design specifications. This inspection should be part of the monitoring regime;
- Ensure silencers and enclosures are intact, rotating parts are balanced, loose bolts are tightened, frictional noise is reduced through lubrication and cutting noise reduced by keeping equipment sharp. These items should be part of a monitoring (inspection) regime in accordance with the Monitoring section of this CNVMP;
- Use only necessary power to complete the task;
- Inspect, as part of the monitoring regime, plant and equipment to determine if it is noisier than other similar machines, and replace or rectify as required.

Community Consultation

Establish and implement a community consultation program in accordance with the requirements in this CNVMP and the project's community consultation plan where relevant.

Monitoring

Establish and implement a monitoring process in accordance with the requirements in this CNVMP.

Complaints Resolution

Establish and implement a complaints resolution process in accordance with the requirements in this CNVMP and the project's community consultation plan where relevant. .

COMMUNITY CONSULTATION

Noise and vibration elements should be included in the overall community consultation process. The aim of the consultation is to ensure adequate community awareness and notice of expected construction noise. Whilst the engineering measures reduce the noise levels, an important element in reducing the impacts of construction activity is awareness through adequate notification.

The minimum elements should include:

- Regular newsletters, providing details of the construction plan and duration of the construction phases, distributed through a site notice board and email,;
- A site notice board in a community location providing copies of the newsletters, updated construction program details, and contact details of relevant project team members and an ability to register for email updates of the newsletter;
- A feedback mechanism for the community to submit questions to the construction team, and for the construction team to respond;
- Regular updates on the construction activities to Council and the local Police to assist in complaint management.
- Contact details of the project manager and / or site “Environmental Representative”;
- Letter drops informing residences adjoining site access routes in advance of major activities, such as concrete pours, and the details of such activities

In addition, prior to any blasting activity, or construction activity occurring within 1000m of a non-associated dwelling, or significant construction traffic periods or impacts on local road conditions, contact the local community potentially affected by the proposed works and inform them of the proposed work, the location, day(s), date(s) and the hours involved[1]. This contact shall be made a reasonable time before the proposed commencement of the work and should provide the contact details of the project manager and / or site “Environmental Representative”.

[1] It is preferable to over estimate the hours of work, rather than extending the work hours for longer than anticipated.

MONITORING

The aim of the monitoring procedure is to ensure the works are being carried out in accordance with the CNVMP.

Plant and Equipment

The minimum elements should include:

- Regular on site inspections by the "Environmental Representative" to identify:
    - Equipment has quality OEM mufflers installed;
    - Equipment is well maintained and fitted with adequately maintained silencers which meet the OEM design specifications;
    - Silencers and enclosures are intact and closed, rotating plants are balanced, loose bolts are tightened, frictional noise is reduced through lubrication and cutting noise reduced by keeping equipment sharp;
    - Site personnel are using only necessary power to complete the task;
    - Plant and equipment is not being used that is significantly noisier than other similar machines;
    - Care is being taken to place material rather than being dropped;
    - Plant emitting noise strongly in one direction is orientated so that the noise is directed away from noise sensitive areas if practicable;
    - Machines that are used intermittently are being shut down in the intervening periods between works or throttled down to a minimum.

Blasting Noise and Vibration

- Prior to the first blasting activity:
    - Measure the peak component particle velocity and sound pressure levels at a distance similar to the closest expected separation distance to enable comparison and confirmation of compliance with the requirements AS2187.2-2006;
    - The measurements should be made by an acoustic engineer, defined for the purposes of the CNVMP as an engineer eligible for Membership of the Australian Acoustical Society and the Institution of Engineers Australia.
    - Adjust the blasting procedure to ensure compliance with the requirements.

- Prior to any blasting activity that differs from that tested :
    - Repeat the procedure above.

Note that a separate trial is not required to comply with the CNVMP, but rather a monitoring program that is integrated with the blasting regime to ensure compliance.

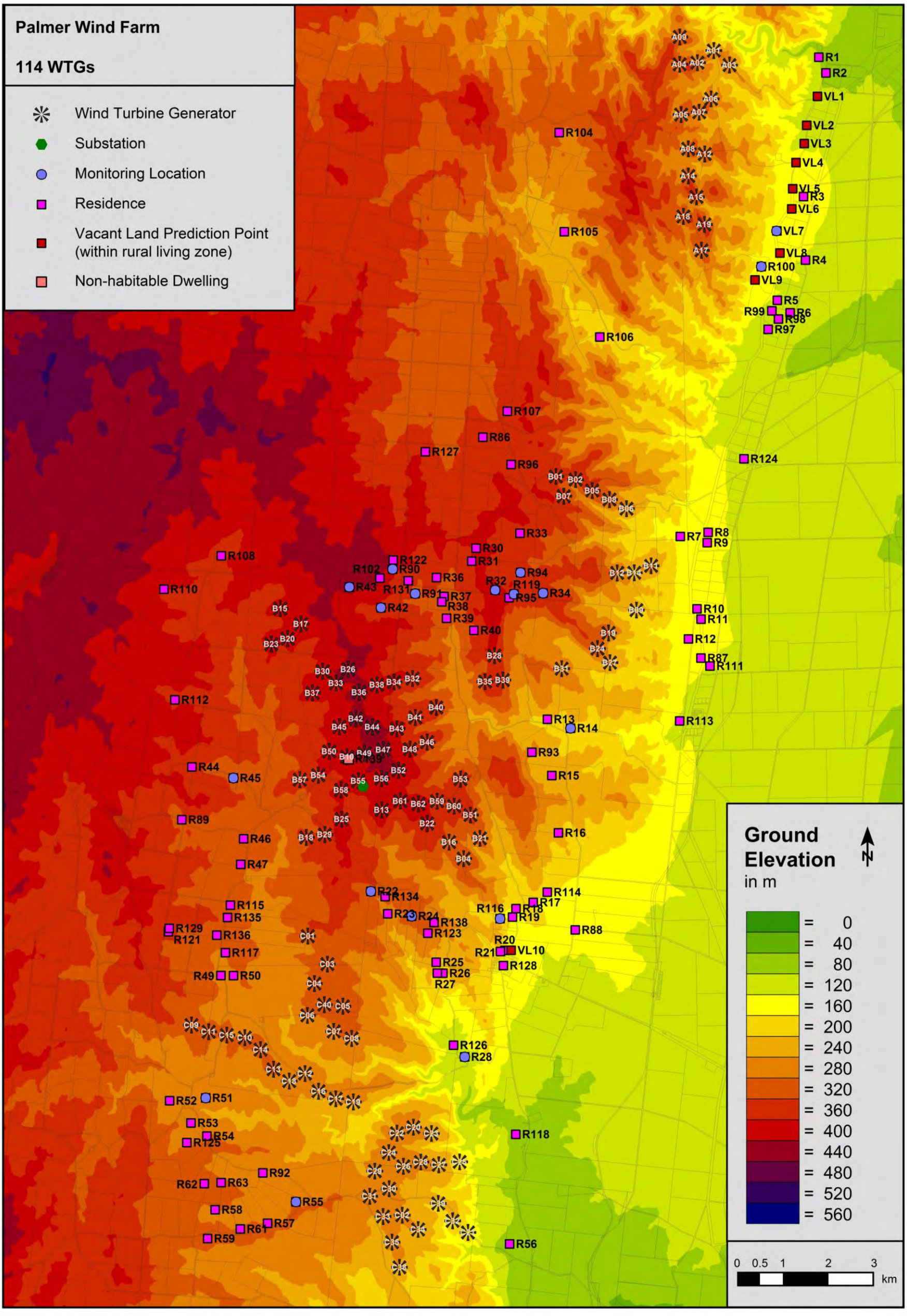
COMPLAINTS RESOLUTION

Noise and vibration elements should be included into the overall complaints resolution process. The aim of the complaints resolution process is to identify any reasonable and practicable measures that may further reduce impacts following a complaint, and to provide feedback to the community on the above process within a reasonable timeframe.

The minimum elements should include:

- Establishment of a complaints mechanism for the community via either telephone or email and in accordance with the *community consultation plan as relevant*;
- Notification of the relevant contact details through the community consultation process;
- Provision of an "Environmental Representative" dealing with any complaints who is appropriately trained in the CNVMP requirements and in community consultation, and has the ability to action the complaint;
- Establishment of a complaints handling procedure that:
    - Assesses whether the issue can be resolved easily and take immediate action if possible;
    - If not, ensures that the appropriate consultation has been undertaken for the activity;
    - Ensures the on-site inspections of the CNVMP have been carried out regularly for the activity;
    - Assesses the construction site and activities to determine whether there is any reason to believe the noise exposure of receivers is higher than anticipated and / or reasonable in the circumstances;
    - Takes remedial action if any of the above cannot be confirmed;
    - Advises complainant of action taken;
    - Maintains a record of the above to enable review by an independent authority such as EPA.

APPENDIX A: RECEIVER AND TURBINE LOCATIONS



Appendix D - Maps of micrositing constraints

The final layout of the Palmer Wind Farm will be prepared in accordance with the following micrositing constraints

Maps
Route of 33kV transmission line along Milendella Road adjacent to Royal driveway
Driver distraction exclusion zone – Turbine B01
Driver distraction exclusion zone – Turbine B02
Driver distraction exclusion zone – Turbine B29
Driver distraction exclusion zone – Turbine C31

LEGEND

- PROPOSED 33kV OHTL
- PROPOSED 33kV POLE LOCATION
- TEMPORARY CONSTRUCTION PAD/TRACK
- POTENTIAL CLEARING/TRIMMING IMPACT OF PROPOSED 33kV OHTL
- NON-IMPACTED VEGETATION - HIGH VALUE
- EXISTING OHL
- EXISTING OHL POLE
- CADASTRAL BOUNDARY

tilt renewables

Zenviron
WWW.ZENVIRON.COM

PROJECT
PALMER WIND FARM

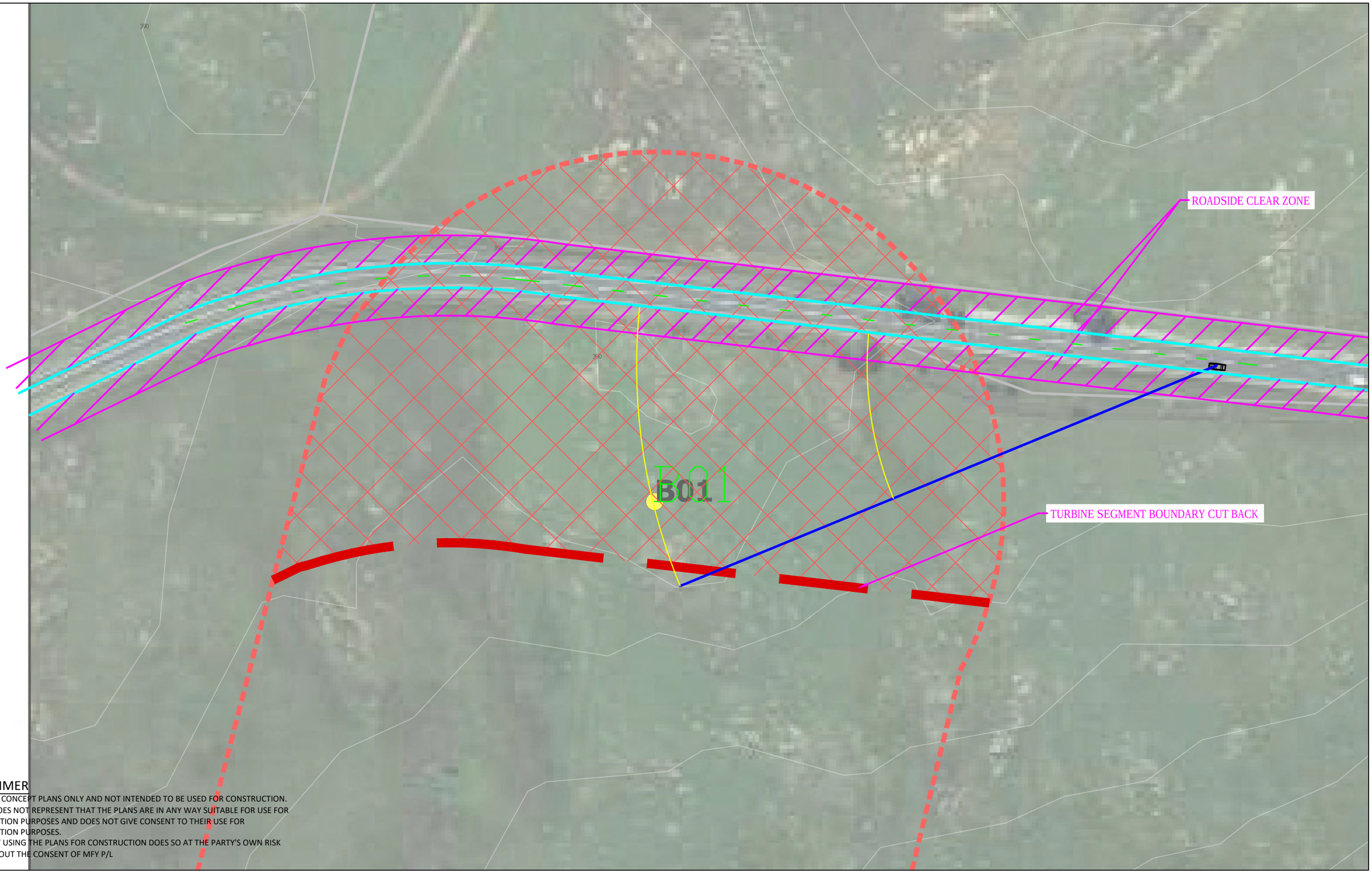
DRAWING TITLE
ROYAL/CREEK CROSSING SPAN

No	DESCRIPTION	DATE
-		
-		
-		
-		
B	FOR COMMENT	03/02/2017
A	FOR REVIEW	01/02/2017

REVISION HISTORY

DRAWN	MG	CHECKED	BR	APPROVED	CK
DRAWING STATUS	FOR COMMENT				
SCALE	NTS				

DRAWING CODE: ZX900-CI-D-SK01
REV: B



DISCLAIMER

THESE ARE CONCEPT PLANS ONLY AND NOT INTENDED TO BE USED FOR CONSTRUCTION.
MFY P/L DOES NOT REPRESENT THAT THE PLANS ARE IN ANY WAY SUITABLE FOR USE FOR CONSTRUCTION PURPOSES AND DOES NOT GIVE CONSENT TO THEIR USE FOR CONSTRUCTION PURPOSES.
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Palmer Wind Farm ERD Appeal

Turbine Locations

Cone of Vision - B01

Drawing:	MFY_160202_02_SH03	**Project Number:**	16-0202	**Revision:**	B
Project Name:	Palmer Wind Farm ERD Appea	**Drawn:**	BH	**Scale:**	1:1000
Client:	Trustpower Australia Holdings Pty Ltd/Finlaysons	**Date:**	15.02.2017	**Paper Size:**	A3

Traffic • Parking • Transport

Unit 6, 224 Glen Osmond Road
FULLARTON SA 5063
T: +61 8 8338 8888
E: mfya@mfy.com.au

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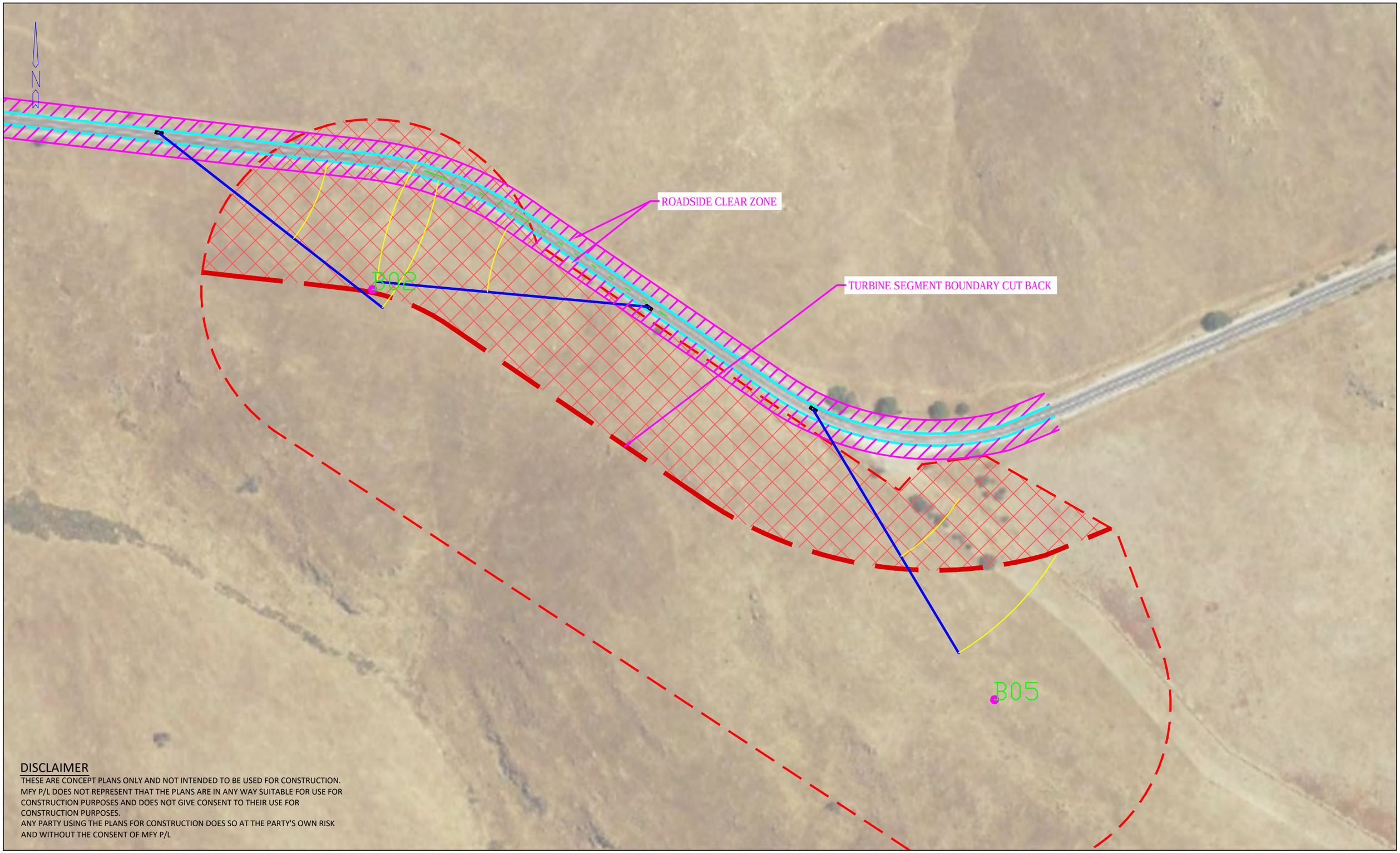

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Palmer Wind Farm ERD Appeal

Turbine Locations

Cone of Vision - B02 & B05

Drawing:	MFY_160202_02_SH04	**Project Number:**	16-0202	**Revision:**	C
Project Name:	Palmer Wind Farm ERD Appea	**Drawn:**	BH	**Scale:**	1:2000
Client:	Trustpower Australia Holdings Pty Ltd/Finlaysons	**Date:**	15.02.2017	**Paper Size:**	A3

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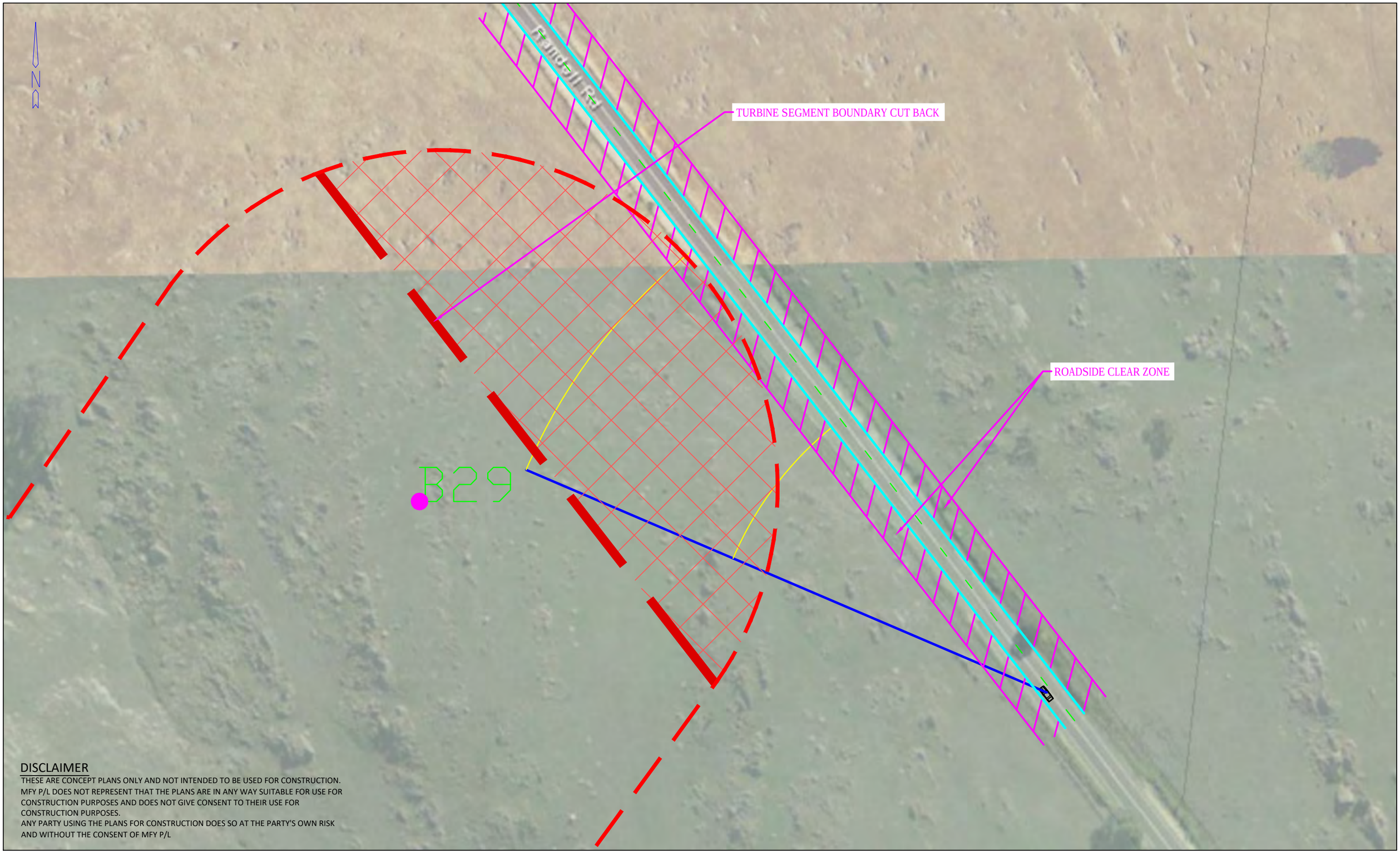

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Palmer Wind Farm ERD Appeal

Turbine Locations

Cone of Vision - B29

Drawing:	MFY_160202_02_SH02	**Project Number:**	16-0202	**Revision:**	B
Project Name:	Palmer Wind Farm ERD Appea	**Drawn:**	BH	**Scale:**	1:1000
Client:	Trustpower Australia Holdings Pty Ltd/Finlaysons	**Date:**	15.02.2017	**Paper Size:**	A3

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T: +61 8 8338 8888
E: mfya@mfy.com.au

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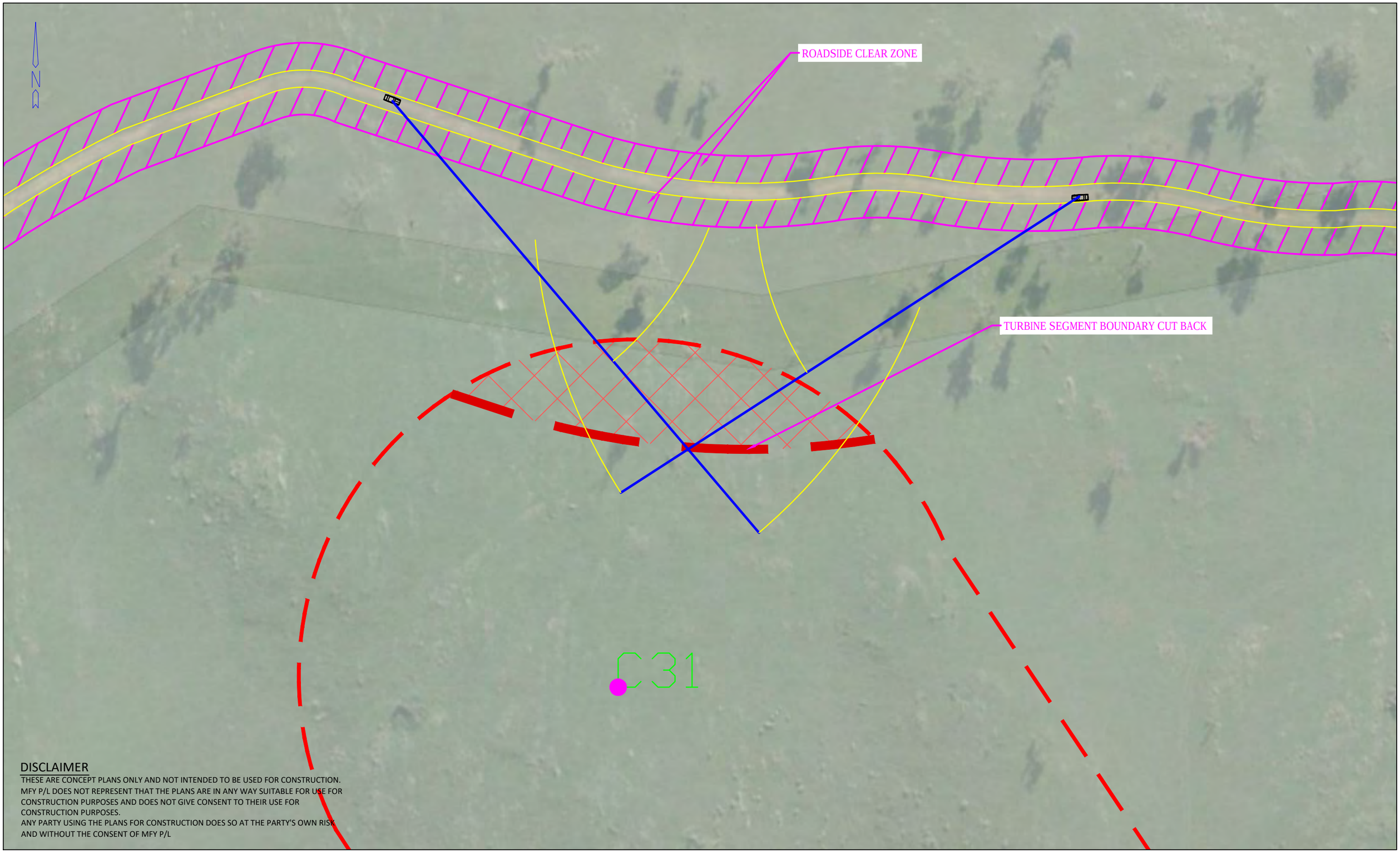

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ANY PARTY USING THE PLANS FOR CONSTRUCTION DOES SO AT THE PARTY'S OWN RISK AND WITHOUT THE CONSENT OF MFY P/L

Palmer Wind Farm ERD Appeal

Turbine Locations

Turbine Segments Boundary - C31

Drawing:	MFY_160202_02_SH05	**Project Number:**	16-0202	**Revision:**	B
Project Name:	Palmer Wind Farm ERD Appea	**Drawn:**	BH	**Scale:**	1:1000
Client:	Trustpower Australia Holdings Pty Ltd/Finlaysons	**Date:**	15.02.2017	**Paper Size:**	A3

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Appendix E – Maps of land ownership

1. N B GRAETZ PTY LTD
2. H O GRAETZ PTY LTD
3. BRENTON JOHN NEWMAN
4. TIMOTHY JAMES STARKEY
5. MINISTER FOR SUSTAINABILITY ENVIRONMENT & CONSERVATION
6. MID MURRAY COUNCIL
7. ROGER NORMAN FIEBIG
8. BERNARD NADOLNY
9. NYACK INVESTMENTS PTY LTD
10. SHANE ANTHONY JOHN RATHJEN
11. THOMAS KENTON MCKAY
12. BRENTON DUDLEY KUBENK
13. KEITH ANGUS MCGORMAN
14. ROBERT DEAN LINDNER
15. NEIL ANDREW HARROD
16. PETER STEPHEN LINTERN
17. MALCOLM REX KRAUSE
18. TREVOR JOHN FIEBIG
19. CHRISTOPHER MALCOLM GREEN
20. JERILDERIE PTY LTD
21. LAWRENCE DAVID LINTERN
22. MORAY ESTATES PTY LTD
23. BARBARA JEAN ROLLOND
24. SHIRLEY JEAN WILLISON
25. PHILIP JOHN ROLLOND
26. KEVIN JAMES KEATLEY
27. McCARTHY PASTORAL PTY LTD
28. GREGORY JAMES CAVENETT
29. RAYMOND MAXWELL BETTCHER
30. RICHARD GRAHAM HENTSCHKE
31. TYSON KADE PAECH
32. TRANSMISSION LESSOR CORP
33. BRIAN BRUCE WILLISON

Legend

- Project Boundary
- Palmer WTG L10
- Permanent Masts
- Tungkillo Substation
- Access Tracks
- 275kV Trans Line
- 33kV Trans Line
- ExistingTransmissionLines
- Not within site of development

Date: 14/02/2017
Version: A

Sources: Roads (DPTI, 2016).

GDA 1994 MGA Zone 54
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Kilometres

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Palmer Wind Farm

Land Owners Overview

renewables

1. N B GRAETZ PTY LTD
2. H O GRAETZ PTY LTD
3. BRENTON JOHN NEWMAN
4. TIMOTHY JAMES STARKEY
5. MINISTER FOR SUSTAINABILITY ENVIRONMENT & CONSERVATION
6. MID MURRAY COUNCIL
7. ROGER NORMAN FIEBIG

CT5615/892 D3806 A8 (1)
CT5868/563 F170028 Q279 (2)
CT6087/92 F170029 A280
CT6031/198 F170020 Q272 (3)
CT5381/422 F170025 A276 (4)
CR5760/543 H170100 S55 (5)
CR5757/383 H170100 S530 (6)
CT5350/879 F170016 A267
CT5726/165 H170100 S529
CT6052/91 D81735 A101
CT Vol 5854 Fol 170 H170500 S322
CT Vol 5854 Fol 170 H170500 S391
CT Vol 5657 Fol 268 F169896 A147
CT Vol 5854

GERSCHWITZ ROAD
RIDLEY ROAD
THREE CHAIN ROAD
SUNNYVIEW ROAD
POBKE ROAD
SILO ROAD
KINGS ROAD
BUNDILLA ROAD
PUMPAS ROAD
JUTLAND ROAD
WOOLFORD ROAD
PINE CREST ROAD
MOODY ROAD
SCHUBERT ROAD
SPRIGS ROAD
SANDERSTON ROAD
PAYNES ROAD
MILLER ROAD
POHL ROAD
GIERSCH ROAD
GLEN ROY ROAD
OLD SANDERSTON ROAD
SOOKES HILL ROAD
STRACHANS ROAD
GROTHS ROAD
HOAD ROAD
ANGAS VALLEY ROAD
THE PINES ROAD
PUNTHARI ROAD

Legend

- Plant Laydown and Construction Areas
- Not within site of development
- Palmer WTG L10
- Permanent Masts
- Access Tracks
- Existing Transmission Line

Date: 15/02/2017
Version:

Sources: Roads (DPTI, 2016).

GDA 1994 MGA Zone 54

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Kilometres

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Palmer Wind Farm
Land Owners
Area A

renewables

3. BRENTON JOHN NEWMAN
5. MINISTER FOR SUSTAINABILITY ENVIRONMENT & CONSERVATION
6. MID MURRAY COUNCIL
7. ROGER NORMAN FIEBIG
8. BERNARD NADOLNY
9. NYACK INVESTMENTS PTY LTD
10. SHANE ANTHONY JOHN RATHJEN
11. THOMAS KENTON MCKAY
12. BRENTON DUDLEY KUBENK
13. KEITH ANGUS MCGORMAN
14. ROBERT DEAN LINDNER
15. NEIL ANDREW HARROD
16. PETER STEPHEN LINTERN
17. MALCOLM REX KRAUSE
18. TREVOR JOHN FIEBIG
19. CHRISTOPHER MALCOLM GREEN
20. JERILDERIE PTY LTD
21. LAWRENCE DAVID LINTERN
22. MORAY ESTATES PTY LTD
23. BARBARA JEAN ROLLOND
24. SHIRLEY JEAN WILLISON
25. PHILIP JOHN ROLLOND
26. KEVIN JAMES KEATLEY
27. McCARTHY PASTORAL PTY LTD

COOKES HILL ROAD
STRACHANS ROAD
ROYALS ROAD
GROTHS ROAD
ANGAS VALLEY ROAD
D COLLINS ROAD
THREE CHAIN ROAD
HOAD ROAD
THE PINES ROAD
MILENDELLA ROAD
GAP ROAD
CHURCH ROAD
EICHLER ROAD
LONG GULLY ROAD
HARDINGS ROAD
RANDELL ROAD
DAVENPORT ROAD
RATHJEN ROAD
WEGENER ROAD
RESERVOIR ROAD
WACHTEL ROAD
FISCHER ROAD
REELY CREEK ROAD
MINE ROAD

CT5726/165 H170100 S529
CT6052/91 D81735 A101
CT Vol 5854 Fol 170 H170500 S322
CT Vol 5854 Fol 170 H170500 S391
CT Vol 5657 Fol 268 F169896 A147
CT5854/170 H170500 S330
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CT5854/170 H170500 S655
CT5854/170 H170500 S392
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CT Vol 5153 Fol 319 D20944 A74
CT Vol 5732 Fol 435 F169873 A124
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CT5421/814 F157574 A39
CT5876/758 F169983 A234
CT5473/924 H171000 S211
CT5409/144 H171000 S214
CT6120/424 D17736 A102
CT5297/468 F157755 A32
CT5421/815 H171000 B480
CT5297/468 F157755 A33

Legend

- Plant Laydown and Construction Areas
- WF Substation
- Palmer WTG L10
- Permanent Masts
- Access Tracks
- 275kV Trans Line
- 33kV Trans Line
- Existing Transmission Line

Date: 15/02/2017
Version:

Sources: Roads (DPTI, 2016).

GDA 1994 MGA Zone 54

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Kilometres

Document Path: C:\GIS\Development_Sites\SA\Palmer\Maps\Working\PLMWF_001_LandOwners_MBA3P.mxd

Palmer Wind Farm
Land Owners
Area B

renewables

5. MINISTER FOR SUSTAINABILITY ENVIRONMENT & CONSERVATION
6. MID MURRAY COUNCIL
12. BRENTON DUDLEY KUBENK
13. KEITH ANGUS MCGORMAN
15. NEIL ANDREW HARROD
16. PETER STEPHEN LINTERN
17. MALCOLM REX KRAUSE
18. TREVOR JOHN FIEBIG
19. CHRISTOPHER MALCOLM GREEN
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21. LAWRENCE DAVID LINTERN
22. MORAY ESTATES PTY LTD
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29. RAYMOND MAXWELL BETTCHER
30. RICHARD GRAHAM HENTSCHKE
31. TYSON KADE PAECH
32. TRANSMISSION LESSOR CORP
33. BRIAN BRUCE WILLISON

CT5405/94 F204303 A91
Part CT Vol 5756 Fol 278 F217815 A203
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CT Vol 5732 Fol 435 F169873 A124
CT Vol 5897 Fol 853 D20944 A75
CT Vol 5705 Fol 899 F169859 A110
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CT5297/468 F157755 A31
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CT5297/468 F157755 A33
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CT5864/527 H171000 S73
CT5433/294 H171000 S242
CT5433/702 H171000 S243
CT6055/389 H171000 S483
CT6055/390 H171000 S485
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CT5416/67 D16500 A307
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CT5436/853 D16500 A305
CT5426/871 H171000 S357
CT5906/60 F43319 A20
CT5578/297 H171000 S358
CT5906/61 F43319 A21
CT5906/63 F43319 Q25
CT5906/64 F43319 A26
CT5906/62 F43319 A22
CR5874/60 F43319 A23

HARDINGS ROAD
NITSCHES ROAD
HOBB ROAD
G AYRES ROAD
RANDELL ROAD
DAVENPORT ROAD
RATHJEN ROAD
GAP ROAD
BRINKWORTH RANGE ROAD
COLLINS ROAD
BLACK HEATH ROAD
BRINKWORTH ROAD
HENTSCHKE ROAD
HOADS FIRETRACK
REEDY CREEK ROAD
NEW WACHTELS ROAD
HARTMANS ROAD
MAINE ROAD
BOTTROFF HILL ROAD
PEBBLY RANGE ROAD
FENDERS ROAD
ABRAHAM ROAD
KUBENK ROAD

Legend

- Plant Laydown and Construction Areas
- WF Substation
- Palmer WTG L10
- Permanent Masts
- Tungkillo Substation
- Access Tracks
- 275kV Trans Line
- 33kV Trans Line
- Existing Transmission Line

Date: 15/02/2017
Version:

Sources: Roads (DPTI, 2016).

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Palmer Wind Farm
Land Owners
Area C

renewables