



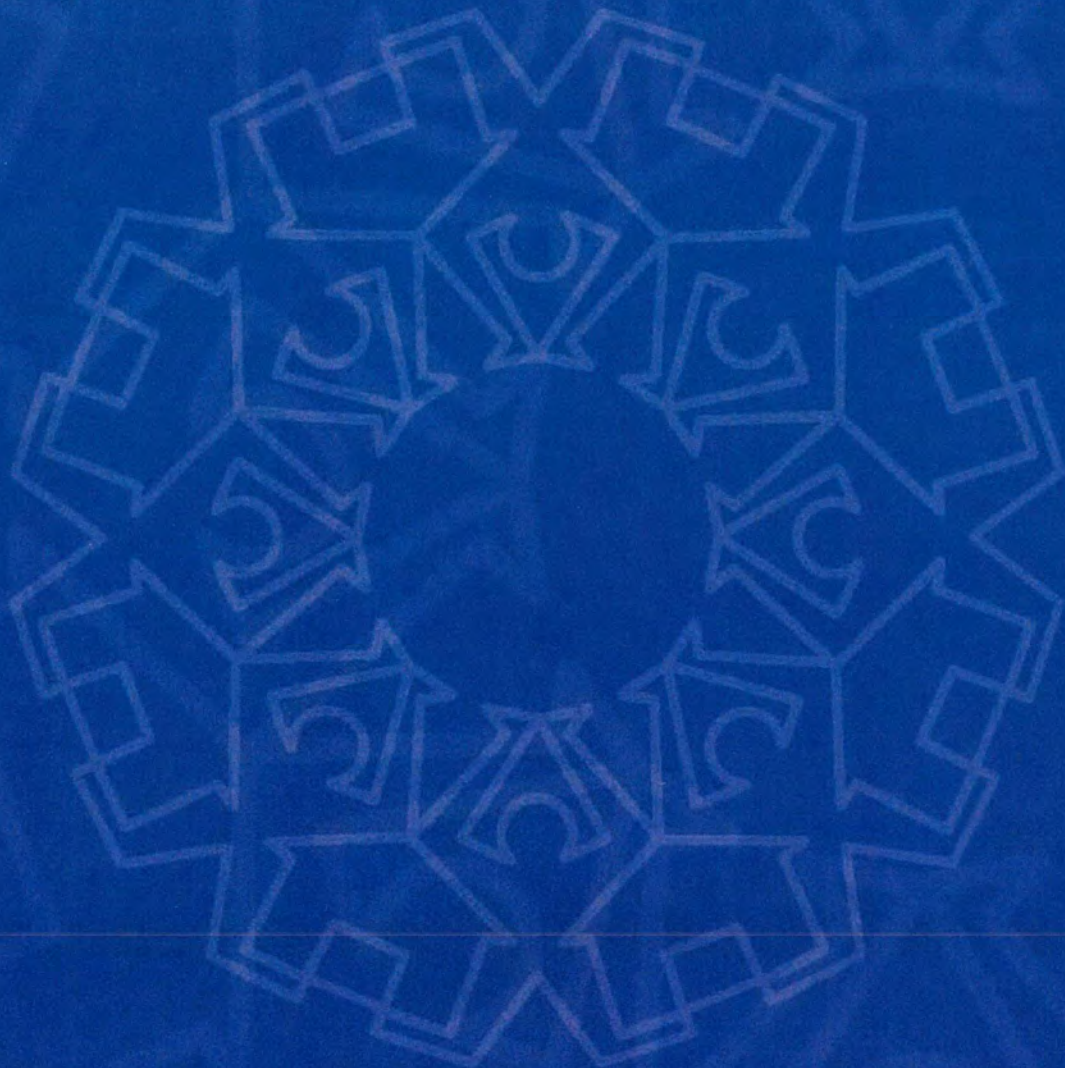
GEOLYSE

**ENVIRONMENTAL ASSESSMENT
MINOR MODIFICATION TO EXISTING WIND FARM CONSENT (241/04)**

**ERECTION OF 5 TEMPORARY AND 8 PERMANENT WIND MONITORING GUYED
MASTS AT TARALGA WIND FARM**

**PREPARED FOR
TARALGA WIND FARM PTY LTD**

SEPTEMBER 2013



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The preparation of this report has been in accordance with the project brief provided by the client and has relied upon the information, data and results provided or collected from the sources and under the conditions outlined in the report.

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TABLE OF CONTENTS

ABBREVIATIONS.....	IV
INTRODUCTION.....	1
1.1 BACKGROUND	1
1.2 SCOPE OF THIS REPORT	1
THE SITES & LOCALITIES.....	2
2.1 THE SITES	2
2.2 THE LOCALITY	3
THE MODIFICATION.....	4
3.1 HISTORY	4
3.2 MODIFICATION DESCRIPTION AND STAGING	4
STATUTORY PLANNING FRAMEWORK.....	6
4.1 ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1997	6
4.2 CIVIL AVIATION SAFETY REGULATIONS 1998	7
4.3 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979.....	8
4.3.1 AIMS & OBJECTIVES	8
4.3.2 PART 3A.....	8
4.3.3 SECTION 75W	8
4.3.4 SUBORDINATE LEGISLATION	9
4.4 ENVIRONMENTAL PLANNING INSTRUMENTS	10
4.4.1 UPPER LACHLAN LOCAL ENVIRONMENTAL PLAN 2010	10
4.4.2 STATE ENVIRONMENTAL PLANNING POLICY	12
4.5 DEVELOPMENT CONTROL PLANS	13
4.5.1 UPPER LACHLAN DEVELOPMENT CONTROL PLAN 2010 (ULDCP)	13
ENVIRONMENTAL IMPACTS	14
5.1 INTRODUCTION	14
5.2 CONTEXT AND SETTING	14
5.3 ACCESS, TRANSPORT AND TRAFFIC	14
5.4 PUBLIC DOMAIN.....	15
5.5 SERVICING	15
5.6 HERITAGE.....	15
5.6.1 INDIGENOUS HERITAGE	15
5.6.2 NON-INDIGENOUS HERITAGE	17
5.7 OTHER LAND RESOURCES	17
5.8 WATER	17
5.9 SOILS	17
5.10 AIR AND MICROCLIMATE.....	18
5.11 FLORA AND FAUNA	18
5.11.1 WASTE	18
5.12 STORMWATER.....	18
5.13 NOISE & VIBRATION	19
5.14 NATURAL HAZARDS	19
5.15 SOCIAL IMPACT	19
5.16 SITE DESIGN	20
5.17 CONSTRUCTION IMPACTS	21
5.18 CUMULATIVE IMPACTS.....	22

CONCLUSION	23
6.1 JUSTIFICATION FOR THE MODIFICATION	23
6.2 CONCLUSION	23

REFERENCES	24
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FIGURES

Figure 1: The subject site (Source: Six Maps)	3
Figure 2: Location of recorded heritage sites (Source: EIS Taralga Windfarm, 2004)	16
Figure 3: View from proposed Met-Mast 'MET4243' looking south towards existing met-mast	20

DRAWINGS

Vestas Drawings

Drawing TAR-MM-001, Rev A – Taralga Wind Farm Met Mast Stage 1 Layout
 Drawing TAR-MM-002, Rev A – Taralga Wind Farm Met Mast Stage 2 Layout
 Drawing TAR-MM-003, Rev A – Taralga Wind Farm Met Mast Stage 3 Layout

Future Engineering & Communication Pty Ltd Drawings

Drawing J2340/1/1.A1 – 80m Wind Monitoring Guyed Mast General Arrangement

APPENDICES

APPENDIX A

Ecological Survey prepared by Kevin Mills & Associates

APPENDIX B

Specific Modification Sought

APPENDIX C

Turbine Layout as per Approved 2013 Modification

TABLES

Table 2.1 – Lots Forming the Subject Site	2
Table 3.1 – Chronology of previous modifications	4
Table 4.1 – Local Environmental Plan Mapping Constraints	10
Table 5.1 – Potential Pollutants	18
Table 5.2 – Location of proposed Calibration Met-Masts	20
Table 5.3 – Future Source of Electricity for Met-Masts	21

ABBREVIATIONS

DA	Development Application
DoP	Department of Planning and Infrastructure
EA	Environmental Assessment
DSEWPC	Department of Sustainability, Environment, Water, Population and Communities
EP&A Act	Environmental Planning and Assessment Act 1979
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
ISEPP	State Environmental Planning Policy (Infrastructure) 2007
LEP	Local Environmental Plan
LGA	Local Government Area
MET-MASTS	80 metre wind monitoring guyed masts
SEPPMD	State Environmental Planning Policy (Major Development) 2005

Introduction

1.1 BACKGROUND

Geolyse Pty Ltd has been commissioned by Taralga Wind Farm Pty Ltd to prepare an Environmental Assessment (EA) to support a minor modification of the existing consent 241/04 approved as State Significant development of the *Environmental Planning and Assessment Act 1979* for the Taralga Wind Farm to facilitate the development of thirteen (five temporary, eight permanent) 80 metre wind monitoring guyed masts (here-after referred to as met-masts). The program would be staged with five masts initially being installed in temporary locations as stage 1; three permanent masts installed as stage 2 and the five temporary masts from stage 1 being relocated to permanent locations as stage 3. It is understood that stages 1 and 2 would be developed concurrently.

1.2 SCOPE OF THIS REPORT

This EA has been prepared pursuant to Section 75W of the *Environmental Planning and Assessment Act 1979* and is provided in the following format.

- **Section 2** of this report provides a description of the subject sites and their locality.
- **Section 3** outlines the proposed modification.
- **Section 4** details the planning framework applicable to the subject site and proposed development.
- **Section 5** identifies the impacts of the proposed modification.
- **Section 6** provides a conclusion to the EA.

The Sites & Localities

2.1 THE SITES

The site area the subject of the modification application comprises a number of non-contiguous lots that are one part of the land to which the development consent relates. The specific lots on which the met-masts are proposed are outlined in **Table 2.1**.

Table 2.1 – Lots Forming the Subject Site

Lot	DP	Met-mast(s)	Area (ha)
5	587908	MET4546, METSC45, METSC46	103
156	750046	MET28, METSC28	16.3
3	587908	MET4243, METSC42, METSC43	141.09
16	750046	SD1	36.65
6	8040	SD2	165.7
4	955581	SD3	90.59
62	750046	SD4	16.11
2	773412	SD5	43.69
Total			716.13

The location of each of the thirteen met-masts is detailed on **Figure 1**.

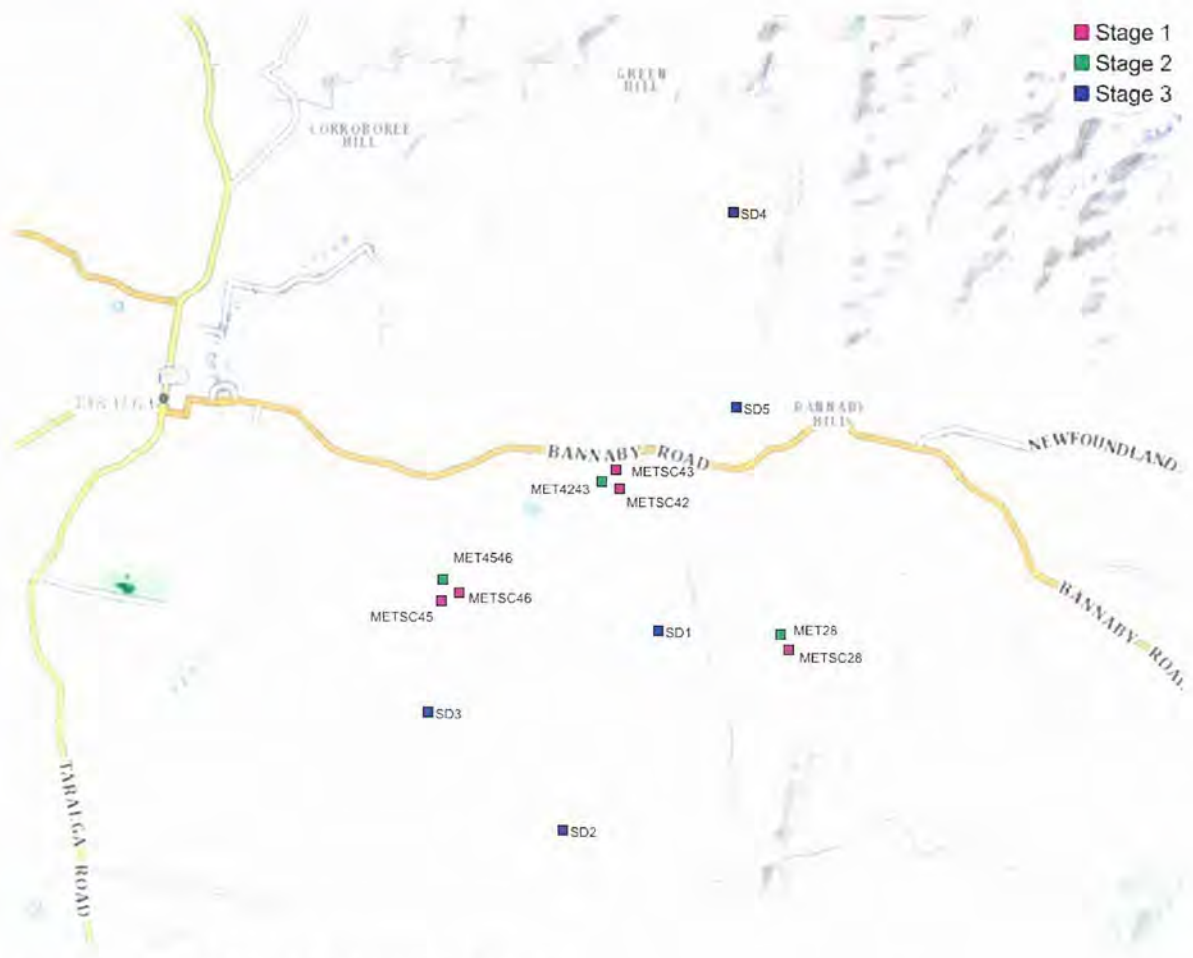


Figure 1: The subject site (Source: Six Maps)

2.2 THE LOCALITY

The Taralga area is located in the Southern Tablelands of NSW, approximately 38 kilometres east of Crookwell, 35 kilometres north of Goulburn, and 140 kilometres south west of Sydney. The wind farm site and adjoining lands are primarily used for primary production. This has been the dominant landuse for over 150 years, and is likely, in the foreseeable future, to remain the case. The district provides good grazing country and produces high quality merino wool.

The Modification

3.1 HISTORY

The original application seeking consent for the wind farm was lodged with Upper Lachlan Shire Council as DA 241/04. Subsequent to the application being lodged, the development was the subject of a direction of the Minister for Planning on 15 December 2004 which resulted in the development being considered State Significant Development pursuant to Section 76A(7) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Consent was granted for the wind farm development on 23rd February 2007 by the Land and Environment Court following an appeal.

The original consent was subsequently modified as described below:

Table 3.1 – Chronology of previous modifications

Mod	Date Lodged	Purpose	Approval Date
Taralga Wind Farm Project: Application for Modification of Development Consent DA 241/04 granted by the L&EC 23 Feb 2007 pursuant to section 96(8) of the EP&A Act	30 November 2007	To permit the construction and operation of a wind farm consisting of 61 x 1.5-3 megawatt turbines each consisting of a tower, nacelle and rotor with three fibreglass blades with a maximum overall height of 131.5 metres to the top of the rotor at its apex and a maximum rotor diameter of 103 metres, associated access tracks, transformer units, electrical substation and control building, network of electrical connections linking each turbine to the electrical substation and a TV transmitter tower at various locations and subject to conditions.	20 April 2009
Modification of development consent to decrease the number of turbines from 61 to 51 and make changes to relevant conditions (Mod 2)	November 2012	Reduce number of turbines from 61 to 51 and make consequential changes to relevant conditions	18 June 2013

Appendix B to this report provides the approved modified layout of the wind farm.

3.2 MODIFICATION DESCRIPTION AND STAGING

This application seeks a minor modification to the approved DA 241/04.

This proposed modification application seeks consent to modify the current consent to enable the erection of 13 x 80 metre high met-masts consisting of five temporary and eight permanent met-masts. These masts would be powered by individual solar panels and would not feature any permanent power supply. Power supply to the turbine sites has not yet been installed and would not occur in relation to this modification.

Each met-mast tower requires three inner and three outer anchor blocks to which anchor wires are attached, together with a single foundation pad for the met-mast itself. Each foundation pad and anchor block consists of 5 cubic metres of concrete. The inner blocks are located 30 metres from the met-masts and the outer blocks are located 60 metres from the met-masts. These distances are applicable for flat sites. Where slope varies anchor blocks would move laterally by one metre for every one metre of vertical slope change.

Access for construction purposes would vary depending on the particular site. For the sites associated with Stage 1, existing approved access tracks would be utilised. For stages 2 and 3, the sites would be on disturbed pasture and no formal access tracks would be formed or required.

At any one time the maximum number of met-masts erected will be eight.

Stage 1 of the project would involve the temporary (3-4 month duration) installation of five (5) met-masts in locations depicted as METSC28, METSC42, METSC43, METSC45 and METSC46 on **Vestas Drawing TAR-MM-001, Rev A, Drawing TAR-MM-002, Rev A and Drawing TAR-MM-003, Rev A.**

Stage 2 of the project will involve the permanent installation of three (3) met-masts depicted as MET4546, MET28 and MET4243 on **Vestas Drawing TAR-MM-001, Rev A, Drawing TAR-MM-002, Rev A and Drawing TAR-MM-003, Rev A.** From a timing perspective stage 2 would run concurrently with stage 1.

Stage 3 of the project would involve the relocation of the five (5) temporary masts to permanent locations depicted as SD1 – SD5 on **Vestas Drawing TAR-MM-001, Rev A, Drawing TAR-MM-002, Rev A and Drawing TAR-MM-003, Rev A.** Stage 3 would be implemented a minimum of three months after the completion of stage 1.

The met-masts will gather meteorological information about the site for the purposes of site calibration, gathering of site data and power output.

The five met-masts proposed at Stage 1 would be located on the sites of five of the approved turbines (WTG28, WTG42, WTG43, WTG45, and WTG46), and therefore would be considered to have a minimal environmental footprint.

The eight met-masts developed at Stages 2 and 3 would be located on ground previously not proposed or identified as being affected by development but are within the identified area of the approved wind farm.

Statutory Planning Framework

4.1 ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1997

Under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), an action (proposal) would require approval from the Minister for Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) if the action has, would have or is likely to have a significant impact on a matter of National Environmental Significance (and the action is not subject to an identified exception), including whether the activity is likely to have a significant impact on Commonwealth Land. The matters of National Environmental Significance (NES) under this Act are:

- World Heritage properties;
- National Heritage places;
- Ramsar wetlands of international importance;
- Threatened species or ecological communities listed in the EPBC Act;
- Migratory species listed in the EPBC Act;
- Commonwealth marine areas; and
- Nuclear actions (including uranium mining).

In addition to the above NES matters, consideration is also required in respect of proposals involving the Commonwealth. Matters involving the Commonwealth are identified as:

- Protection of environment from actions involving Commonwealth Land;
- Protection of Commonwealth Heritage Places outside the Australia jurisdiction; and
- Protection of the environment from Commonwealth Actions.

Matters relating to the EPBC Act are considered in **Appendix A**. The independent assessment concludes that the installation of the proposed meteorological monitoring masts is not likely to have a significant impact on flora and fauna, including species, populations and communities listed under the EPBC Act.

If a potential impact on a matter of NES, including Commonwealth Land, is identified, a significance assessment is required in accordance with the Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) significant impact guidelines (Department of the Environment, Water, Heritage and the Arts, 2009). In determining the nature and magnitude of an actions impact, the following matters are relevant:

- Environmental Context;
- All onsite and offsite impacts;
- All direct and indirect impacts;
- The frequency and duration of the action;
- The total impact which can be attributed to that action over the entire geographic area affected, and over time;
- The sensitivity of the receiving environment;
- The degree of confidence with which the impacts of the action are known and understood;
- Impact avoidance, mitigation and measurement; and
- Significance of impacts.

If this assessment concludes a significant impact is likely, then approval is sought from the Minister for Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) through the referral process. The Minister would decide whether the action would, or is likely to, have a significant impact on any matters of NES, including proposals involving Commonwealth Land.

The initial Environmental Impact Statement (EIS) submitted in relation to the project concluded that no matters of national environmental significance on Commonwealth Land are likely to be impacted by the project.

On the basis that stage 1 of the modification involves the development of five temporary met-masts on sites previously assessed and approved for the permanent siting of turbines; it is not considered that the development of Stage 1 would effect this conclusion, as the modification involves no greater impacts to the land. Therefore no additional approval is required from the Commonwealth Minister for the Environment is required.

Stages 2 and 3 would involve development of the proposed met-masts in locations within the wind farm that have not previously been identified as hosting development. Notwithstanding this, as the proposed met-masts sites are within the confines of the broader wind farm development they have, by virtue of their typically close proximity to turbine locations, been the subject of environmental assessment.

For completeness, and to ensure all potential impacts have been considered, an updated ecological survey has taken place on the eight proposed met-masts sites forming stages 2 and 3. Additional assessment of the potential for heritage matters to exist on the subject site has also been undertaken. The results of these assessments are contained within **Section 5** of this report. While particular emphasis is placed on the ecological and heritage assessments, more broadly all potential impacts are considered throughout **Section 5**.

As stated, an Ecological Assessment was undertaken for this proposal, attached as **Appendix A**. The significance of potential impacts to threatened species of national conservation significance and endangered ecological communities was assessed. As outlined in **Section 5.11** the Ecological Assessment has concluded the proposal is not likely to have a significant impact on threatened species, individuals, populations or communities.

It is determined by this report that to no matters of NES would be affected by the proposal and the impact to Commonwealth Land would not be considered to be significant. On this basis, referral to the Department of Sustainability, Environment, Water, Population and Communities is not deemed to be formally required.

It is noted in respect of the original environmental assessment that the relevant Minister determined that the proposed development was not a controlled action.

4.2 CIVIL AVIATION SAFETY REGULATIONS 1998

Clause 139.365 of the Civil Aviation Safety Regulations 1998 (CASR) sets out that any person proposing to construct a building or structure, the top of which will be 110 metres or more above ground level, must inform the Civil Aviation Safety Authority (CASA), as they may constitute a potential OLS obstruction. Such information must include the intention, height and proposed location of the building or structure.

On the basis that the proposed met-masts are limited in height to 80 metres from local ground level, it is understood that the masts do not constitute a potential OLS obstruction and therefore do not require referral to the CASA.

4.3 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

4.3.1 AIMS & OBJECTIVES

In New South Wales (NSW), the relevant planning legislation is the *Environmental Planning and Assessment Act 1979* (EP&A Act). The EP&A Act instituted a system of environmental planning and assessment in NSW and is administered by the Department of Planning and Infrastructure (DoP). The objects of the EP&A Act are:

- (a) *to encourage:*
 - (i) *the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,*
 - (ii) *the promotion and co-ordination of the orderly and economic use and development of land,*
 - (iii) *the protection, provision and co-ordination of communication and utility services,*
 - (iv) *the provision of land for public purposes,*
 - (v) *the provision and co-ordination of community services and facilities, and*
 - (vi) *the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and*
 - (vii) *ecologically sustainable development, and*
 - (viii) *the provision and maintenance of affordable housing, and*
- (b) *to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and*
- (c) *to provide increased opportunity for public involvement and participation in environmental planning and assessment.*

4.3.2 PART 3A

It is noted that the original development application for the Taralga Wind Farm was lodged with Upper Lachlan Shire Council for assessment under Part 4 of the EP&A Act. The application was subsequently declared as State Significant by the Minister on the 15 December 2004, thereby making the Minister for Infrastructure and Planning the consent authority for the project.

In 23rd January 2007 the Land and Environment Court granted consent for the application under Section 80 of the EP&A Act.

By virtue of clause 8J of the EP&A Regs, which specifies the transitional provisions for Part 3A projects, and for the purpose of the modification only, the development consent is taken to be an approval under Part 3A of the EP&A Act, and therefore clause 75W of the Act applies to any modification of the consent.

4.3.3 SECTION 75W

Pursuant to Section 75W of the EP&A Act:

- (1) *In this section:*

Minister's approval means an approval to carry out a project under this Part, and includes an approval of a concept plan.

modification of approval means changing the terms of a Minister's approval, including:

- (a) *revoking or varying a condition of the approval or imposing an additional condition of the approval, and*
 - (b) *changing the terms of any determination made by the Minister under Division 3 in connection with the approval.*
- (2) *The proponent may request the Minister to modify the Minister's approval for a project. The Minister's approval for a modification is not required if the project as modified will be consistent with the existing approval under this Part.*
- (3) *The request for the Minister's approval is to be lodged with the Director-General. The Director-General may notify the proponent of environmental assessment requirements with respect to the proposed modification that the proponent must comply with before the matter will be considered by the Minister.*
- (4) *The Minister may modify the approval (with or without conditions) or disapprove of the modification.*
- (5) *The proponent of a project to which section 75K applies who is dissatisfied with the determination of a request under this section with respect to the project (or with the failure of the Minister to determine the request within 40 days after it is made) may, within the time prescribed by the regulations, appeal to the Court. The Court may determine any such appeal.*
- (6) *Subsection (5) does not apply to a request to modify:*
 - (a) *an approval granted by or as directed by the Court on appeal, or*
 - (b) *a determination made by the Minister under Division 3 in connection with the approval of a concept plan.*
- (7) *This section does not limit the circumstances in which the Minister may modify a determination made by the Minister under Division 3 in connection with the approval of a concept plan.*

It is noted by reference to the original EIS that three wind monitoring towers had gained consent for development prior to lodgement of DA 241/04. At least two of these towers still remain on site. These towers were installed to gather data on meteorological conditions.

The proposed additional met-masts reflect changes in the technology supporting wind farm developments and are for monitoring but also calibration purposes and are common to the majority of wind farm approvals. The request for modification falls within the scope of Section 75W. The terms of 75W are wide and the Minister has approval to modify the approval with or without conditions.

4.3.4 SUBORDINATE LEGISLATION

The EP&A Act facilitates the preparation of subordinate legislation, consisting of:

- Environmental Planning Instruments (EPIs) (including State Environmental Planning Policies (SEPP), Local Environmental Plans (LEP), and deemed EPIs); and
- Development Control Plans (DCP).

In relation to the proposed modification, the relevant subordinate legislation includes:

- *Upper Lachlan Local Environmental Plan 2010;*
- *State Environmental Planning Policy (Infrastructure) 2007;*
- *State Environmental Planning Policy (Major Development) 2005;*
- *State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011; and*
- *Upper Lachlan Development Control Plan 2010.*

The requirements of these are discussed in the following sections.

4.4 ENVIRONMENTAL PLANNING INSTRUMENTS

4.4.1 UPPER LACHLAN LOCAL ENVIRONMENTAL PLAN 2010

4.4.1.1 Aims

The aims of the *Upper Lachlan Local Environmental Plan 2010* (ULLEP) are:

- (1) *This Plan aims to make local environmental planning provisions for land in Upper Lachlan in accordance with the relevant standard environmental planning instrument under section 33A of the Act.*
- (2) *The particular aims of this Plan are as follows:*
 - (a) *to provide planning controls for Upper Lachlan and to update and consolidate into one instrument the various planning controls that currently apply to Upper Lachlan,*
 - (b) *to encourage the sustainable management, development and conservation of natural resources,*
 - (c) *to promote the use of rural resources for agriculture and primary production including fishing, forestry, mining and related processing, service and value adding industries,*
 - (d) *to protect and conserve the environmental and cultural heritage of Upper Lachlan,*
 - (e) *to encourage new residents to Upper Lachlan by providing a range of housing opportunities in the main towns and villages,*
 - (f) *to allow development only if it occurs in a manner that minimises risks due to environmental hazards, and minimises risks to important elements of the physical environment, including water quality,*
 - (g) *to promote and coordinate the orderly and economic use and development of land in Upper Lachlan,*
 - (h) *to protect and enhance watercourses, riparian habitats, wetlands and water quality within Upper Lachlan's drinking water catchments so as to enable the achievement of the water quality objectives.*

The proposed modification is not antipathetic to these stated plan aims.

4.4.1.2 Mapping

A review of Local Environmental Plan mapping associated with the subject site identifies the following applicable land constraints:

Table 4.1 – Local Environmental Plan Mapping Constraints

Map	Applicability	Section of the EA Discussed
Land Application Map	Site is located within Upper Lachlan Local Government Area	No further discussion required
Land Zoning Map	Land is part located within the RU1 zone and part within the RU2 zone	Section 4.4.1.3
Flood Planning Map	Not identified as being flood affected land	Not applicable
Lot Size Map	Applicable minimum lot size is 100 hectares	On the basis that neither subdivision nor development of a dwelling is proposed, no further discussion required
Land Reservation Acquisition Map	Land is not identified as being reserved for acquisition	No further discussion required
Heritage Map	Land is not identified as containing any items of heritage significance	Section 5.6

Table 4.1 – Local Environmental Plan Mapping Constraints

Map	Applicability	Section of the EA Discussed
Natural Resources Sensitivity – Biodiversity Map	Parts of the land are identified as containing sensitive biodiversity	Section 5.11 and Appendix A
Natural Resources Sensitivity – Land Map	Parts of the land are identified as containing sensitive land	Section 5.9
Natural Resources Sensitivity – Water Map	Land is not identified as containing sensitive water	No further discussion required
Sewage Treatment Plant and Rubbish Tip Buffer Map	Land is not identified as being within the sewage treatment plant or tip buffers	No further discussion required

Source: Upper Lachlan Local Environmental Plan 2010

The above relevant maps are discussed in the following sections.

4.4.1.3 Zoning

The subject site is predominantly located within the RU1 – Primary Production Zone pursuant to the ULLEP and one proposed met-mast is located within RU2 – Rural Landscape.

The objectives of the RU1 – Primary Production zone are:

- *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*
- *To encourage diversity in primary industry enterprises and systems appropriate for the area.*
- *To minimise the fragmentation and alienation of resource lands.*
- *To minimise conflict between land uses within this zone and land uses within adjoining zones.*
- *To promote the use of agricultural land for efficient and effective agricultural production.*
- *To allow for the development of non-agricultural land uses that are compatible with the character of the zone.*
- *To allow the development of processing, service and value adding industries related to agriculture and primary industry production.*
- *To minimise the visual impact of development on the existing agricultural landscape character,*
- *To protect and enhance the water quality of watercourses and groundwater systems and to reduce land degradation.*
- *To maintain areas of high conservation value vegetation.*

The objectives of the RU2 – Rural Landscape zone are:

- *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*
- *To maintain the rural landscape character of the land.*
- *To provide for a range of compatible land uses, including extensive agriculture.*
- *To preserve environmentally sensitive areas including waterways and prevent inappropriate development likely to result in environmental harm.*
- *To protect the Pejar catchment area from inappropriate land uses and activities and minimise risk to water quality.*
- *To minimise the visual impact of development on the rural landscape.*
- *To minimise the impact of development on the existing agricultural landscape character.*
- *To protect and enhance the water quality of watercourses and groundwater systems and to reduce land degradation.*
- *To maintain areas of high conservation value vegetation.*

The proposed modification would not be antipathetic to the zone objectives for these zones.

4.4.1.4 Land Use

A wind farm meets the standard instrument definition of an electricity generating works.

Electricity generating works facility is permitted with consent in both the RU1 and RU2 zones. The proposed met-masts are ancillary to the electricity generating works and are therefore considered permissible with consent.

4.4.1.5 Natural Resource Sensitivity – Biodiversity

As noted in **Table 4.1**, part of the land is identified as containing sensitive biodiversity.

As noted in **Section 3**, five of the thirteen met-masts are proposed to be temporarily located on future turbine sites, and as such these have been the subject of rigorous assessment during the preparation of the initial EIS, and subsequent modifications. The remaining eight sites have been the subject of an ecological assessment – attached as **Appendix A** to this document, and further discussion in **Section 5.11**.

The ecological assessment concludes that the installation of the met-masts is not likely to have a significant impact on flora and fauna, including species, populations and communities listed under the *Threatened Species Conservation Act 1995*, the *Fisheries Management Act 1994* and the *Environment Protection and Biodiversity Conservation Act 1999*. The preparation of a Species Impact Statement and referral to the Commonwealth Minister for assessment and approval are therefore not warranted.

4.4.1.6 Natural Resource Sensitivity – Land

As noted in **Table 4.1**, part of the land is identified as containing sensitive land.

The soil impacts associated with the thirteen proposed met-masts is considered in **Section 5.9**.

4.4.2 STATE ENVIRONMENTAL PLANNING POLICY

4.4.2.1 State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) aims to facilitate the effective delivery of infrastructure across the State.

Clause 34 of the ISEPP permits development of land for the purpose of electricity generating works by any person on land within prescribed zones. Clause 33 of the ISEPP confirms that the RU1 and RU2 zones are prescribed zones.

The ISEPP identifies that electricity generating works have the same definition as the standard instrument. The standard instrument defines electricity generating works as:

means a building or place used for the purpose of making or generating electricity.

On the basis that the proposed met-masts are elements of an electricity generating works development, it is considered that they are also permitted with consent. This modification seeks consent for the met-masts.

4.4.2.2 State Environmental Planning Policy (Major Development) 2005

State Environmental Planning Policy (Major Development) 2005 (SEPPMD) identifies major projects to which former Part 3A and now Schedule 6A of the *EP&A Act* applies.

(1) *On the repeal of Part 3A of the Act, this Policy is subject to Schedule 6A to the Act.*

Note. Schedule 6A of the Act sets out those projects which will continue as Part 3A projects (transitional Part 3A projects) and revokes the declaration of any other Part 3A project.

- (2) *The repeal of clauses 6–6C and Schedules 1, 2 and 5 of this Policy, and the other amendments made to this Policy, by the State Environmental Planning Policy (State and Regional Development) 2011 do not affect any of the following:*
- (a) *the declaration under this Policy of a project as a project or a critical infrastructure project under Part 3A, if that project is a transitional Part 3A project,*
 - (b) *any certificate in force under clause 6C immediately before that repeal.*

Clause 6(1) of SEPP Major Development defines Part 3A projects as:

“Development that, in the opinion of the Minister, is development of a kind:

- (a) that is described in Schedule 1 or 2, or*
- (b) that is described in Schedule 3 as a project to which Part 3A of the Act applies, or*
- (c) to the extent that it is not otherwise described in Schedules 1–3, that is described in Schedule 5.”*

The proposed modification of consent 241/04 is a State Significant development to which, for the purposes of the modification, Part 3A applies. However, approval for the overall development has already been obtained and this proposal seeks simply to modify that approval. The modification does not involve any change to the number of turbines proposed within the project area but will add a total of eight new locations for the proposed met-masts within the project area.

As mentioned previously, this EA supports an application to the Minister for Planning under Section 75W of the *EP&A Act*, to modify the existing development consent 241/04. The EA assesses the environmental impacts of the proposed modification in accordance with the requirements of Section 75W and 79C(1)(a)(ii) of the *EP&A Act*.

4.5 DEVELOPMENT CONTROL PLANS

4.5.1 UPPER LACHLAN DEVELOPMENT CONTROL PLAN 2010 (ULDCP)

The ULDCP provides detail and criteria for development within Upper Lachlan Local Government Area.

Part 3.17 of the ULDCP relates to a Community Enhancement Program (CEP) relevant to Major Projects where the DoP is consent authority. Through the CEP Council aims to:

- *address issues directed at improving the quality of life for the people of the Shire, and*
- *be prepared to advocate for reasonable contributions towards the provision of community facilities and services from developments having a significant social impact on the community*

At clause 3.17(i) the ULDCP specifically identifies a monetary figure for contributions for wind farms on a per turbine basis. As the proposed modification makes no changes to turbine numbers, it is considered that the provisions of 3.17(i) are not applicable to this modification application and a nexus for further contributions does not exist.

The ULDCP supports the statutory requirements of the ULLEP. The proposed modification would be consistent with the requirements of the ULDCP and sufficient information is provided in **Section 5** of this report to enable the consent authority to assess the modification against the relevant provisions of the ULDCP.

Environmental Impacts

5.1 INTRODUCTION

Pursuant to Schedule 1 of the *EP&A Regulation*, this section of the report outlines the environmental impacts of the proposed modification and any measures required to protect the environment or lessen the harm to the environment.

The impacts have been identified through an assessment of the proposed modification against the provisions of sections 75W and 79C(1)(b) and the former NSW Department of Urban Affairs and Planning's (nd) *Guide to Section 79C*.

5.2 CONTEXT AND SETTING

The subject area comprises 13 individual sites, each within the area of the proposed Taralga Wind Farm. The proposed modification application seeks consent to modify the current consent to enable the erection of 13 x 80 metre high met-masts. It is proposed that the met-masts would be installed in three stages:

- Stage 1 of the project would involve the installation of five temporary met-masts in locations depicted with the prefix METSC on **Vestas Drawing TAR-MM-001, Rev A, Drawing TAR-MM-002, Rev A and Drawing TAR-MM-003, Rev A**. These met-masts are temporary and will later form the infrastructure used in Stage 3;
- Stage 2 of the project will involve the installation of three permanent met-masts depicted with the prefix MET on **Vestas Drawing TAR-MM-001, Rev A, Drawing TAR-MM-002, Rev A and Drawing TAR-MM-003, Rev A**. From a timing perspective stage 2 would run concurrently with stage 1; and
- Stage 3 of the project would involve the relocation of the five temporary masts erected in Stage 1 to permanent locations depicted with the prefix SD on **Vestas Drawing TAR-MM-001, Rev A, Drawing TAR-MM-002, Rev A and Drawing TAR-MM-003, Rev A**. Stage 3 would be implemented a minimum of three months after the completion of stage 1.

The five met-masts proposed at Stage 1 would be located on the sites of five proposed turbines, and therefore would be considered to have a minimal environmental footprint having been through a rigorous assessment during the preparation of the Environmental Impact Statement.

The eight met-masts developed at Stages 2 and 3 would be located on ground previously not proposed or identified as being affected by development.

At 80 metres high, the masts would have a lesser visual impact than the approved (131 metre high) turbines, and given that the met-masts are to be built within the area of the proposed wind farm, the proposed modification is considered appropriate within the surrounding context.

5.3 ACCESS, TRANSPORT AND TRAFFIC

Primary impacts in respect of access and transport would be the need for concrete agitator trucks to gain access to the met-masts sites for the purposes of constructing the foundation pad and the six anchor blocks per mast. As masts associated with stage 1 are to be constructed on the sites of proposed turbines, existing approved access roads would be utilised to gain access to each site.

For stages 2 and 3, it is anticipated that construction vehicles would only require access to each site for a short term, limited duration (between 2-5 days per mast location, weather permitted). On-going access to the mast sites is not required for heavy vehicles. The extent of disturbance would therefore be limited, and given the results of the ecological survey, would not be anticipated to have any detrimental impacts to the local environment.

5.4 PUBLIC DOMAIN

The proposed modification to the built form of the development results in a minimal visual change to the development from that which was approved. The modification would result in 13 additional met-masts (five of which are temporary) and at no time will there be more than eight met-masts erected, to be placed in close proximity to the approved turbines. The met-masts are approximately 51.5 metres shorter than the turbine tip height, and given the proximity to the turbines they are considered sympathetic with the approved development and resulting environment. The design of the met-masts (refer **Future Engineering & Communication Pty Ltd Drawings Drawing J2340/1/1.A1**) which demonstrates that the met-masts are thin, featureless masts that would have a minimal visual impact. **Figure 3** provides a photograph of one of the existing on site met-masts and this confirms the minor visual impact associated with this type of infrastructure.

Overall, it is considered the modification represents no greater impact on the public domain than applicable as per the current consent.

5.5 SERVICING

Water, sewer, electricity and stormwater services are neither required nor included in the provisions of the proposed modification. Electricity will be provided to the met-masts initially by solar panels, mounted on the masts themselves. No external services are required for the construction of the met-masts. In this respect, the modification is considered acceptable.

5.6 HERITAGE

An assessment of the Indigenous and non-indigenous heritage was undertaken as part of the EIS investigations, for areas affected by the wind farm. The findings of this initial heritage assessment are displayed in **Figure 2**.

5.6.1 INDIGENOUS HERITAGE

There is evidence of occupation, use and association with the landscape by indigenous peoples, as found during investigations associated with preparation of the EIS. The indigenous heritage assessment undertaken by heritage consultants (OzArk) in 2004 found six open archaeological sites within the study area, and a Claimant Application (NC97/7) under the National Native Title Tribunal that also exists on Crown Land (shown on **Figure 2**).

A site visit was undertaken on 20 August 2013 and each met-mast site was visited to confirm the absence of any items of indigenous heritage significance, as per the initial investigation by OzArk in 2004.

The study area and landscape is noted as having cultural heritage values for the community, including the Pejar Local Aboriginal Land Council (PLALC) and the Gundungurra Tribal Council Aboriginal Corporation (GTCAC).

The nearest known archaeological site to any of the proposed met-masts is item TWF OS2, located approximately 170 metres to the north east of met-mast SD4. The site is described as lying in an open field within an area that has been extensively cleared, grazed and ploughed. The site is eroded due to stock movement and ploughing and lies at an altitude of 918 metres. The site covers an area of approximately 30 square metres, and is comprised of a total of eleven artefacts (both quartz and silcrete), found within an area of 30m x 20m. The maximum artefact density was >1 per square metre.

Given the distance to indigenous heritage sites to the proposed met-masts it is considered that the modification will not have any detrimental effects on items with known items of Aboriginal heritage significance. If however an Aboriginal site is identified during construction, work in that area would cease and the Office of Environment and Heritage (OEH), the Pejar Local Aboriginal Land Council and the Gundungurra Tribal Council Aboriginal Corporation would be contacted to discuss with how to proceed.

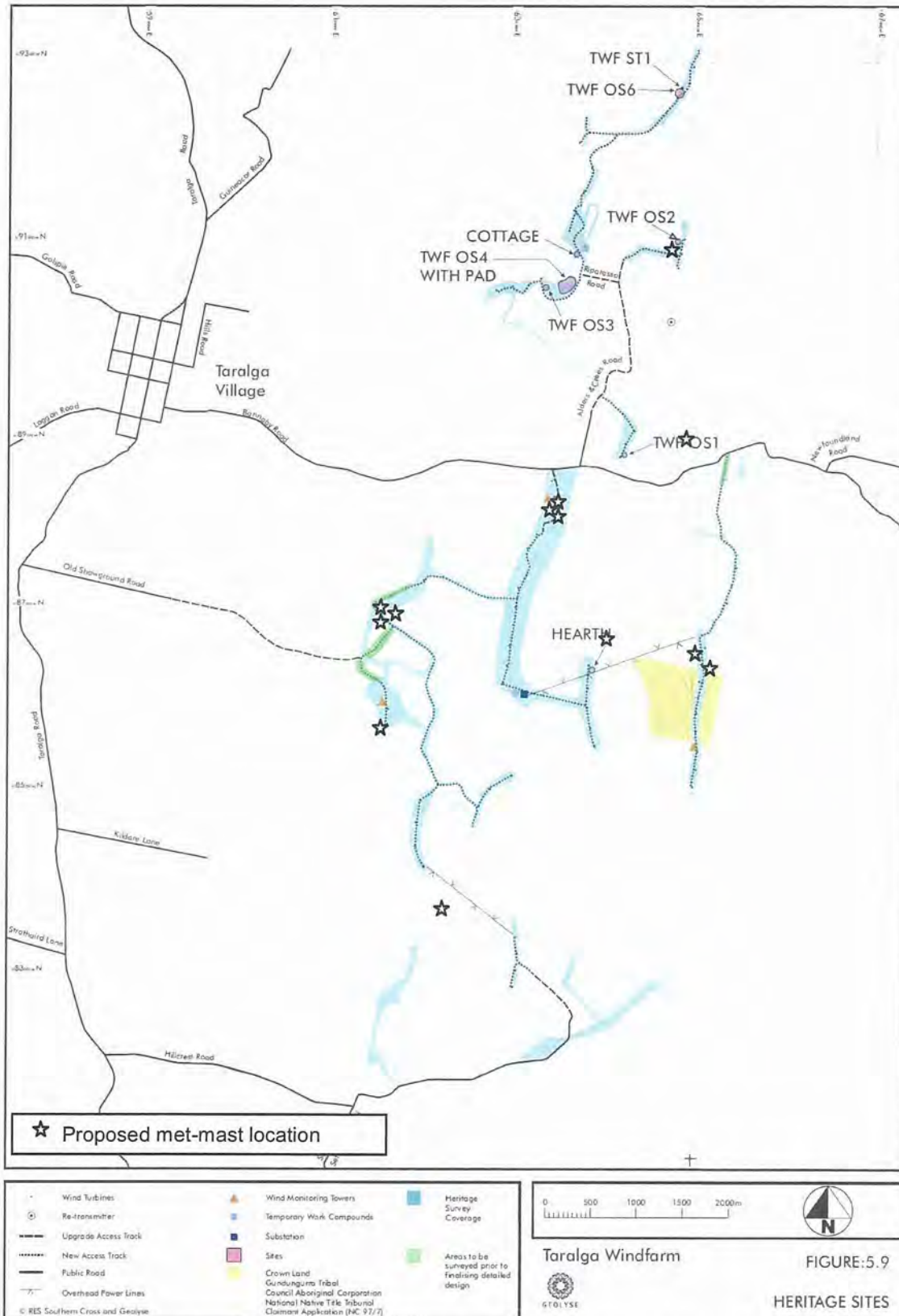


Figure 2: Location of recorded heritage sites (Source: EIS Taralga Windfarm, 2004)

5.6.2 NON-INDIGENOUS HERITAGE

Taralga is a historic village and the surrounding district has a long association with farming. A number of items within and around Taralga village are considered to have significant heritage value. The village boundary itself is listed as an Urban Conservation Area, and many of the buildings in the village are listed individually.

As part of the investigation for the EIS, a heritage survey was undertaken over the area of the proposed wind farm by OzArk. The survey recorded two ruins, which included the remains of a stone cottage and a stone hearth (refer **Figure 2**). Both of these items were considered to be of low significance and it was concluded that they do not meet the NSW State Heritage criteria used for assessing significance for entry in the Heritage Register. In any event, neither of the ruins would be impacted by the modification.

The met-masts would contribute to the final aesthetics of the wind farm, which will display a new age and type of primary production, protecting and diversifying the districts heritage with a compatible and consistent land use association. The modification would therefore not contribute to a loss of heritage value.

5.7 OTHER LAND RESOURCES

As the subject land is in the area already approved for the wind farm it is not considered that the proposed modification will result in the loss of any existing land resources.

The proposed modification results in a total of 13 met-mast sites (limited to a maximum of eight at any one time) being erected within the area approved for the wind farm. Five of the 13 met-masts are in locations already approved for turbines, and the other eight are in new locations. Originally the project was approved to construct and operate 61 turbines; however the project was later modified, with approval sought and obtained to construct and operate 51 turbines. By virtue of the original proposal for 61 turbines being granted approval, the erection of the eight additional met-masts in new locations can be considered an appropriate use of the land resources.

The addition of the met-masts will increase the capacity to gather data to be used for operating the turbines; and the modification would not result in any greater impact than that which was originally approved.

5.8 WATER

As part of the investigations for the EIS prepared in 2004, a detailed Water Cycle Management Plan was prepared for the entire proposed wind farm site. This management plan identified that there are no major constraints that would detrimentally impact on the management of water quality. The construction and operation of the 13 met-masts would follow the same procedures for those of the approved turbines, and therefore no additional water impacts are anticipated as a result of the modification, nor will the modification result in any greater impact than that which was approved.

5.9 SOILS

This modification proposes changes that would result in the same construction and operation impacts on soil as the approved turbine development. The EIS details the four various soil landscapes impacted as a result of the development;

- (i) Taralga Soil Landscape;
- (ii) Macalister Soil Landscape;
- (iii) Midgee Soil Landscape; and
- (iv) Lickinghole Soil Landscape.

Soil impacts associated with the proposed modification would be limited to short term impacts during the construction period; these would be managed via the implementation of appropriate mitigation measures, provided in **Section 5.17**.

5.10 AIR AND MICROCLIMATE

Impacts to air and microclimate as a result of the addition of the met-masts would be limited to short term impacts during the construction period. Due to the static nature of the met-masts their development would not result in any long term or permanent impacts to air quality.

Short term construction impacts would be effectively controlled via the measures proposed in **Section 5.17**.

5.11 FLORA AND FAUNA

Ecological surveys were undertaken on each met-mast site to identify the existing flora and fauna, communities and habitats present and assess conservation and habitat values. The report prepared by Kevin Mills & Associates (attached as **Appendix A**) confirms that:

The installation of the proposed meteorological monitoring masts is not likely to have a significant impact on flora and fauna, including species, populations and communities listed under the Threatened Species Conservation Act 1995, the Fisheries Management Act 1994 and the Environment Protection and Biodiversity Conservation Act 1999. The preparation of a Species Impact Statement and referral to the Commonwealth Minister for assessment and approval are therefore not warranted.

On the above basis, no further consideration of the impacts to flora and fauna is deemed necessary.

5.11.1 WASTE

Waste associated with the modification is limited to short term impacts associated with the construction phase. The impacts associated with construction would be effectively controlled via the measures proposed in **Section 5.17**.

5.12 STORMWATER

Negligible impacts on surface water run-off are predicted as a result of the proposed modification.

Regardless of the negligible impacts, the proposed modification would require earthworks and drainage works, which have the potential to impact on water quality, for example:

- Minor land surface changes including contouring, levelling, cut and fill, excavation and soil compaction;
- Creation of impervious surfaces;
- Use, storage and handling of substances (fuels and oils) with the potential to adversely effect water quality; and
- Disturbance to vegetation.

The potential pollutants associated with the proposed modification are as per those identified in the EIS, as identified in **Table 5.1** below:

Table 5.1 – Potential Pollutants

Phase	Pollutant
Construction	Sediment Nutrients (N and P attached to sediment) Fuel/oil (machinery) Excess construction materials (concrete, road base)
Operation	Sediment (from access tracks) Nutrients (N and P attached to sediment) Fuel/Oil (maintenance, vehicle movements)

The impacts associated with construction would be effectively controlled via the measures proposed in **Section 5.17**

5.13 NOISE & VIBRATION

The proposed modification would result in minor predicted noise and vibration levels during construction. The nature of the machinery and plant that will be used for the construction and operation of the met-masts, and associated access tracks and foundations is anticipated to be similar to that to be used for the turbines; however the addition of the 13 met-masts to the project increases the duration of the noise and vibration output.

The construction period of the met-masts would be completed over three stages, as described in **Section 5.2**. Stages 1 and 2 would take place concurrently and is estimated to take no more than 4 weeks. Stage 3 involves the deconstruction of the stage 1 met-masts, and relocation to the Stage 3 locations, with the stage construction estimated to take no more than 5 weeks.

In order to limit the noise and vibration at the site, construction activities associated with the development, including heavy vehicles entering and exiting the site, would be limited to day time working hours of 7:00 am and 6:00 pm, Monday to Friday inclusive, and between 8:00 am and 1:00 pm on Saturdays. No work is to be carried out on Sundays or Public Holidays.

The met-masts will not generate any noise or vibration during their operational life.

In respect of the above, the proposed modification is considered acceptable.

5.14 NATURAL HAZARDS

The minor modification will not present any change to the likely incidence of natural hazard at the site over and above those considered with the original application.

5.15 SOCIAL IMPACT

The proposed modification will result in a development that is similar to that which was approved. It is not anticipated that any additional matters resulting in potential social impact will occur due to the addition of the five temporary, and eight permanent met-masts. The met-masts have less of a visual impact than the turbines, do not generate any noise, and are consistent with the social impact of the approved development **Figure 3** shows an existing met-mast on the site; the proposed met-masts will be similar in appearance, as demonstrated in **Figure 3** the met-masts are difficult to see from distances over 500 metres.

The siting of the proposed met-masts does not impede the social impact of any areas that have not already been assessed during the EIS investigations, and the proposed modification is considered acceptable.



Figure 3: View from proposed Met-Mast 'MET4243' looking south towards existing met-mast

5.16 SITE DESIGN

The position of the 13 proposed met-masts and associated infrastructure is displayed in **Drawings TAR-C-5300 to TAR-C-5306**. The approved turbine locations are also shown for reference.

The five met-masts with the prefix 'METSC' are designed as temporary structures, designed to collect calibration data over a minimum period of three months. As displayed on **Vestas Drawing TAR-MM-001, Rev A, Drawing TAR-MM-002, Rev A and Drawing TAR-MM-003, Rev A**, each of these met-masts are proposed on existing turbine locations, refer **Table 5.2**.

Table 5.2 – Location of proposed Calibration Met-Masts

Calibration Met-Mast Number	Turbine Location
METSC28	WTG28
METSC42	WTG42
METSC43	WTG43
METSC45	WTG45
METSC46	WTG46

Given the proposed siting of these temporary five met-masts on existing approved turbine locations, an assessment of the sites and associated infrastructure has already been assessed, and no further assessment consideration regarding their location is required.

The second stage of construction involves the construction of three permanent monitoring met-masts that record the power output of the turbines; these have the prefix 'MET'. These monitoring masts are located between 180 to 230 metres from the nearest turbine. The 'MET' masts are detailed in **Table 5.3**. Prior to construction of the turbines, electricity for all met-masts would be generated from mast-mounted solar panels.

It is anticipated that upon development of the turbine sites, that permanent power would be supplied to the met-masts as required. These supplies would be trenched from the closest turbine site.

Table 5.3 – Future Source of Electricity for Met-Masts

Met-Mast	Nearest Turbine	Distance (m)
MET28	WTG28	230
MET4243	WTG42 or WTG43	180
MET4546	WTG45 or WTG46	210
SD1	WTG19	400
SD2	WTG5	270
SD3	WTG10	200
SD4	WTG52	200
SD5	WTG51	310

Stage 3 of construction involves dismantling and relocating the five 'METSC' calibration masts to the locations with the 'SD' prefix on **Vestas Drawing TAR-MM-001, Rev A, Drawing TAR-MM-002, Rev A and Drawing TAR-MM-003, Rev A**. These met-masts are designed to continuously collect site data.

Similarly to Stage 2, electricity will be generated from mast-mounted solar panels, until the turbines are constructed, at which time electricity would be trenched from the nearest turbine. **Table 5.3** details the nearest turbine to each 'SD' met-mast.

5.17 CONSTRUCTION IMPACTS

The construction of the additional met-masts is similar in nature to that required for the turbines, although on a smaller scale with less area required for construction, and less heavy plant and equipment required. Therefore the construction impacts of this modification would be less than those impacts likely to occur as a result of the original approval. In this respect the modification proposal is considered acceptable.

The contractors employed to complete the construction of the 13 met-masts will have a comprehensive list of Safe Work Method Statements (SWMS) and Job Safety and Environment Analysis (JSEA) protocols to ensure the construction is undertaken with minimal risk to both themselves and the environment.

As reflected in the original EIS, the following principles would be applied during construction to mitigate any impacts:

- Contractors undertaking site works would be required to install site specific erosion and sediment control on site which include a range of erosion and sediment control measures such as diversion drains, banks, sediment traps, sediment filters, fencing and batter stabilisation would be used where appropriate;
- Where disturbed sites are to be reinstated and revegetated, follow up maintenance would be undertaken until the areas are satisfactorily stabilised and restored;
- Excavations would be left open for as short a time as possible and sites would be stabilised and restored promptly after works are undertaken;

- No fuels or oils would be stored on site, or any refuelling of vehicles;
- All packaging, general construction debris and domestic waste would be removed off-site and disposed of in accordance with waste regulations. For the avoidance of doubt, no waste would be buried or burned on site;
- Works would be undertaken in compliance with the Development Consent Conditions;
- If in the unlikely event that the clearing of native trees is required, trees would always be lopped or trimmed in preference to removal wherever possible;
- If required any trees to be removed would be inspected for nesting and sheltering mammals/birds/reptiles prior to felling;
- Measures would be adopted to prevent the introduction of invasive species. Weeds would be monitored on disturbed sites and controlled as necessary;
- At met-mast SD4 a protective fence would be installed 25m from the fence line and extended north of the dam for at least 100m; providing a 30m buffer around the open site (OS2);
- All construction personnel would undertake site induction concerning cultural heritage issues (locations and legislative obligations not to disturb);
- In the event any Aboriginal site is identified during construction, work in that area would cease and the Office of Environment and Heritage, the Pejar Local Aboriginal Land Council and the Gundungurra Tribal Council Aboriginal Corporation would be contacted to discuss how to proceed;
- Measures to control dust would include wetting, stabilising topsoil stockpiles; restoration of disturbed areas as soon as possible; and where practical, placement of stockpiles in sheltered locations to minimise dispersal by high winds; and
- Noise from construction activities will be controlled by limiting construction hours within the limits specified in the Conditions of development consent:
 - Between 7:00 am and 6:00 pm Monday to Friday
 - Between 8:00 am and 1:00 pm on Saturdays
 - At no time on Sundays and public holidays
- All construction works will be subject to the conditions of development consent.

5.18 CUMULATIVE IMPACTS

The proposed modification will not result in any increase in noise, water run-off or traffic movements, nor will the modification detrimentally affect air quality or existing flora and fauna. As such the proposed modification will not have any impacts that have the potential to act in unison in terms of:

- Individual impacts so close in time that the effects of one are not dissipated before the next (time crowded effects);
- Individual impacts so close in space that the effects overlap (space crowded effects);
- Repetitive, often minor impacts eroding environmental conditions (nibbling effects); or
- Different types of disturbances interacting to produce an effect which is greater or different than the sum of the separate effects (synergistic effects).

Conclusion

6.1 JUSTIFICATION FOR THE MODIFICATION

The proposed modification to add a total of 13 met-masts (limited to eight at any time) is consistent with the existing consent for the wind farm. The met-masts are ancillary to the development for a wind farm and are a necessary component of the overall development.

The wind farm development is state significant development which, for the purposes of the modification, Section 75W of the now repealed Part 3A of the EP&A Act is applicable. Section 75W provides the framework for modifications to state significant development, where the proposed changes are consistent with the approved development.

By virtue of their design the proposed met-masts are of a significantly lesser visual impact than the approved turbines. On the basis that the initial consent granted approval for 61 turbines, and this was subsequently reduced to 51, the addition of a total of 13, but not more than 8 at any one time, met-masts would result in no greater visual impact than was originally approved. The met-masts are also of considerably lower visual impact than the approved turbines.

An assessment of the environmental impacts of the proposed modification is contained in **Section 5** of this report.

The primary implication of the modification will be short term construction impacts associated with the development and re-siting of the 13 met-mast sites.

Impacts (construction, noise, water) are temporary, as well as being relatively minor, and therefore manageable. As such, it is submitted that the proposed modification has minimal environmental impact and should be approved.

6.2 CONCLUSION

This assessment has considered the requirements of Sections 75W and 79 C(1)(a)(ii) of the EP&A Act and has assessed the environmental impacts of the proposed modification.

The terms of Section 75W are wide and the Minister has the discretion to approve the modification with or without conditions. In the circumstances of the proposed modification, which seeks to erect a total of 13 met-masts (8 permanent and 5 temporary) within the site of the approved wind farm, there is no increased environmental impact and the modification would not result in any discernible impacts to visual amenity, local biodiversity or local heritage. Construction impacts would be controlled via the implementation of appropriate and justifiable mitigation measures.

All existing conditions of the consent will continue to apply to the modified project.

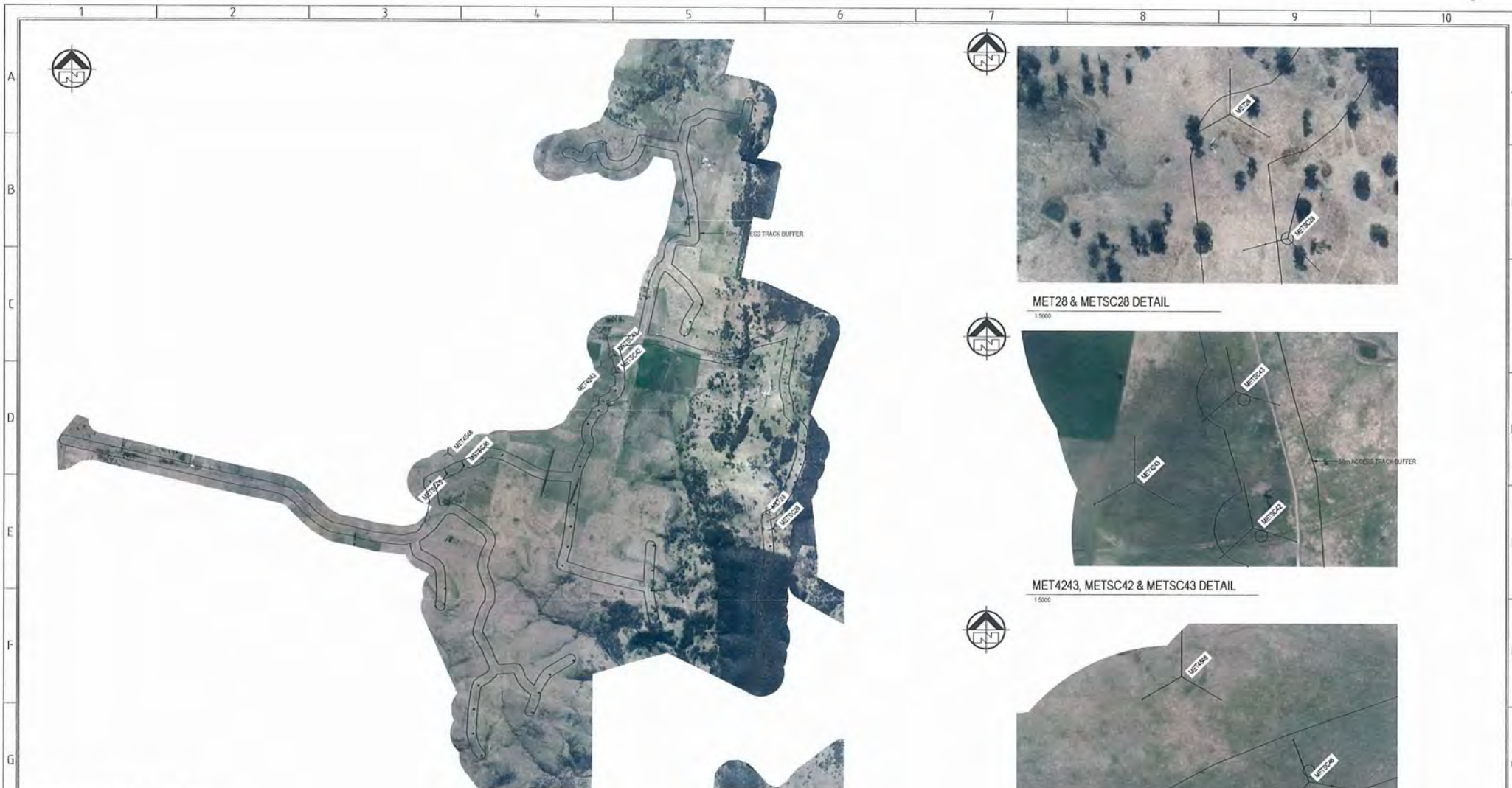
References

Department of Urban Affairs and Planning (DUAP). nd, *Guide to Section 79C*, NSW Department of Urban Affairs and Planning, Sydney.

Geolyse. 2004, Taralga Windfarm Environmental Impact Statement, for RES Southern Cross Pty Ltd

Kevin Mills & Associates. 2013, Flora Survey, Proposed Meteorological Masts, Taralga Windfarm

Drawings



MET MAST STAGE 1 LAYOUT

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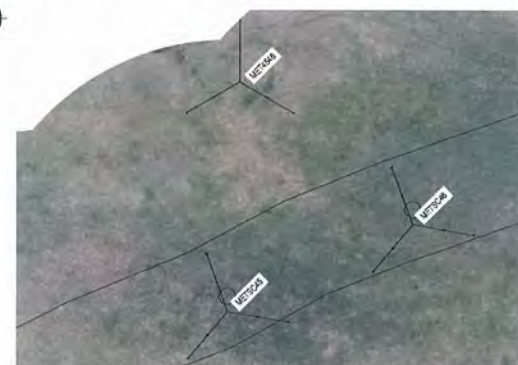
MET28 & METSC28 DETAIL

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MET4243, METSC42 & METSC43 DETAIL

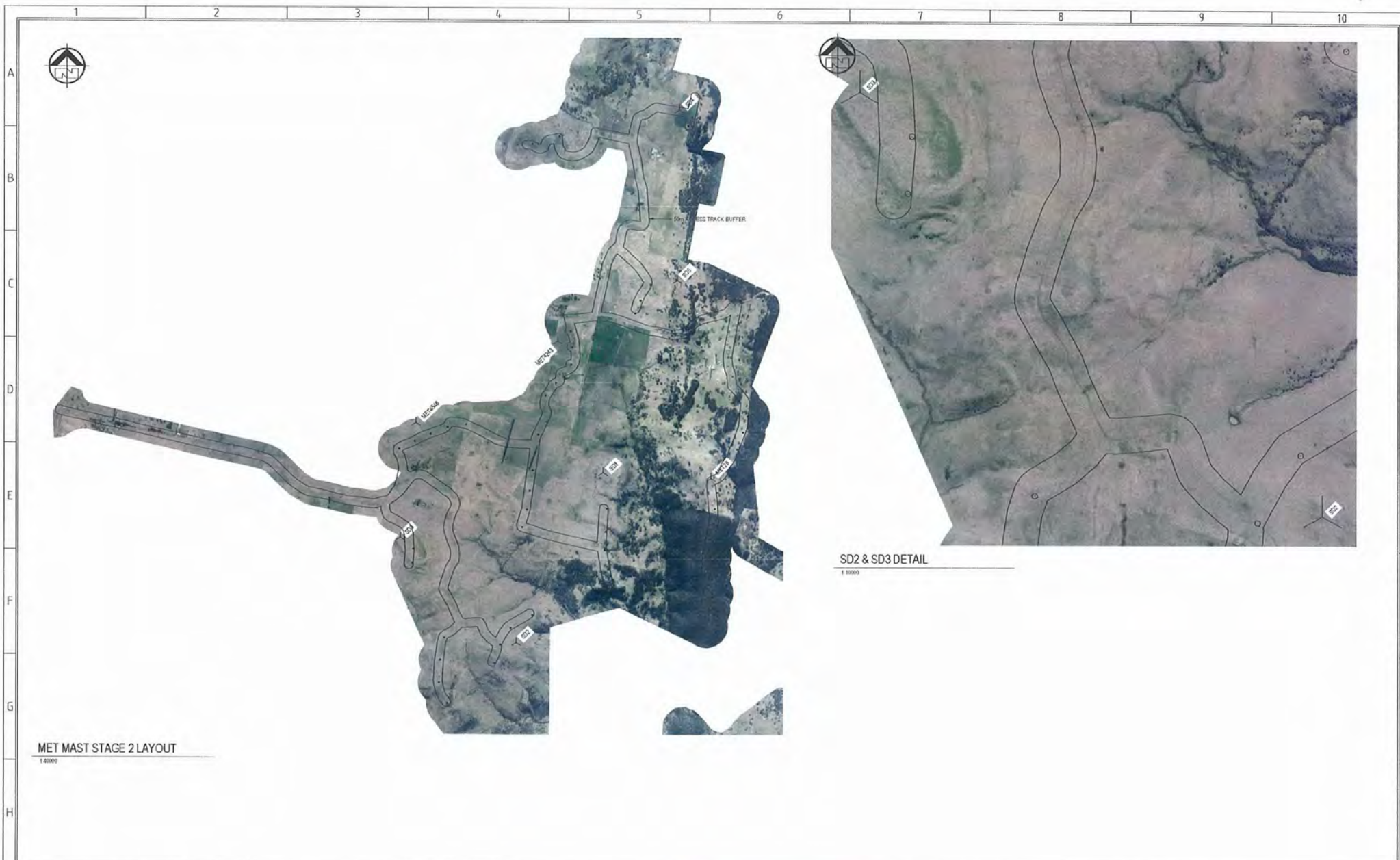
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MET4546, METSC45 & METSC46 DETAIL

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MET MAST STAGE 2 LAYOUT

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SD2 & SD3 DETAIL

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REVISIONS AND APPROVALS						

Vestas
No. 1 in Modern Energy

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APPROVED	DATE	SCALE
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TARALGA WIND FARM
MET MAST STAGE 2 LAYOUT

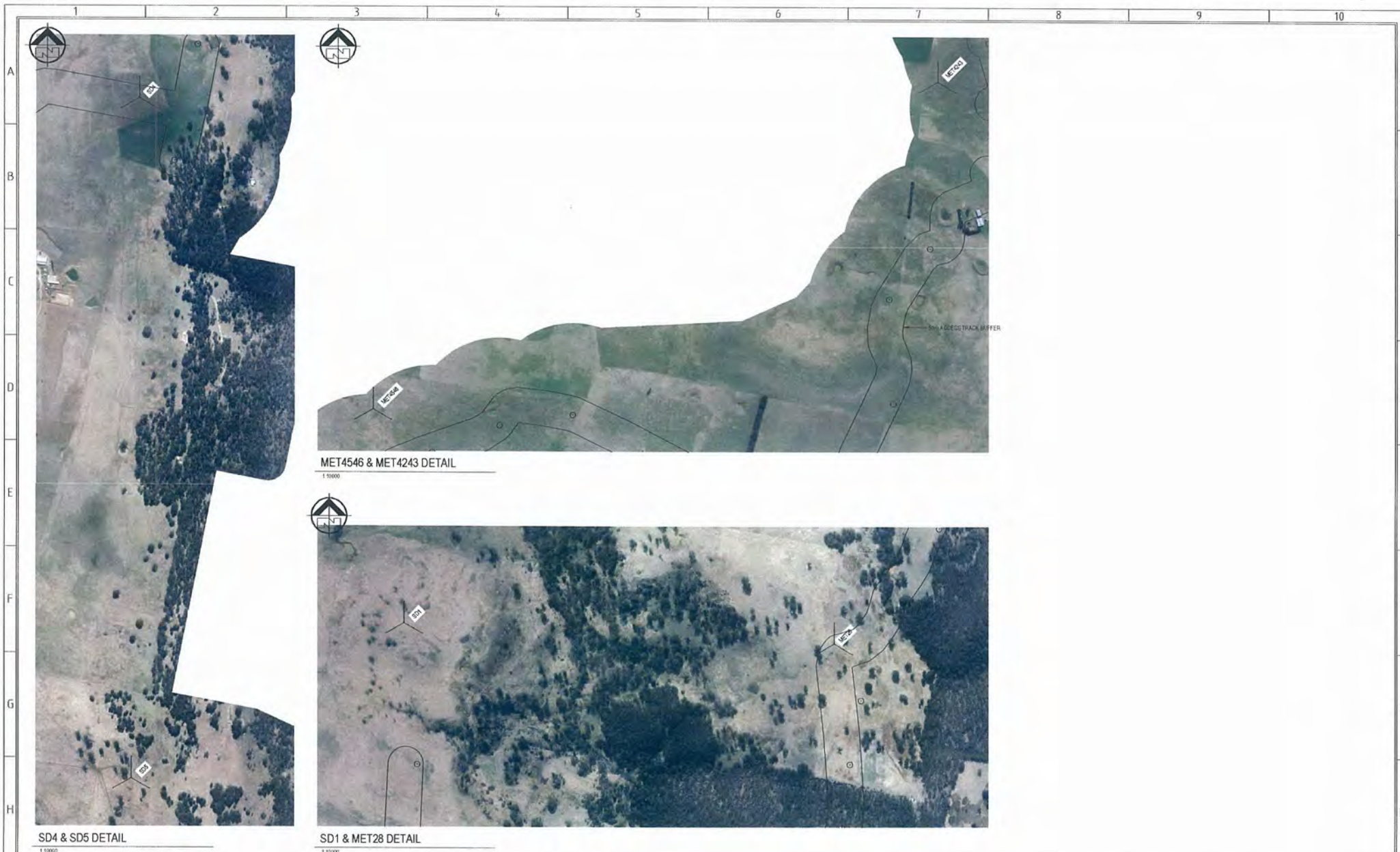
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TARALGA WIND FARM
MET MAST STAGE 2 DETAILS

PROJECT No.
14032

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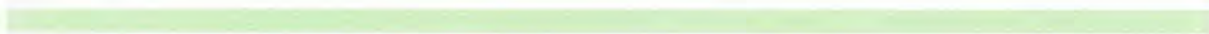
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Appendix A

**ECOLOGICAL SURVEY PREPARED BY
KEVIN MILLS & ASSOCIATES**



ECOLOGICAL SURVEY PROPOSED METEOROLOGICAL MASTS TARALGA WIND FARM



prepared by

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August 2013
13/14

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Document Reference

Kevin Mills & Associates (2013). Ecological Survey, Proposed Meteorological Masts, Taralga Wind Farm. Report prepared for CBD Energy, August.

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This report was prepared for CBD Energy in accordance with their instructions. The report must only be used by the previously named and only for the stated purpose and not for any other purpose.

Contents

1.0	Introduction.....	1
2.0	The Survey Areas	1
3.0	Survey Methods	1
4.0	Results.....	4
5.0	Conclusion	5
6.0	References	6
	Appendices	
	1. Photographs.....	7
	Table	
	1. List of Sites proposed for Meteorological Masts.....	2

1. INTRODUCTION

The Taralga Wind Farm received approval by the NSW Land and Environment Court in 2009. Since that time, detailed design has modified some aspects of the project, including road and site compound changes (KMA 2013). This report deals with a new proposal for 13 meteorological monitoring masts to be constructed throughout the wind farm site.

The report describes the results of a field survey undertaken on 19th, 20th and 28th August 2013, when all mast sites were visited. This follows several years of investigation on the wind farm project area by the consultant (KMA 2006, 2007, 2009). Some of the mast sites have already been surveyed during these earlier studies.

2. THE SURVEY AREAS

The survey sites are 13 locations proposed for the meteorological monitoring masts; these sites are summarised in **Table 1** in terms of their location and vegetation. Five of the sites are on proposed wind turbine sites and have thus previously been surveyed for significant flora. These sites are included here but none supported significant flora when previously surveyed.

3. SURVEY METHODS

Natural Temperate Grassland

Native Grassland is defined as grassland with >50% of vegetation cover composed of indigenous species, >50% of all species are native, and the minimum vegetation cover, alive or dead, is >10%. Natural temperate grassland (NTG) is a subset of native grassland, although the Commonwealth definition of natural temperate grassland is broad and does not provide strict criteria to identify this vegetation.

Native grassland and grassland that may be natural temperate grassland was surveyed for on the mast sites. Where located, such grassland was investigated to prepare a list of the native species present, the dominant species and the amount of exotic plants present. Consideration was given to the information on the Australian Government website describing NTG. That website makes the following clarification:

"The listed Natural Temperate Grassland ecological community encompasses sites that clearly demonstrate the natural ecological functions of grasslands, or which can recover these functions (Environment ACT 2005). Remnants of natural temperate grassland are considered part of the listed community (Environment ACT 2005) if:

- they are dominated by native grasses and/or native forbs (more than 50% total vegetative cover, excluding exotic annuals), and
- a diversity of native forbs is present, or

Table 1**List of Sites proposed for Meteorological Masts**

No.	Location	Vegetation
New Sites		
MET28	Northwest of WTG28. 0765178 6186920 Photograph 7.	Exotic grassland, pasture improved. Scattered patches of Bracken <i>Pteridium esculentum</i> and tussocks of Tall Tussock <i>Poa labillardieri</i> . Few other natives present. Scattered surfaces rocks.
MET4243	Northwest of WTG42 0763432 6188473 Photograph 5.	Exotic grassland, pasture improved and very closely grazed. Thistle are abundant, particularly Scotch Thistle <i>Onopordium acanthium</i> . No natives seen.
MET4546	North of WTG45; on edge of ridge. 0761823 6187538 Photograph 3.	Exotic grassland, pasture improved. Thistles common: Spear Thistle <i>Cirsium vulgare</i> , Variegated Thistle <i>Silybum marianum</i> , Saffron Thistle <i>Carthamus lanatus</i> .
SD1	West of gorge near power line route 0763953 6186979 Photograph 8.	Native grassland/exotic grassland. Weeping Grass <i>Microlaena stipoides</i> . Almost no other natives seen. Scattered exotic herbs, particularly thistles and Sheep Sorell <i>Acetosella vulgaris</i> . One large tree of Manna Gum <i>Eucalyptus viminalis</i> nearby; most trees in area are Snow Gum <i>E. pauciflora</i> .
SD2	East of WTG12; on low ridge. 0762965 6185035 Photograph 2.	Native pasture dominated by Kangaroo Grass <i>Themeda australis</i> ; few other natives, and none that are common. Ten exotic and seven natives in 20m circle around site. No trees in vicinity, possibly Snow Gum woodland originally.

No.	Location	Vegetation
SD3	Northwest of WTG10, side of knoll. 0761647 6186237 Photograph 1.	Native pasture, Exotic herbs common; Clover <i>Trifolium</i> spp., Flatweed <i>Hypochaeris radicata</i> , Saffron Thistle <i>Carthamus lanatus</i> , Cudweed <i>Gamochaeta</i> sp. Scattered tussocks of native Spear-grass <i>Austrostipa bigeniculata</i> .
SD4	West of WTG54; on broad ridge. 0764814 6191102 Photograph 4.	Exotic grassland, pasture improved and very closely grazed. Scattered rocks. Thistles abundant; Scotch Thistle <i>Onopordium acanthium</i> , Saffron Thistle <i>Carthamus lanatus</i> . No natives seen.
SD5	Northeast of WTG51, on broad ridge. 0764792 6189168 Photograph 6.	Native pasture, primarily Weeping Grass <i>Microlaena stipoides</i> . Patches of Scotch Thistle <i>Onopordium acanthium</i> and various exotics. Some surface rocks. Large trees of <i>Eucalyptus radiata</i> nearby.
Locations on WTG sites (previously surveyed)		
METSC28	On site of WTG28 0765254 6186758	As for MET28. Exotic grassland, pasture improved.
METSC42	On site of WTG42 0763600 6188402	As for MET4243. Exotic grassland, pasture improved; heavily grazed.
METSC43	On site of WTG43 0763577 6188582	As for MET4243. Exotic grassland, pasture improved; heavily grazed.
METSC45	On site of WTG 45 0761811 6187329	As for MET4546. Exotic grassland, pasture improved.
METSC46	On site of WTG 46 0761991 6187414	As for MET4546. Exotic grassland, pasture improved.

- if disturbed, they have components of the indigenous native species (including both existing plants and reproductive propagules in the soil such as soil seed banks) sufficient to re-establish the characteristic native groundcover

The listed Natural Temperate Grassland ecological community, as listed under the Commonwealth EPBC Act 1999, does not include grassland where 50% or more of the total plant cover is dominated by perennial exotic species and there is a low diversity of native forbs or the native forb component (including soil seed reserves) is not sufficient to re-establish the characteristic native groundcover (see Environment ACT 2005). Such areas are considered to have a low capacity for natural or assisted rehabilitation (Environment ACT 2005)."

Although "a diversity of native forbs" is not defined, it is reasonable to assume that the number of indigenous species present must be more than a handful of species. Note that a forb is a herbaceous plant other than a grass.

Tablelands Basalt Forest

This forest community, listed under the NSW TSC Act 1995, occurs on the basalt soils in the Taralga area. Most of this forest has been cleared for the agricultural value of the basalt soil. Remnant forest stands occur here and there, and individual trees are scattered across the landscape. It is noted that the Final Determination states "The community ... includes 'derived' native grasslands which result from removal of the woody components from the woodland and forest forms of the community. " and "Native grasslands derived from clearing of the woodland and forest, are also part of this community if they contain characteristic non-woody species listed in paragraph 2." The Final Determination does not state how many or what percentage cover of the 'characteristic species' need to be present to be part of the listed community. It is assumed that assessment should be based on the significance of the grassland and that native pasture with few natives and many exotics, for example, is of low significance.

4. RESULTS

Native grassland was previously found in several places in the Taralga Wind Farm precinct. This type of grassland was not found on any of the proposed mast sites; see **Table 1**. All sites support native pasture and/or exotic grassland. Most paddocks are heavily grazed and pasture improved. These sites have no special conservation importance.

The basalt country in this locality supported Natural Temperate Grassland, Basalt Tableland Forest or Snow Gum Woodland. As most of the basalt has been cleared for farming pursuits, the two treed communities occur in small stands here and there across the landscape. None of the sites now support this type of forest. The native pasture at site SD5 is in an area that once supported Basalt Forest. That grassland is classed as native pasture and is of little importance due to the low diversity of natives.

In summary, none of the sites surveyed recently nor those surveyed previously on the turbine sites support important native vegetation.

5. CONCLUSION

Surveys were undertaken of the vegetation growing on 13 sites proposed for the installation of temporary meteorological monitoring masts. All sites support treeless grassland, either native pasture or exotic grassland. The significant local plant communities Natural Temperate Grassland and Tableland Basalt Forest were surveyed for but do not occur on any of the sites.

The impact on native flora is considered to be negligible given that:

- no significant vegetation occurs on any of the sites;
- the sites primarily support native pasture and/or exotic grassland;
- the footprint of the mast structure (amount of soil disturbance) is very small.
- five of the 13 masts are temporary and will be removed after a few months.

The installation of the proposed meteorological monitoring masts is not likely to have a significant impact on flora and fauna, including species, populations and communities listed under the *Threatened Species Conservation Act 1995*, the *Fisheries Management Act 1994* and the *Environment Protection and Biodiversity Conservation Act 1999*. The preparation of a Species Impact Statement and referral to the Commonwealth Minister for assessment and approval are therefore not warranted.

6. REFERENCES

Australia (1999). *Environment Protection and Biodiversity Conservation Act 1999*. Commonwealth of Australia, Canberra.

Kevin Mills & Associates (2009). Supplementary Flora and Fauna Assessment, Taralga Wind Farm Project, Country Energy Transmission Line, Shires of Upper Lachlan and Goulburn Mulwaree. Prepared for RES Southern Cross Pty Limited, Crows Nest, February.

Kevin Mills & Associates (2007). Flora Survey, Taralga Windfarm Overhead Grid Line Route, Taralga to Marulan, Shires of Mulwaree/Goulburn and Lachlan. Prepared for RES Southern Cross Pty Limited, Crows Nest, January.

Kevin Mills & Associates (2006). Vegetation of the Taralga Area and the Proposed Taralga Windfarm, Shire of Upper Lachlan. Prepared for RES Southern Cross Pty Limited, Crows Nest, August.

New South Wales (1995). *Threatened Species Conservation Act 1995*. NSW Government, Sydney.

APPENDIX 1.PHOTOGRAPHS



Photograph 1. Site SD3, northwest of WTG 10.



Photograph 2. Site SD2. East of of WTG12.



Photograph 3. Site MET4546. North of WTG45.



Photograph 4. Site SD4. West of WTG54.



Photograph 5. Site MET4243. Southwest of WTG43.



Photograph 6. Site SD5. West of WTG54.



Photograph 7. Site MET28. West of WTG28.



Photograph 8. Site SD1. West of gorge.

Appendix B

SPECIFIC MODIFICATION SOUGHT

Attachment

Specific Modification sought

1. Amendment Required

The applicant seeks approval for the Consent to be modified in the following manner:

- 1.1 Description of development is amended by inserting after the words '...of 103 metres' the words 'and 5 temporary and 8 permanent 80 metre guyed meteorological measuring masts';
- 1.2 Condition 3 – add the following "Taralga Wind Farm Modification Application for approval of 5 temporary and 8 permanent Met Masts dated 29 August 2013 and the Environmental Assessment prepared by Geolyse ";

Appendix C

**TURBINE LAYOUT AS PER APPROVED
2013 MODIFICATION**

ATTACHMENT 1

