White Rock Solar Farm
SSD 16_7487

Proponents Response to Submissions

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GOLDWIND

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Document Approvals

The signatures of the people below indicate an understanding in the purpose and content of this document by those signing it. By signing this document you agree to this as the formal Communication Management Plan for the Project.

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Executive Summary

This report provides the response of White Rock Solar Farm Pty Ltd (WRSFPL) to submissions received by Department of Planning and Environment (DPE) following the public exhibition of a Development Application (DA) and Environmental Impact Statement (EIS) for the White Rock Solar Farm (WRSF) referred to as DA SSD 16_7487. WRSFPL is the proponent for WRSF that involves a proposal for a 20MW solar farm located adjacent to the White Rock Wind Farm (WRWF). WRWF is under construction during 2016 and 2017. Subject to gaining Development Consent, the WRSF could be constructed during 2017 while WRWF is transitioning through completion of construction, commissioning and commencing operation.

DPE arranged a public exhibition of the WRSF DA and EIS from 22 March 2016 to 26 April 2016 and also referred the DA to relevant government agencies. Following the exhibition and referral process seven submissions had been received by DPE from government agencies. No submissions were received from non-government sectors of the community. Details of the seven submissions are provided in the Table below.

Table ES 1 - Submissions Received

Source of submission	Key Issues raised in submission
Inverell Council	No issues raised - Confident that review process is appropriate.
DRE Hunter Region	No issues raised - Expressed support for the project
Glen Innes Severn Council	Remediation at end of project life to restore agricultural former use Request that provisions of GISC Section 94A plan be applied
OEH, Coffs Harbour NSW	Sought reduction of impact on low condition Endangered Ecological Community (EEC) or alternative measures. Strengthen weed management and rehabilitation of degraded EEC. Required Aboriginal Cultural Heritage Management Plan
• DPI Water	Adequate, reliable and compliant water supply arrangements Watercourse management in accordance with Guidelines
• DPI Lands & Natural Resources	Owners Consent provided. Require appropriate licensing of Crown Land
• DPI Agriculture	Draft Decommissioning/Rehabilitation Plan be developed
Fire and Rescue NSW	Electrical hazards during emergency response roles. Require ERP
RMS Grafton NSW	Site access arrangements from Gwydir Highway. Management Plans complementary/consistent to WRWF Plans

DPE provided copies of the submissions to WRSFPL and on 28 April 2016 sought the proponent's comments on the submissions, where necessary with additional assessments or information. In addition, the Department of Planning and Environment (DPE) had sought further information on 6 April 2016 to support its assessment of the DA. DPE required that the proponent's response to the submissions and its request for further information be provided by 12 May 2016.

In preparing the responses required by DPE, WRSFPL sought specialist assessments in respect of aspects where further information is required. The contribution of the respective specialists is referenced in this document. The specialists that have addressed the specific impacts and provided relevant responses are listed in Table ES 2.

Table ES 2 – Sources of input for Submissions Report

Assessment issue	Specialist Consultant or basis of assessment
Native Vegetation impacts	NGH Environmental
Cultural Heritage management	NGH Environmental
Water Supply	GWA and UGL (construction contractor)
Waterways management	UGL, NGH Environmental, consultation with DPI
Fire Risk including for Emergency response personnel	GWA and UGL re project design and controls for risk management
Traffic Management	GWA based on WRWF assessments
Agricultural potential	NGH Environmental

The assessments and further information address an updated project layout developed by the contractor based on the consultation between WRSFPL, DPE and relevant stakeholders. The layout adjustments have sought to develop a design that minimizes the impact on environmental and heritage values at the site. Constraints for parts of the site, e.g. steeper terrain and practicalities for construction as well as the landowner requirements have limited the capacity to avoid all native vegetation and habitat features. Nevertheless, the site selected is the least impact of the site options considered, the impact is considered low and targeted plantings will serve to offset the impact on a low condition Endangered Ecological Community (EEC) despite no offset being required by the Biobanking assessment.

In respect of cultural heritage, the site assessment has not identified any Aboriginal sites in the area of the project footprint and the potential for 'chance finds' is considered low. WRSFPL will arrange preparation of an Aboriginal Cultural Heritage Management Plan (ACHMP), prior to construction commencing, and the ACHMP will include a 'chance finds' protocol.

Fire risk has been considered as part of this review. WRWFPL will prepare a Bushfire Risk Management Plan (BFMP) for WRSF generally consistent with the WRWF BFRMP but also taking into account the consideration of emergency response in the vicinity of solar panels and the eight Power Conversion Blocks (PCBs), that comprise inverters, step up transformers and switch gear. A draft Emergency Response Plan is provided with this report.

It is proposed that vegetation will be kept low around the solar panels by controlled stock grazing or where necessary, slashing activity. Most of the vegetation below the panels will be retained.

There are two shallow watercourses located within the area of the WRSF solar farm array. These are 1st order watercourses that flow to the northeast to Wellingrove Creek, about 1,750 from the solar farm and about 30m below the level of the solar farm. Detail survey and sections for the watercourses are provided in this Report. The WRSF design is such that there will be negligible impact on the low flow watercourses that are in the top of the local catchments.

Water supply for construction is estimated at less than 1 ML and the supply is expected to be obtained locally in accordance with similar arrangements to those applicable for WRWF construction that will occur over the next 12 months. WRSFPL has discussed water supply with Glen Innes Severn Council who have not raised any issues or concerns on this item.

Conclusion

This submissions report responds to the matters raised in the government agency submissions received from the referral of the WRSF EIS and questions raised by DPE in correspondence of 6 April 2016.

The collective assessments in the WRSF EIS and this Submissions Report confirm that WRSF can be developed with acceptable impacts and that appropriate management of the impacts has been identified.

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1 INTRODUCTION

1.1 Purpose of this document

This document provides the proponent's response to the submissions received by Department of Planning and Environment (DPE) in respect of the Development Application (SSD 16_7487) and the associated Environmental Impact Statement (EIS) for the White Rock Solar Farm (WRSF). This document addresses DPE requests and comprises the following aspects:

- Matters raised by seven agency submissions and proponent's response to submissions;
- Matters raised by DPE and proponent's response to the matters raised;
- Status of the project design by the proponent;
- Update on details of access to the property required for the project;
- Additional specialist input (*design, biodiversity, cultural heritage and fire risk)* relating to matters raised in submissions or, by DPE.

This Report has been prepared by Goldwind Australia Pty Ltd (GWA) on behalf of the proponent, White Rock Solar Farm Pty Ltd (WRSFPL) for submission to the Secretary, Department of Planning and Environment (DPE) as part of the DPE's review process for the WRSF DA.

1.2 Background to WRSF Development Application

The WRSF Development Application process has involved the following stages:

- Submission of the proponent's WRSF Scoping Report to DPE, on 11 January 2016;
- DPE issued Secretary's Environmental Assessment Requirements, on 3 February 2016;
- DA accompanied by EIS was lodged with DPE, on 10 March 2016;
- Public exhibition of DA and EIS from 22 March 2016 to 26 April 2016;
- DPE raised a number of matters on 6 April 2016 and requested responses;
- On 28 April 2016, DPE requested WRSFPL to respond to the submissions by 12 May 2016. Attachment A of the DPE letter identified several key areas where further assessment or additional information is required with this Submissions Report. The key areas included:
    - Biodiversity impacts and management;
    - Water Use (confirmation of sources of supply);
    - Water Course Management;
    - Other Matters;
        - Weed Management Plan (over the whole property);
        - Aboriginal Cultural Heritage Management Plan (incl. 'unexpected finds');
        - Site Rehabilitation Plan and return to agricultural use at end of project life; and
        - Emergency Response Plan (raised by Fire and Rescue NSW re site safety).

This report provides the proponent's response to the DPE request of 28 April 2016. The report represents one component of the material to be considered by DPE in preparing its assessment report for DA SSD 16_7487 that will be referenced in determination of the DA.

1.3 Proponent's progress of WRSF planning since submission of the DA.

Since submission of the DA on 10 March 2016, WRSFPL has progressed planning of the WRSF design and updated arrangements for land access. Changes have arisen through the following avenues:

- Progression of engineering design development and critical design factors with the contractor;
- Consideration of potential variations to WRSF to further reduce environmental impacts;
- Application to DPI Lands in respect of works in the Crown Land between Lots 29 and 30;
    - Layout involving solar panels either side of Crown road but with cables and access across Crown road; or
    - Alternative layout option with solar panels built across the Crown road
- Request to DPE to allow placement of WRSF 33kV cable in WRWF cable corridor (WRWF Mod 3 Application) that was approved on 01 April 2016;
- Landowner negotiations for WRSF site and for cabling to WRWF substation;
- Targeted neighbour consultation to discuss proposed neighbour agreements;
- Consultation with local community including Community Information event on 21 March 2016 at Glen Innes Learning and Library Centre;
- Consultation with DPE, OEH, GISC and DPI;
- Specialist advice and site survey to clarify aspects of the project and potential impacts; and
- refinement of management controls to ensure a viable and compliant project.

1.4 WRSF Project Design Development

Key considerations for varying the WRSF layout and proposed mitigation measures have included:

- Minimising environmental impact
    - Avoidance of impact on low condition EEC;
    - Positioning to minimise visual impact;
    - Consideration of whether visual screening measures are warranted and whether this aspect could be integrated with addressing enhancement of local EEC vegetation;
    - Minimising impact on shallow ephemeral watercourses crossing the footprint;
    - Providing measures to manage any 'chance finds' of Aboriginal artefacts; and
    - Integrating weed management risk management strategies.
- Constructability considerations
    - the slope of the terrain is suitable for installation of the solar farm;
    - the site has suitable geotechnical characteristics for foundations;
    - the site is accessible for delivery of the required equipment
    - the site does not impact water flows and is not subject to flooding
- Consideration of landowner requirements
    - Consideration of the landowners agricultural regime and reducing impact on that
    - Obtaining DPI – Lands approvals for impact on Crown Reserve between Lots 29 & 30
- Ability to integrate with WRWF infrastructure

  - Gaining DPE approval for shared use of WRWF infrastructure (under WRWF Mod 3)
  - Selection of location for WRSF cable to link with WRWF 33kV cable corridor and associated cable route between WRSF and the connection point
- Ensuring that adequate water supply is available during construction for dust control
- Review of traffic and transport issues

1.4.1 Project indicative layout

Figure 1.1 shows the current form of the proposed WRSF layout on which assessments in this report are based. However, while a contractor has been selected, the final details of the design are still to be confirmed and WRSFPL recognizes that some adjustments to the layout may still be needed to achieve a practical and compliant layout. Nevertheless, WRSFPL believes that there is potential to vary details of the design without significantly changing the environmental outcomes. WRSFPL seeks a Development Consent that allows some flexibility in layout and design while ensuring environmental objectives are met.

The indicative layout in Figure 1.1 also assumes that access is obtained from DPI-Lands for placing solar panels across the Crown Road between Lots 29 and 30.

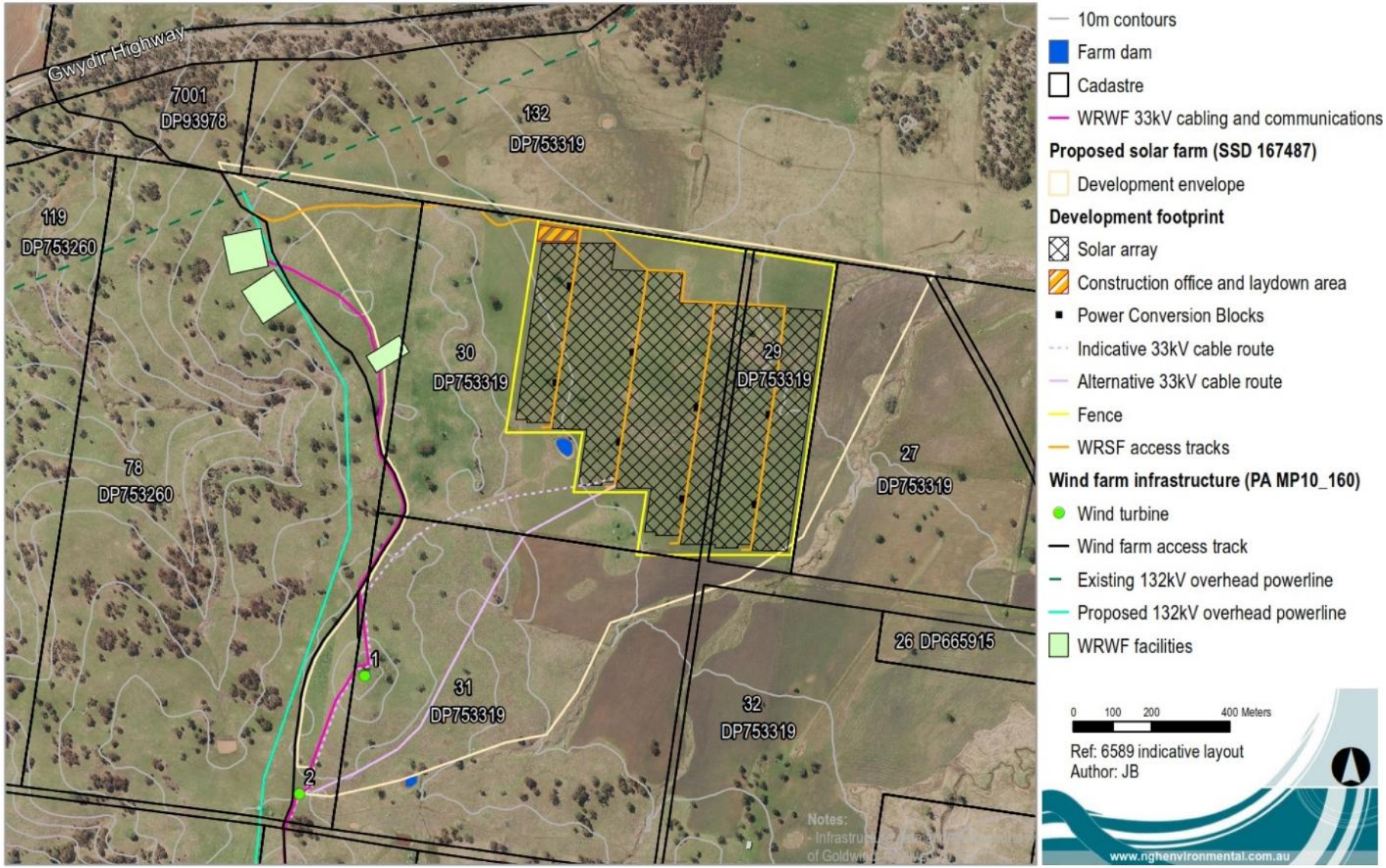
Overall, the extent of the final design solar array footprint is expected to be less than is shown in Figure 1.1 and as mentioned in this report does not require clearing of the land where the solar panels are located. Vegetation impacts shown in this report are considered to over-state the impact.

1.5 Solar farm site suitability

The following factors are relevant for the suitability of the WRSF location:

- the WRSF site is suitable for construction, (slope, ground conditions, etc.);
- the WRSF site is within the lands where access has been agreed with the landowner;
- the WRSF site has satisfactory energy ranking (reasonable energy yield);
- the WRSF site is considered to have acceptable biodiversity impacts;
- the WRSF site has low potential for impact on Aboriginal heritage items;
- the WRSF site can be developed without altering surface water flows;
- the WRSF construction has low requirements for water supply, less than 1ML;
- the WRSF site will have low visual impact;
- the WRSF site will have low noise impact for neighbouring residences;
- the WRSF site has good access from a State Highway;
- the WRSF site is suitably located to share the WRWF Grid connection; and
- the WRSF site can be returned to former agricultural use at the end of project life.

Figure 1.1 White Rock Solar Farm – Indicative Project Layout



2 SUBMISSIONS RECEIVED AND DPE REQUEST FOR INFORMATION

2.1 Submissions Received from Government Agencies

The public exhibition and referral of the WRSF DA and EIS has resulted in DPE receiving seven (7) submissions as listed in Table 2.1 below. The submissions are all from government agencies, two from Councils and 5 from NSW government agencies. No submissions were received from the local community. The details of the seven submissions, the source of each submission and key issues raised in respective submissions are provided in Table 2.1 below.

Table 2.1 Submissions Received from Government agency referrals

Date	Source of submission	DPE Ref	Key issues raised in submission
13/4/16	Inverell Council	147351	No issues raised. Confident that review process is appropriate.
21/4/16	DRE Hunter Region	147506	No issues raised – Expressed support for the project No mineral, petroleum, extractive resource conflicts Project consistent with NSW Renewable Energy Action Plan
18/4/16	Glen Innes Severn Council	147474	Remediation at end of project life Provisions of GISC Section 94A plan be applied
15/4/16	OEH Coffs Harbour	147504	Reduce impact on low condition EEC Strengthen weed management and rehabilitation of degraded EEC Prepare Aboriginal Cultural Heritage Management Plan Further heritage survey after clearing, pre-construction Follow chance finds protocol if any Aboriginal objects found
12/4/16	Fire and Rescue NSW	147353	Electrical hazards during emergency response roles Provision of Emergency Response Plan
21/4/16	RMS Grafton NSW	147488	Requirements if WRSF developed prior to WRWF Traffic Management Plan and Construction Environmental Management Plan complimentary and consistent to WRWF Plans
27/4/16	DPI consolidated response	147696	See below for respective DPI branches
	DPI Water		Water Supply Watercourse Management
	DPI Lands & Natural Resources		Owners Consent Licensing of Crown Land
	DPI Agriculture		Decommissioning/Rehabilitation Plan

DPE sought the proponent's response to submissions in its letter of 28 April 2016. The proponent's review of the submissions and respective responses are provided in Section 3 of this report.

2.2 DPE request for additional information

The DPE request, in email message of 6th April 2016, sought the following information.

- a breakdown of the vegetation clearing required for the access tracks, the 33 kV cable, and the PV arrays.
- an alternative layout for the PV array that minimises vegetation clearing to the maximum extent practicable;
- a revised constraints map that includes (in addition to the existing information):
  - the two closest residences (I40 and H40);
  - the buffer zones around the proposed 33kV cable routes and access tracks;
  - any features that restrict the re-arrangement of the PV array (e.g. lands reserved by the landowner for cropping, and the stock watering infrastructure in the south of the site).

The above matters are also addressed in Section 3 of this submissions report.

2.3 Response to the Seven Submissions and DPE request of 6 April 2016.

The matters raised in the seven (7) submissions received and, the further information requested by DPE on 6 April 2016 are addressed in Section 3 of this Submissions Report.

3 ASSESSMENT AND RESPONSE TO MATTERS RAISED

3.1 Overview of responses provided

This report provides additional information responding to the following:

- DPE requests for further information; and
- Matters raised in submissions received from relevant government agencies.

The responses have been prepared based on the topics shown in Table 3.1. The source of the issue is also indicated and in some cases the matter reviewed addresses requests from two organisations. The section of the report containing the response is also shown.

Table 3.1 – Responses provided in this report

Topic for proponent response	Source of issue for proponent response	Report section
Biodiversity and native vegetation impacts	DPE and OEH	3.2
Water supply arrangements	DPI Water	3.3
Water course management	DPI Water	3.4
Aboriginal heritage management	OEH	3.5
Electrical hazards during emergency response roles	NSW Fire and Rescue	3.6
Restoration of full agricultural potential at end of life	GISC and DPI-Agriculture	3.7
Financial contributions to Glen Innes Severn Council	GISC	3.8
Traffic management and WRWF WAD process	RMS	3.9
Use of Crown Lands	DPI – Lands	3.10

This Submissions Report has been prepared by GWA on behalf of WRSFPL. Where necessary, it utilizes input from relevant specialists. The specialists that have provided input that is referred to by this report are listed in Table 3.2 below.

Table 3.2 – Specialists that have provided input for responses in this report

Assessment issue	Specialist Consultant or basis of assessment
Native Vegetation impacts	NGH Environmental
Water Supply	GWA and UGL (construction contractor)
Waterways management	UGL, NGH Environmental, consultation with DPI
Cultural Heritage management	NGH Environmental
Fire Risk including for Emergency response personnel	GWA and UGL re project design and controls for Emergency Response Management Plan
Traffic Management	GWA and reference to WRWF RMS WAD process
Agricultural potential	NGH Environmental

Responses including where necessary additional assessments for each of the topics listed above are provided in the following sections.

3.2 Biodiversity Impacts

An ecological assessment was conducted by NGH in 2015/2016 and presented in the WRSF EIS, March 2016. The WRSF EIS described the process of site selection that involved review of four potential solar farm sites and has led to selection of the site with least native vegetation impact. The EIS also provides an estimate of the native vegetation impact for the selected site.

3.2.1 Reduced impact on native vegetation

Following reviews of the EIS by DPE and OEH, the following requirements and additional information have been sought.

- DPE sought "*a breakdown of the vegetation required for the access tracks, the 33kV cable and the PV arrays*". DPE also sought a revised constraints map including buffer zones around the proposed 33kV cable routes and access tracks. The vegetation impact calculations provided by NGH to address the DPE request and included in this report, allow for the buffers (Appendix B)
- OEH recommended that "*Consideration should be given to reducing the impact of the project on the low condition Endangered Ecological Community (EEC) occurring on the site by reconfiguring the development layout, where possible*."
- Additionally, DPE requested that WRSFPL provide; "*an alternative layout for the PV array that minimises vegetation clearing to the maximum extent practicable*".

Consideration of alternative layouts. In response to requests by DPE and OEH, WRSFPL has considered alternative layouts for the WRSF PV array within the established development envelope. While there is some limited potential to further reduce impact on low condition EEC, the potential to vary the array location is constrained by the following factors:

- Property boundary to the north;
- Area of cropping to the east of the array;
- Rising ground on the western side of the array with steeper slope;
- Existing earth dam, water tank and stock watering facility to the southwest of the array;
- Existing crown land within area of solar farm array (application to close this road).
- Avoidance of pasture to the south of the array to ensure continued use by landowner.

The ability to vary the layout and reduce vegetation impact is increased if the layout can be placed across the Crown Land. WRSFPL will seek the closure of the road, through support for the landowner's application of July 2015 for Crown Road closure. The Crown road is currently unfenced and within an existing paddock where the solar farm site is proposed.

Movement of the western block of the solar array to the south could encroach on an existing farm dam and the southwestern corner of the array would encounter steeper land that raises constructability challenges and adds costs to the project while only providing a very small reduction in vegetation impact. As such, opportunity for movement in this direction is limited.

There is some potential to move the middle section of the array but to avoid impacting existing stock watering infrastructure, this may only involve movement by about 50m to the south.

The eastern section of the solar array is limited on its northern, eastern and southern extents and would only be varied if access can be gained to extend across the crown road on its western side. This would allow a contraction of the northern extent of solar array southward. As indicated above WRSFPL supports the landowner's application for closure of the Crown road.

Review of level of native vegetation impact: While the WRSF EIS March 2016 stated an impact of 2.93 ha of low condition EEC, this has increased to 3.22ha (in Appendix B of this report) after allowance for buffers and where the alternative cable route is used.

The estimates are based on total clearing of the low condition EEC in the area of the project footprint including below the area of the solar panels. The proposed construction method does not involve clearing of the vegetation below and adjacent the solar panels (the largest part of the footprint). Instead the posts (that support the framework and panels) will be installed within the vegetated areas, retaining the bulk of the underlying vegetation including, where present, the low condition EEC.

The NGH advice in Appendix B indicates impact on low condition EEC of 2.27 ha due to the solar array footprint. Where the only impact on low condition EEC is due to piling, the impact for the solar array component is less than 0.04 ha. This will mean total impact on low condition EEC for all components of the WRSF is approximately 1 ha.

3.2.2 Proposed plantings to improve biodiversity and connectivity

In its letter of 28 April 2016, DPE requested "*additional details on the proposed plantings outlined in Table 5-3 of the Biodiversity Assessment*."

The WRSF EIS, Table 5-3 of the Biodiversity Assessment Report sets out measures proposed to avoid and minimize direct impacts of the project during the operational phase. The measures include:

"*Where possible, plantings will be carried out that increase the diversity of the existing vegetation, as well as to improve the connectivity between patches in the landscape.*"

Such plantings would involve suitable species from the Yellow Box – Blakelys Red Gum Woodland EEC at locations to be confirmed at completion of construction and with regard to the following considerations:

- Amount of plantings to match the amount of any low condition EEC lost during construction as assessed at end of construction (expected to be of the order of 1 ha);
- Site options for plantings to provide connectivity between or enhancement of existing patches of EEC;
- plantings to be located on the property where WRSF is to be developed (preferably within the WRSF Development Envelope) and as agreed with the landowner;
- plantings to be protected from stock impacts to ensure successful establishment;
- located to avoid adverse impact on Solar Farm through shading of solar panels or risk of damage from falling branches; and
- located to avoid other WRSF and WRWF infrastructure.

Subject to landowner agreement, potential site options for tree planting could include the following locations with the extent being up to 1 ha (equivalent of an area 20m by 500m)

- On parts of the property boundary, north of the solar array, provided no shading of the solar panels would occur;
- On parts of the southwestern boundary of the solar farm array, provided no shading of the solar panels would occur;

- On the northern property boundary between the WRSF and the existing 132kV line, provided no shading of the solar panels would occur;
- An area in the vicinity of the adjacent WRWF infrastructure, such as is proposed for the permanent WRWF Operations and Maintenance building in Figure 3 of the approved WRWF Design and Landscape Plan, required by Condition C30 of Project Approval MP10_160.

Identification of a suitable area would be achieved through negotiation between WRSFPL and the landowner.

3.2.3 Weed management

OEH recommended that "*Consideration should be given to strengthening the weed management and rehabilitation of the degraded EEC on site through the proposed mitigation measures to ensure the project provides a net gain for biodiversity*."

The EIS Section 8.1.5, Environmental Safeguards, includes mitigation measures BIO 7 and 8 as follows:

BIO 7 – Rehabilitation would be undertaken in all areas disturbed during construction. Where plantings are to be carried out they will utilize local native species to increase the diversity of the existing vegetation, as well as to improve the connectivity between patches in the landscape.

BIO 8 - Prepare a weed management plan that;

- Is consistent with DPI's Prime Fact 1063 Infrastructure proposals on rural land (DPI 2013)
- Allows for management of declared noxious weeds in accordance to the requirements stipulated by Noxious Weeds Act 1993
- Develops a protocol for weed hygiene in relation to plant, machinery and importation and management of fill

A draft Weed Management Plan has been prepared for WRSF by UGL and is provided as Annexure D. The Weed Management Plan will be further developed and updated as the project progresses through the construction phase.

Section 3.7 also addresses return of the site to full agricultural potential at the end of the project life and is likely to require attention to weed management.

These measures largely address the OEH recommendation but could be enhanced by selective areas of planting of EEC species (as per Section 3.3.2) at the location such that a net gain in biodiversity is achieved. Noting that the overall impact on low condition EEC is likely to be significantly less than estimated in the EIS, it is considered that an area of 1 ha of EEC would provide a net gain in biodiversity.

3.2.4 Requirement for Seven Part Test

DPE made a further request on 12 May 2016. The request sought a response as to why a Seven Part Test under the Threatened Species Conservation Act had not been included in the WRSF EIS. The following response was provided to DPE on 12 May 2016.

The Framework for Biodiversity Assessment (FBA) referenced by the Biodiversity Assessment Report (BAR) doesn't require an Assessment of Significance (AoS) for threatened species under the TSC Act, as they are dealt with through the Biobanking calculator tool.

So, the only AoS that would have been required are those threatened species likely to be impacted that fall under EPBC Act legislation as follows:

- The box gum woodland was in low condition and did not meet the requirements for EPBC listing.
- The calculator generated the following threatened species that fall under EPBC Act (see Table 4.2.1 of the BAR):
    - Regent Honeyeater
    - Small Snake Orchid
    - Bluegrass.

All of these species are stated as 'unlikely to be impacted by the proposal' with reasoning attached. Furthermore, they were targeted during surveys and not recorded (except Small Snake Orchid which, as stated, was not in flower during surveys, however this species has not been previously recorded above 900m elevation. The lowest elevation for the site is 970m).

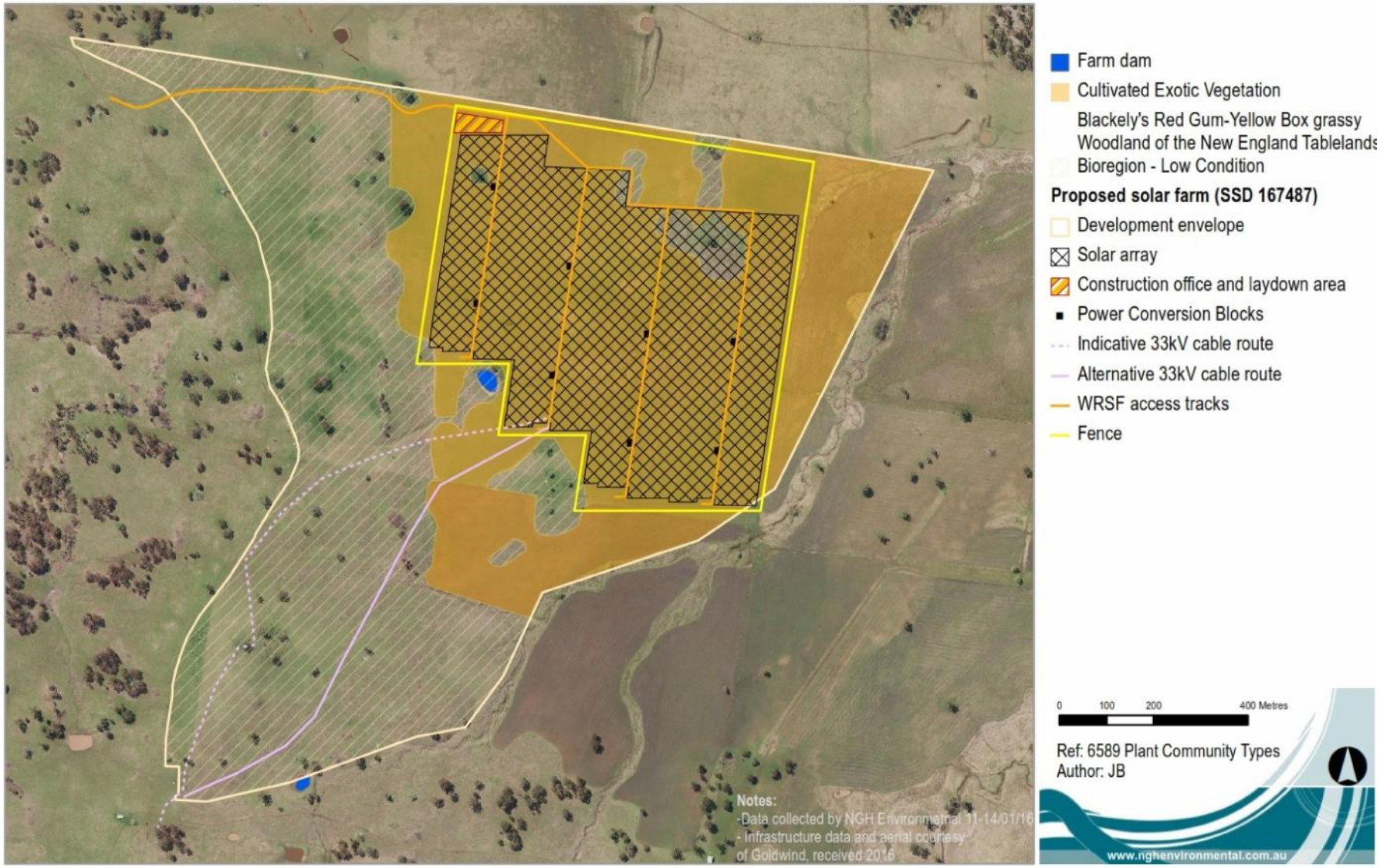
The WRSF EIS, Biodiversity Assessment Report, Section 4.2.3 provides more justification on why these species are unlikely to be impacted.

The Biodiversity Assessment Report, Section 6.2.2 also discusses Impacts on Species and Populations under Section 6.2 '*Areas not Requiring an Offset*'. This section further discusses why the listed threatened species do not require further assessment, are unlikely to be impacted and, do not require offsetting.

There are no hollow-bearing trees being cleared which means there will be no impact on hollow-dwelling fauna, including any EPBC listed fauna.

While NGH Environmental advised that the Biodiversity Assessment Report provides appropriate justification for not doing an EPBC AoS, they will provide additional information to address this aspect and that will be provide separately.

Figure 3.1 – White Rock Solar Farm - Vegetation zones relative to WRSF infrastructure



3.3 Water supply arrangements

DPE required WRSFPL to quantify the estimated water use during construction and operation based on the worst case scenario. A worst case scenario is taken to be dry and dusty conditions requiring regular application of water for dust control.

The contractor has advised that it would not require more than 1 ML of water for the WRSF construction works. The contractor has also obtained quotes from GISC for water supply. The contractor advised that GISC did not indicate any issues with the quantity sought by the contractor.

DPE also supported Department of Primary Industry (DPI), DPI-Water recommendations.

DPI-Water recommended that:

- *"the proponent ensures they have adequate, reliable and legally sourced water supply prior to the development commencing."*
- *The proponent should source water or obtain relevant licences as soon as practical."*
- *Any water sourced from landholder's farm dams should be in accordance with the Harvestable Rights can be located at the following link. http://www.water.nsw.gov.au/water-licensing/basic-water-rights/harvesting-runoff"*

The EIS Section 4.8.5 stated that: "*Water for dust suppression and cleaning of panels would be sourced locally as required. Water sources would likely be from farm dams within the WRSF site or on a neighbouring property, subject to landowner approval. Non potable water would be sourced for this activity.*"

The EIS Section 9.2.1 also states that: "*The WRSF Development Envelope includes one small farm dam, total capacity 1.5-2.0 ML. There are three more farm dams just outside the south-western and southern boundary of the WRSF Development Envelope located on land belonging to the same landowner. Subject to landowner agreement, the dams may be used as a water source for the WRSF Project. An alternative water source may be a dam located on a neighbouring property which is likely to be one of the water supply dams used during construction of the WRWF.*"

The EIS indicative project timeline (Table 4-3) shows commencement of construction in first quarter of 2017. While final details of water supply have not been confirmed for the WRSF project, water supply options have been identified in the EIS. Water supply arrangements are being completed for the WRWF construction works and it is likely that WRSF arrangements for water supply will follow on from those used for WRWF. This would not mean a cumulative impact, at any point in time, as the bulk of civil works for WRWF would be completed by the time WRSF civil works commence. In comparison, the WRSF water supply requirements are expected to be much less than for WRWF as there are only about 3 km of access tracks required compared to approximately 32km for WRWF.

A host landowner for WRWF has arranged Water Licences as follows and WRWFPL is seeking allocation and temporary transfers to address the WRWF construction water supply requirements. These are expected to be available for WRWF and subsequently WRSF.

Application	Water Licence	Source	Allocation
D1010787	90AL834155	Surface water	18ML
D1010788	90AL834161	Ground water	Nil

WRSFPL is confident that it can source the required water either by purchase from GISC or by obtaining relevant water supply licences. WRSFPL expects that the arrangements can be confirmed well before commencement of WRSF construction in 2017.

3.4 Watercourse management

DPE, in its letter of 28 April 2016, supported DPI-Water's request for:

- more information about how the watercourse would be managed;
- cross-sectional and long-sectional profiles of the watercourse; and
- whether the works are proposed to be in accordance with the *Guidelines for Controlled Activities on Waterfront Land*.

WRSFPL has consulted the contractor regarding the proposed construction methods and potential for disturbance of the watercourses. The contractor has advised that it does not intend to alter the existing topography or, the characteristics of the watercourses. The proposed construction methodology would ensure that the watercourses stay in their current locations and that no deviations to stream flows will occur.

DPI Water advice contained in the DPI letter of 27 April 2016 states that developments approved as State Significant Development are exempt from the requirement to obtain a 'Controlled Activity Approval' under the Water Management Act 2000. Nevertheless, it suggests that all works should be in accordance with DPI *Guidelines for Controlled Activities on Waterfront Land*.

3.4.1 Construction Impact on the Watercourse

During the construction phase, the contractor proposes that works within the watercourses and on the adjacent lands within the riparian corridor shall be constructed with minimal disturbances to the existing groundcover (maintaining good grass cover around the works) and the implementation of erosion and sediment controls such as sediment fencing downslope of the works to ensure any sediment is captured and contained.

The construction works do not intend to undertake any bulk earthworks or modify the landscape of the watercourse. The works intent is to build an access track crossing of the watercourse which facilitates the flow of water across the access track. The piling activity will ram the steel posts into the ground with no other impact as it is not intended to utilise any concrete around the steel posts.

A draft erosion and sediment control plan was included in the WRSF EIS. During the development of the solar farm additional mitigation measures relating to soil erosion will be adopted through construction methodologies to reduce the risk of soil loss and degradation of downslope assets and waterways. This shall be achieved utilizing best practices through the use of Managing Urban Stormwater: Soils and Construction, Volume 1, 4th edition (Landcom 2004), known as 'the Blue Book', Volume 2A Installation of Services (DECC 2008a) and Volume 2C Unsealed Roads (DECC 2008b).

3.4.2 Survey of the Watercourse

Additionally, in response to DPI-Water's request, WRSFPL engaged the contractor to provide more detailed mapping for the WRSF site and, sections along and across the watercourses. The mapping and sections are shown in Appendix C. Details of the sections prepared are shown in Table 3.2. The cross sections are also shown in Figure 3.2.

Table 3.2 – WRSF Details of Watercourse Sections provided

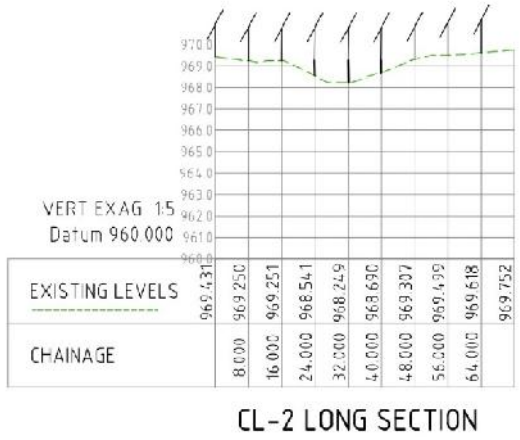
Section No.	Watercourse	Type of section	Section length	Elevations	Difference in level (Fall or depression)
CL -1	Northern and southern	Cross-section	180m	968m to 968m Crosses both water courses	Nthn - Up to - 0.7m Sthn - 0.1 to - 0.3m
CL-2	Northern	Cross-section	64m	969m to 969m	- 1.3 total (-1.0m over 32m width)
CL-3	Northern	Long-section	688m	975m to 967m	-8m drop West to East
CL-4	Northern	Cross Section	124m	972m to 972m	-1.0m (-0.6 for watercourse)
CL-5	Southern	Long Section	519m	975m to 967m	-8m drop

There are two watercourses present at the WRSF site (Appendix C). These are shallow ephemeral watercourses trending generally southwest to northeast. The watercourses are within the upper part of the Wellingrove Creek catchment and are First Order watercourses. As evident in Figure 3.1, the watercourses are wide shallow features (see also data in Table 3.2). A photo of a section of the deeper northern watercourse is shown in Plate 3.1. It can be seen in the photo that the watercourse is a shallow depression, is well vegetated and is crossed by an existing fence.

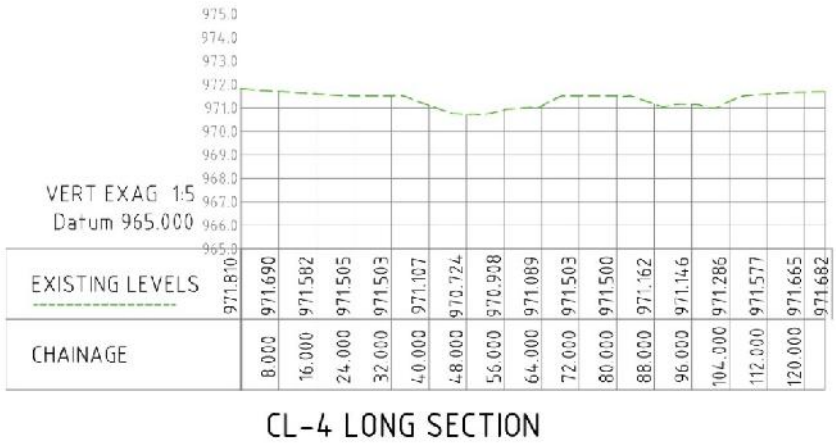
Plate 3.1 – Photo, well vegetated water course at eastern extent of Solar Farm site.

Figure 3.2 – Watercourse Cross Sections (CL-1, CL-2 and CL-4) at WRSF Site

Section CL–1 - Northern watercourse at 50m and southern watercourse at 128m, barely distinguishable



Section CL–2 – Northern watercourse – Shows arrangement of solar panels across watercourse



Section CL-4 – Northern watercourse, approx. 0.6m depression within 33m and subsidiary depressions

Note: Locations of the sections are shown on the map in Appendix C.

3.5 Cultural Heritage management

A heritage assessment was undertaken by NGH Environmental and documented in the WRSF EIS, 2016. A field survey was conducted over two days on 10 and 11 February 2016. Three survey units were identified but Survey Unit 3 was further sub-divided given the different exposure for the two areas.

The OEH review (letter of 15 April 2016) of, the EIS and Appendix C - Archaeological Assessment, considered that the assessment had deficiencies but

- "*concurred that the likelihood of undisturbed Aboriginal objects being present within the project area is low*"; and
- "*considers that the recommendations contained within the ACHAR, along with the following variation recommended conditions of approval will adequately address any such likelihood and provide protections for any previously identified objects located in the area*" OEH recommended inclusion of a requirement to "*have completed the ACHMP prior to any ground disturbing works commencing*".

Some of the matters that OEH considered as deficiencies related to different intensity of observation/mapping between the project footprint and areas where no disturbance is proposed or where the WRWF ACHAR had previously assessed the location. For example, much of SU1 includes parts of the WRWF infrastructure and has been separately mapped by RPS.

WRWFPL commits to preparing an Aboriginal Cultural Heritage Management Plan (ACHMP) prior to construction commencing, based on modified recommendations of the ACHAR generally in accordance with the OEH recommendations.

WRSFPL commits to the following in respect of heritage management:

- Preparation of an ACHMP prior to construction commencing;
- Inclusion of an 'unexpected finds' protocol in the ACHMP;
- Preparation of the ACHMP in consultation with the Registered Aboriginal Parties and OEH;

NGH was consulted regarding the need for a further survey for Aboriginal artefacts during construction. The response is as follows:

"*NGH Environmental does not believe that additional survey after the ground clearance is warranted. The survey did not identify any areas of archaeological potential and we are confident that there is a low likelihood for Aboriginal objects to occur. In addition, we note that the submission identifies that the prominent knolls in SU1 were not examined during this survey. These areas were inspected as part of the wind farm development proposals but nothing was found and no areas were identified as having archaeological potential. The survey therefore concentrated on other areas that had not been investigated as part of the wind farm project survey and are subject of the WRSF proposal.*"

3.6 Bush Fire Risk and first responder safety

NSW Fire and Rescue response of 12 April 2016 for the WRSF DA public exhibition raised the issue of safety for first responders to an Emergency Response and recommended that a comprehensive Emergency Response Plan (ERP) is developed for the site. This was raised in the context of a risk of "*electrical hazards associated with large scale photovoltaic installations and the potential risk to the health and safety of firefighters*" The risk was considered applicable to both Fire & Rescue NSW (FRNSW) and the NSW Rural Fire Service (RFS) that must be able to implement effective and appropriate risk control measures when managing an emergency incident at the proposed site. It is understood that the circumstances for first responders to a fire at the site once the solar farm is operational is a key issue of concern for determining safe work practices.

The Solar Panels that comprise the bulk of the installation are considered relatively low fire risk. However the Power Conversion Blocks including Inverters, Step-up transformers, switch gear and fans are associated with the 33kV components that present a greater risk which any first responders would need to be aware of. It is expected that close consultation with RFS and as relevant FRNSW, prior to solar farm operations commencing would be an effective time to confirm an emergency management for the operations phase.

The EIS Section 9.4.4 includes mitigation measures BF 1 to BF 16 to address Bushfire Risk.

A draft project Emergency Response Plan (ERP) has been prepared by UGL for the project and is provided in Appendix E. The ERP will be finalised prior to commencement of construction.

It is noted within the ERP that in the event of a fire, the solar farm should be isolated if possible prior to any firefighting activities within the site, noting the risk of electrocution from the electrical equipment within the perimeter fence.

The ERP highlights that "*if the risks are deemed to be high, the fire can be left unattended inside the fence… [the Fire Brigade would then work to] contain the fire within the plant boundary*" such that the RFS's priority would be to ensure that a fire does not escape the perimeter fence of the solar farm.

The proponent will, in consultation with RFS, maintain the site in a condition that reduces the risk of initiating or allowing spread of a bush fire

3.7 Restoration of Full Agricultural Productivity at end of Project Life

DPE requested that WRSFPL address requirement for a Rehabilitation Plan that includes:

- *Remediation to ensure the land reverts to full agricultural productivity at the end of the project life; and*
- *A protocol for measuring the baseline condition of the land and for monitoring and measuring the return of the land to its pre-existing condition.*

The WRSF EIS Appendix B Biodiversity Assessment Report provides an assessment of the current vegetation value for the solar farm site in accordance with the OEH endorsed Biobanking methodology. The site value scores are derived from standardized surveys and include scores against ten relevant parameters (including species richness and weeds). This provides baseline data that can be used to evaluate improvement or degradation against base line conditions at any time in the future.

In addition, WRSFPL commits to rehabilitation measures including:

- Measures during construction (Section 8.1.5 of the EIS and cited in OEH submission)
- Measures during decommissioning (Section 10.2 of the EIS).

Components of the Rehabilitation Plan, to be prepared prior to operations commencing, will include:

- Complete removal of the above ground solar farm infrastructure:
    - removal of solar panels;
    - removal of supporting framework;
    - removal of posts that were driven into the ground and back fill post-holes;
    - removal of Power Conversion Blocks;
    - removal of solar farm fencing;
    - All components moved off the Solar Farm site to a suitable disposal or recycling site.
- Returning tracks, laydown area and PCB sites to pasture consistent or better with pre-construction vegetation status; This would be achieved by removal of gravel, ripping of compacted soil and, re-seeding with suitable seed mix. It is noted that the access tracks may be retained if requested by the landowner at the time of decommissioning. Watering may be required for effective re-establishment of vegetation on the disturbed areas;
- Ensuring watercourses are consistent with pre-construction form, stabilised and re-vegetated, where necessary;
- Weed control program for all rehabilitated areas; and
- Retention of any trees that were planted in association with the project development.

3.8 Financial Contribution to Glen Innes Severn Council

In its response to DPE's referral of the WRSF DA, GISC has requested that; "*the provisions of the Glen Innes Severn Section 94A plan be incorporated into the White Rock Solar Farm development*".

The request has been discussed between GISC and WRSFPL on 11 May 2016 and, the following general position has been agreed in principle between the two parties.

- The current form of the Glen Innes Severn Section 94A Plan does not appear to make provision for a contribution rate in respect of State Significant Development and accordingly may limit ability to apply the provisions of the Plan to WRSF Determination;
- The WRSF proposal is one of a range of potential solar farm proposals that are bidding competitively for funding that can assure the project viability. WRSFPL is prepared to make a reasonable contribution that will benefit the local community but needs to ensure that the electricity from the solar farm is competitively priced and would therefore seek GISC agreement on a reasonable level of contribution;
- GISC understands the potential project funding constraints and has invited WRSFPL to submit an offer to GISC for a funding contribution;
- WRSFPL and GISC would discuss and agree, the amount, purpose of the funding and, any terms for payment of the contribution;
- GISC would not require funding until commencement of construction so that WRSFPL can have confidence that funding would only occur if the project is viable, has reached financial closure and, is proceeding.

It is proposed that this aspect be addressed directly between GISC and WRSFPL.

3.9 Traffic Management

A submission was received from Roads and Maritime Services (RMS), dated 21 April 2016.

Item 1 of the RMS submission noted the association of the White Rock Wind Farm and White Rock Solar Farm and that the two projects would share a common access and substation infrastructure. RMS also noted that the approved access treatment for WRWF will accommodate the operational traffic movements generated by WRWF and WRSF projects.

Item 2 of the RMS letter raised the possibility of WRSF commencing prior to WRWF access treatment works occurring and, for that scenario, set out requirements for access upgrades that would need to be undertaken prior to commencement of WRSF construction traffic. While RMS has covered a possible scenario, WRWF development has now advanced to the stage where initial WRWF construction is commencing in May 2016 and it can be expected that the WRWF access treatment works will be completed well before the WRSF project commences construction in 2017.

Item 3 related to Management Plans. WRSFPL will prepare a Traffic Management Plan and Construction Environmental Management Plan in advance of the WRSF commencing and, to the extent relevant, generally consistent with the approved documents for WRWF.

Items 4 and 5 of the RMS letter relate to works on the Gwydir Highway, the applicable Guidelines and Standards and the need to enter into a 'Works Authorisation Deed' (WAD) with RMS prior to works on the classified road. A WAD has already been established for the site access treatment in relation to WRWF (Figure 3.3) and it is expected that the works for WRWF will be more than adequate to enable access for WRSF.

Other than the need for preparation of management plans for the WRSF project, it is expected that the WRWF access treatment works will be completed well before the WRSF construction and so no further requirements for access upgrades will be required.

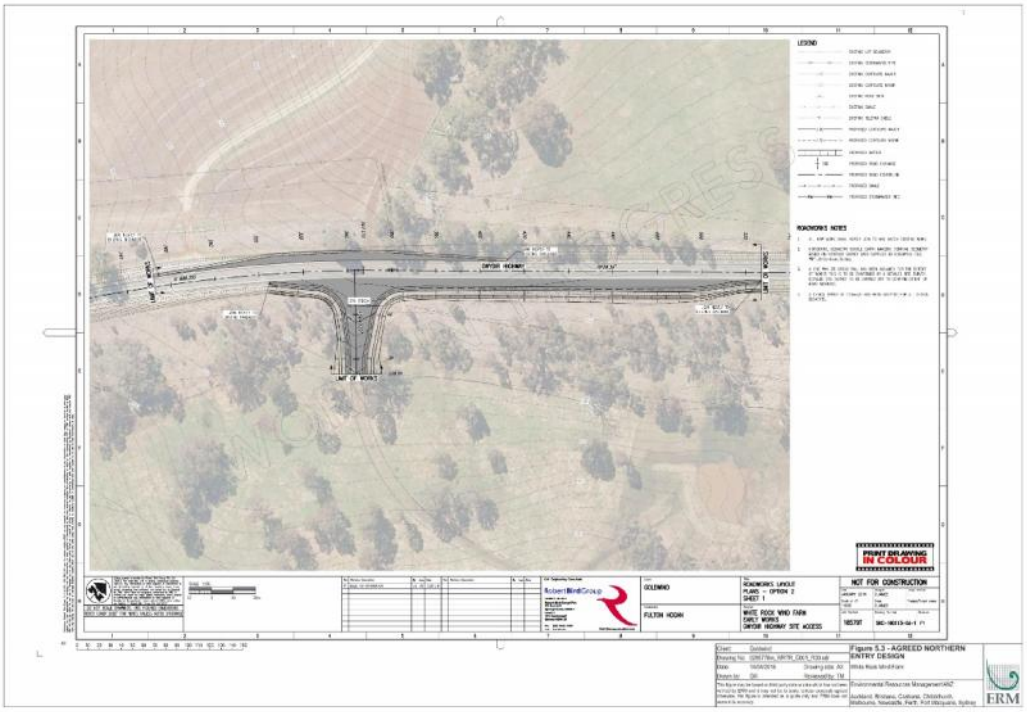


Figure 3.3 – Proposed upgrade treatment for WRWF Site access from Gwydir Highway

3.10 Use of Crown Land

The WRSF project is located predominantly on privately owned land but impacts on two areas of Crown Land as follows:

- the access from the Gwydir Highway crosses a Crown Reserve, Lot 7001/DP 93978; and
- there is a narrow strip of Crown Land between Lots 29 and 30/DP753319.

The Crown Reserve across which access will occur also provides access for WRWF. A Licence has been issued to WRWFPL by DPI-Lands for provision of access to the site as indicated in the section of the figure extracted from the Licence (Figure 3.4). DPI-Lands has indicated this access may also be used for WRSF as it is for a similar purpose and requires no additional works.

Figure 3.4 – Lot 7001/DP93978 – Subject to Crown Land Licence R1 523495

An application has also been submitted to DPI-Lands for use of Crown Land between Lot 29 and Lot 30, as shown in Figure 3.5. This was initially sought to the array proposed in the WRSF EIS that avoided placement of panels across the Crown Land. A further request has been made to DPI-Lands for arrangements to be made to allow construction of the solar panels across the Crown Land. The landowner lodged an application for closure of the Crown Road in July 2015 and WRSFPL supports the landowner's application. While the arrangements will take some time to complete, WRSFPL requests that the Consent allow placement of solar panels subject to completion of the arrangements.

Figure 3.5 – Location of Crown Road with potential area for placement of solar panels

3.11 WRSF Community Consultation

Community consultation for the WRSF project occurs through the following mechanisms:

- Direct consultation with closest neighbours;
- Discussion as part of the WRWF Community Consultative Committee meetings;
- Community information event; and
- Public exhibition of the WRSF DA has provided an opportunity for community to submit comments on the proposal.
- A shop front venue has been established in Glen Innes in respect of the White Rock Wind Farm. Information is also available at the shop front in respect of the White Rock Solar Farm
- A website has been established for the WRSF project and provides stats of the project.

The closest neighbours to the Solar Farm site are at residences H40 and I40. Both have been consulted in respect of the WRSF and potential neighbour agreements in terms of the WRWF and WRSF have been proposed. Discussions are ongoing.

The WRSF was included as an agenda item at a meeting of the WRWF Community Consultative Committee.

A community information event was held in the Glen Innes Learning and Library Centre on 21 March 2016. Advertising of the event and invitations preceded the event. The event was attended by approximately 30 members of the general public. During the event, attendees were able to view representative material and discuss the project with Goldwind staff. The attendees did not raise any negative concerns with the proposal and expressed general interest in the development and broad support. While the layout has undergone minor adjustment, the discussions arising during the WRSF Information Event do not indicate that attendees would change their view of the project based on minor layout changes.

No responses were received from the community as a result of the public exhibition of the WRSF DA and EIS.

The WRWF shop front is located at 303 Grey Street, Glen Innes and, is open Monday to Thursday from 10am to 3.30pm. Information on WRSF is available for viewing by members of the public.

The WRSF website can be accessed by following the link below.

http://whiterocksolarfarm.com/

Overall, the WRSF appears to be accepted by the community and WRSFPL is not aware of any community objections to the proposal.

3.12 Other issues

The WRSF EIS dealt with a number of other issues that have not been subject of submissions but which are briefly discussed below in respect of the relatively minor adjustments to the layout.

3.12.1 Landscape and visual amenity.

The assessment of landscape and visual amenity in the WRSF EIS was based on the layout provided in Figure 4.1 of the WRSF EIS. The revised layout shown in Figure 1.1 has varied from that in Figure 4.1 of the EIS but is not regarded as warranting further visual assessment. Differences in layout are shown below as a guide to the minor changes expected for visual impact.

- The solar panels remain in the same paddock as for the WRSF EIS Figure 4.1;
- There has been a slight contraction of the northern extent of solar panels to the south which is away from the likely viewpoints of the neighbouring landowners access driveway and the Gwydir Highway;
- The southern extent of the Solar Farm has in part moved further to the south; and
- The solar panels may be continuous across a crown road that was previously avoided as shown in Figure 4.1 of the WRSF EIS.

The changes are considered minor in the context of the project visibility. While moving slightly further from the main viewpoints, it is not expected that the changes are such as to significantly vary the project's visibility or impact. Targeted plantings along the northern boundary of the site would reduce its visibility. While such planting has been considered its suitability will be dependent on whether it can be implemented without causing shading of the solar panels.

3.12.2 Noise Impact

The assessment of noise impacts in the WRSF EIS was based on the layout provided in Figure 4.1 of the WRSF EIS. The revised layout shown in Figure 1.1 has varied from that in Figure 4.1 of the EIS but is not regarded as warranting further noise impact assessment. Noise impacts may arise from construction or operation and are briefly discussed below in the context of the relatively minor variations to the layout.

Construction – As the layout has moved marginally to the south, the construction noise impacts are likely to be marginally reduced for the closest residences that are generally to the north of WRSF. The changes are expected to be minor reductions and would not increase noise impacts.

Operations – There are eight locations proposed for Power Conversion Blocks that represent the main source of operational noise. The exact locations are still to be confirmed but generally it is expected that these facilities that are centralized within blocks of solar panels will move slightly to the south in line with adjustments to the solar panel footprint. As such the layout adjustment will marginally reduce operational noise at the closest residences to the north of the WRSF project.

Negotiations for Neighbour Agreements are continuing in respect of the landowners for the two closest landowners to the north of the project.

On the basis of the above, WRSFPL believes that WRSF will not result in any significant increase in noise levels at any of the relevant receivers.

4 SUMMARY OF RESPONSES AND CONCLUSIONS

4.1 Summary of Proponent's responses

The submissions received by DPE address a range of issues where WRSF may have potential impacts and where more detail or clarification is sought either for the project or its mitigation measures.

WRSFPL has provided responses to the matters raised and to the extent reasonably and practically possible has adjusted the project or made commitments to address the respective agency matters while positioning the project to be viable in a competitive renewable energy supply funding context.

On the basis of responses provided in this report and the implementation of project changes outlined in this Submissions Report, the WRSF proposal is considered to have either improved environmental outcomes of the project or provided greater surety on the outcomes of project implementation.

4.2 Conclusions

The WRSF EIS described:

- the WRSF project as a 20MW solar farm sharing infrastructure with WRWF;
- the benefits of the solar farm project and co-location with the WRWF;
- methodology and reasons for the site selection including being a least impact site option;
- assessment of potential impacts; and
- mitigation measures for the potential impacts.

The WRSF EIS concluded that:

"*The impacts and risks identified are considered manageable with the effective implementation of the measures stipulated in the EIS. Impacts are considered justifiable and acceptable*."

The additional information provided in this Submissions Report

- provides further information responding to agency submissions and recommendations;
- Updates the project design options;
- Clarifies areas where additional detail was sought; and
- Strengthens mitigation measures.

WRSFPL believes that the WRSF project:

- provides a beneficial project which can supply renewable energy that addresses State and National programs to reduce the carbon emissions intensity of future electricity supplies;
- will have economic and job creation benefits for the local region;
- has acceptable environmental impacts; and
- warrants positive determination.