

ASSESSMENT REPORT

WHITE ROCK WIND FARM SECTION 75W MODIFICATION (10_0160 MOD 3) Changes to construction and operation infrastructure and facilities

1. BACKGROUND

The White Rock Wind Farm project is located approximately 20 kilometres (km) west of Glen Innes in the Northern Tablelands, within the Inverell and Glen Innes Severn local government areas (see Figures 1 and 2). The project is owned and operated by White Rock Wind Farm Pty Ltd (White Rock), a subsidiary of Goldwind International.

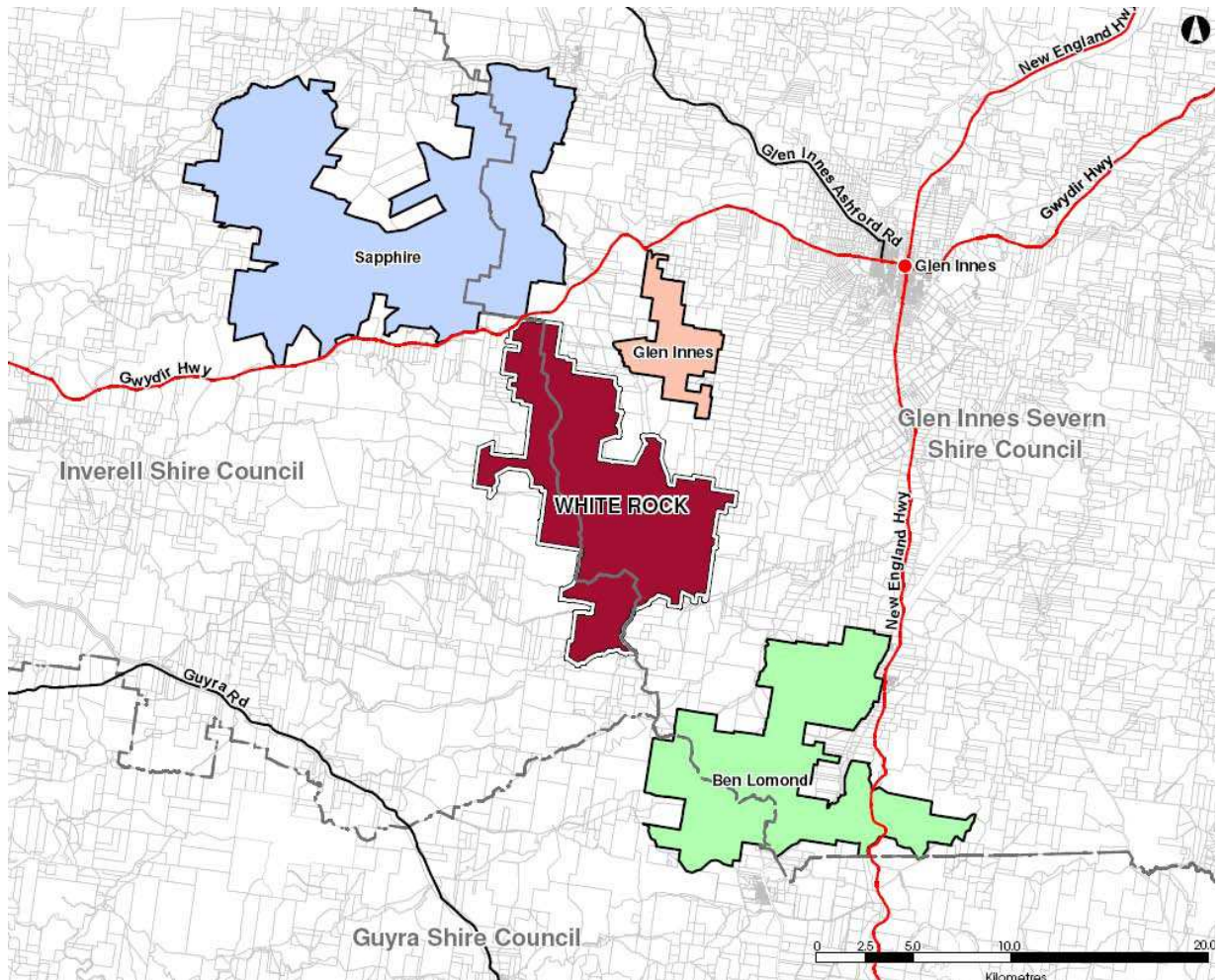


Figure 1: Regional Location and context with other wind farms

The project was approved by the Department of Planning and Environment (the Department), as delegate of the Minister for Planning on 10 July 2012 (MP 10_0160). A modification for an alternate transmission line (Modification 1) was lodged in September 2012, but withdrawn in January 2015 prior to determination. A second modification has been approved to clarify vegetation clearing and operational noise conditions.

The project as currently approved allows for:

- development and operation of up to 119 wind turbines, associated infrastructure and access tracks;
- a generating capacity of 238 megawatts (MW) of electricity; and
- 6-8 km of on-site powerlines connecting to TransGrid's existing 132 kV Inverell – Glen Innes transmission line at the northern end of the site.

White Rock proposes to construct the project in two stages:

- Stage 1 – 70 turbines and associated infrastructure; and
- Stage 2 – 49 turbines and associated infrastructure

Construction of Stage 1 is scheduled to commence in the second quarter of 2016.

Once operational, the whole project will generate up to 830,000 MW hours of electricity per year.

2. PROPOSED MODIFICATION

White Rock is proposing to modify the approval for the project (10_0160 MOD 3) (see **Appendix C**). There are two main components to the modification (see **Figure 2**):

- changes and additions to construction infrastructure; and
- changes and additions to operational infrastructure.

2.1 Construction infrastructure

The changes to construction (temporary) infrastructure relate to:

- a new construction compound;
- a new amenities and laydown area; and
- 2 new temporary concrete batching plants.

2.2 Operational infrastructure

The changes to operational (permanent) infrastructure relate to:

- relocating 1.26 km of the 132 kV overhead transmission line to between 100 and 192 m from the approved location in the north west of the site; and
- ancillary infrastructure:
 - relocating site entry points 2, 3 and 4;
 - relocating the approved northern operations and maintenance facility 230 m to the south east of the approved facility;
 - the addition of a new operations and maintenance facility located at the southern entry point (entry point 3);
 - changing a 0.5 km section of 33 kV overhead line to a 33 kV underground line located in the north west of the site;
 - relocating 7 access tracks.

In general, the modifications have been proposed to reduce impacts including reduced vegetation clearing and / or to improve constructability. The components and the reasons for modification are presented in **Table 1** and shown in **Figure 2**.

The application also seeks (see **Appendix D**) to utilise a portion of the infrastructure corridor for the purposes of receiving and exporting electricity from the proposed White Rock solar farm (subject to separate application, SSD 7487). If approved, part of a 33 kV cable for the White Rock Solar Farm would be located within the wind farm infrastructure corridor from a point near turbine 1 / 2 (north of the site) to the wind farm substation (south of the site). No changes to the alignment of the corridor are required to accommodate the solar farm cable.

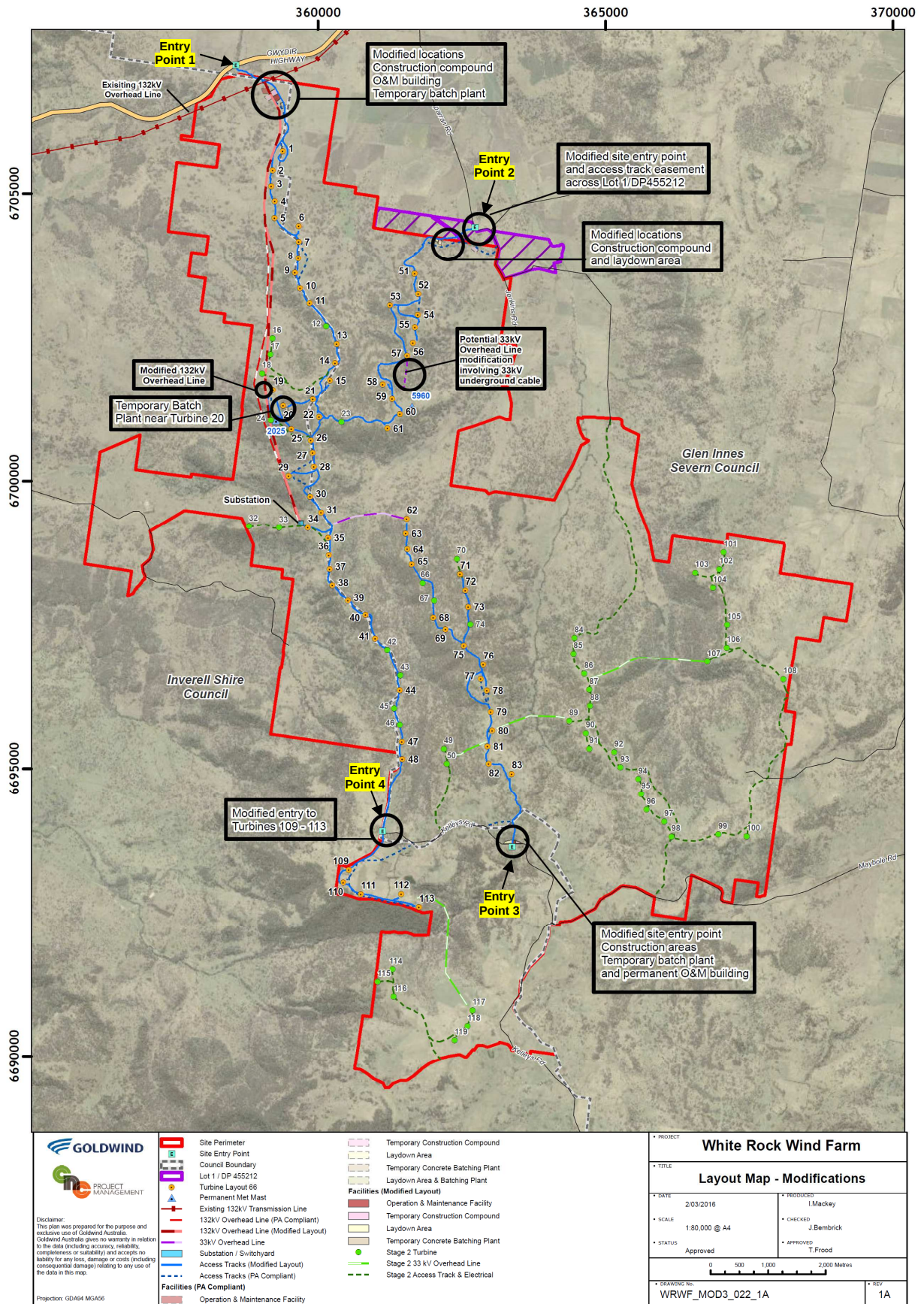


Figure 2: Proposed modifications

Table 1: Elements of the modification

Component	Reason for modification
Construction (temporary) infrastructure	
New construction compound (near Kelleys Road, southern end of the site)	Reduce use of Kelleys Road
New amenities and laydown area (near Kelleys Road, southern end of the site)	Reduce use of Kelleys Road
New temporary concrete batching plants: - near turbine 20 (White Rock Mountain approximately in the centre of the site) - at southern entry	More practical site for delivery to elevated turbine sites, reduced time for concrete pours with less fleet requirements
Operational (permanent) infrastructure	
Relocating the 132 kV transmission line	Avoid significant vegetation
Relocating three site entry points: - Ilparran Road to turbine 51 (entry point 2); - Kelleys Road to turbine 83 (entry point 3); and - Kelleys Road to turbine 109 (entry point 4).	Reduce vegetation impacts Reduce length/distance from residence Move due to landowner preference
Relocating the approved operations and maintenance facility (south of the site)	Avoid construction work conflicts
New operations and maintenance facility at southern entry point at location of construction site office	Provide facility for the southern portion of the wind farm
Relocating some access tracks: - to turbine 1 - to turbines 9 and 10 - to turbine 19 - to turbine 29 - to turbines 28 and 30 - to turbines 53 and 54 - to turbine 79 to 76	Improve constructability Reduce track length Improve constructability / reduce visual impact Improve constructability Improve constructability Improve constructability / reduce visual impact Improve constructability
Change from overhead to underground for the 33 kV cable	Reduce vegetation impact
Collocating a portion of infrastructure for the White Rock Solar Farm within the wind farm infrastructure corridor from a point near turbine 1 / 2 (north of the site) to the wind farm substation (south of the site).	Utilise an existing corridor for the purposes of receiving and exporting electricity from the proposed White Rock solar farm (SSD 7487, subject to that project's approval).

3. STATUTORY CONTEXT

3.1 Section 75W Modification

Under Schedule 6A of the *Environmental Planning and Assessment Act 1979* (EP&A Act), the White Rock Wind Farm (10_0160) is classified as a “transitional Part 3A project” and can be modified under the former Section 75W of the EP&A Act.

The Department is satisfied that the proposed modification can be characterised as a modification because the changes to infrastructure would be minor. The Department also considers that the addition of land associated with the access track easement across Lot 1 DP 455212 (at entry point 2) is consistent with the existing project because it is substantially the same as the approved project. The relocated access track reduces the access track length by approximately 500 m and reduces impact to vegetation and Ilparran Road.

The Department's assessment indicates that the resulting environmental impacts would be substantially the same as approved for the original project (see **Section 5**).

3.2 Approval Authority

The Minister for Planning is the approval authority for the application. However, under the Minister's delegation of 16 February 2015, the Director Resource Assessments may determine the proposed modification, as neither of the relevant Councils have made an objection, a political disclosure statement has not been made and there are no public objections.

4. CONSULTATION

The Department publically exhibited the application and accompanying EA from 12 January to 2 February 2016. The Department also consulted with key agencies.

Goldwind also advised the White Rock Community Consultative Committee of the proposed modification.

Six submissions were received, including 5 from agencies and one public submission.

The public submission was received from White Rock Landowners Group supporting the modification.

Office of Environment and Heritage (OEH) did not object to the proposal and supports the reduction in vegetation impacts and the outcomes and recommendations of the Aboriginal Cultural Heritage Report.

Environment Protection Authority (EPA) did not object to the proposal, noting that the noise impacts are predicted to comply with the existing noise limits in the approval.

Inverell Shire Council and **Glen Innes Severn Shire Council** did not object to the proposal.

TransGrid supports the modification, noting that it had been working closely with Goldwind to optimise the transmission line alignment to mitigate impacts.

5. ASSESSMENT

The key considerations for the modification are biodiversity, heritage, transport and noise. Other issues are discussed in **Section 5.5**.

5.1 Vegetation Clearing

Two endangered ecological communities (EECs) listed under the *Threatened Species Conservation Act 1995* were identified in the original Environmental Assessment (EA) that are affected by the project, including:

- Ribbon Gum Woodland EEC; and
- Yellow Box Woodland EEC.

The original EA also identified that the project would affect some other scattered native vegetation, which it considered did not constitute EEC.

The vegetation assessment for the modification (RPS, 2015) included updating the vegetation mapping to update calculations of the project's impact. The assessment compared the impact of the approved layout (using updated mapping) and the modified layout.

The proposed modification would reduce the impact identified in the original approval for Stage 1 by approximately 2 hectares of native vegetation or woodland. This includes a reduction of 1.1 ha of Ribbon Gum Woodland EEC and 0.9 ha of Yellow Box Woodland EEC.

The existing approval requires White Rock to limit clearing of native vegetation for the overall project (Stage 1 and Stage 2) to the minimum extent practicable and contains a strict limit of no more than 22 ha of Ribbon Gum Woodland EEC to be cleared. White Rock has advised that it will continue to minimise clearing of native vegetation on site but has sought to retain the limit for clearing for the overall project (Stage 1 and Stage 2). The Department accepts this and notes that the impacts of the project would be offset.

The 33 kV cable for the White Rock solar farm would be located within the assessed infrastructure corridor for the wind farm. No additional assessment is required for the use of the wind farm infrastructure corridor for the solar farm cable as it is co-located in the same corridor and does not change the assessed impact of the wind farm infrastructure.

Consequently no changes are required to the existing conditions (which include preparation of a biodiversity offset package).

5.2 Aboriginal Heritage

The original EA identified 5 Aboriginal sites in the project area, none of which would be impacted by the approved project

An additional site was identified in surveys for the modification. This site was located in the modified access route for turbines 51 and 61 as proposed at that time. This access route was subsequently further relocated to avoid this additional site.

The modification does not impact the identified Aboriginal sites. The modification does not increase the impact to Aboriginal values. OEH is satisfied with the outcomes of the assessment.

OEH request that modification proceed in accordance with the requirements of the Aboriginal Cultural Heritage Management Plan already approved for the project.

Based on this assessment, the Department concludes that there would not be an impact from the modification on Aboriginal heritage and no changes are required to these conditions.

5.3 Noise

Construction noise

The modification elements that impact construction noise are:

- new construction compound and amenities and laydown area; and
- temporary concrete batching plants.

The temporary batching plants are located:

- near turbine 20 (White Rock Mountain) - more than 2 km from nearest residence; and
- southern site entry – 250 m and 850 m from two residences that are associated with the wind farm.

Although the compound and laydown area are new elements, they are not significant noise sources and they are temporary facilities used during construction.

The concrete batching plants are new construction noise sources. One batching plant is located sufficient distance (more than 2 km) from the nearest residence such that the noise impacts are not likely to be significant. The other batching plant, although located closer to receivers, both receivers are associated with the project. In addition, the landowner of the residence located 250 m from the plant requested this location.

The existing approval contains stringent requirements for construction activities. This includes restrictions on the hours of operation for construction activities and a Construction Noise and Vibration Management Plan.

The Department and EPA are satisfied that there would not be an impact from the modification on noise and no changes are required to these conditions.

Operation noise

The modification elements that impact operation noise are:

- relocated and new operations and maintenance facilities; and
- relocated access tracks.

The relocated infrastructure has been moved small distances and does not change the receivers impacted. Therefore, the relocation of infrastructure and facilities would not significantly change the noise impact of the project. On this basis, the changes are able to be managed through the existing conditions including the operational noise criteria.

The new permanent operations and maintenance facility is not a significant noise source and the closest non-associated residence is 3 km away.

The EPA confirmed it was satisfied that the modification would comply with the existing noise limits.

The Department and EPA are satisfied that there would not be an impact from the modification on noise and no changes are required to the conditions.

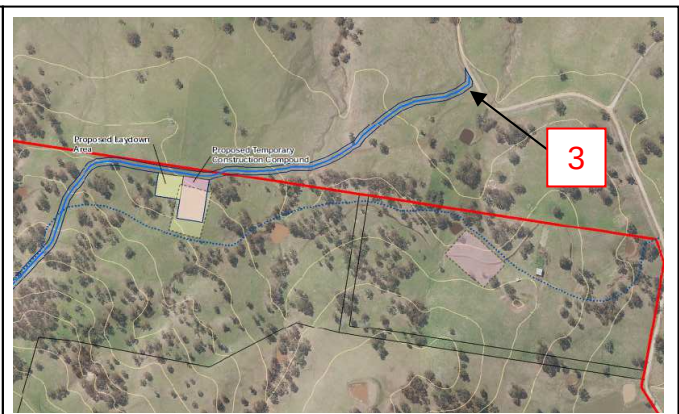
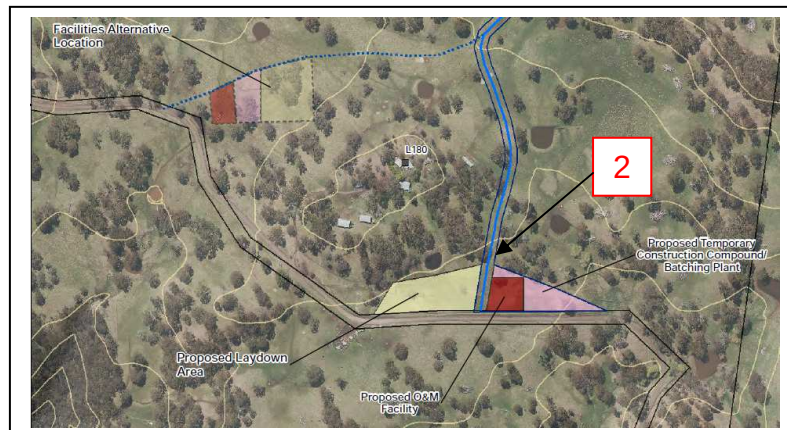
5.4 Transport

The changes to site entry points and the reasons for the changes are shown in **Table 2** and **Figures 2** and **3**.

Table 2: Changes to site entry points

Component		Reason for modification
Ilparran Road to turbine 51	entry point 2	Safer access point Reduced vegetation impacts Reduces track length by 500 m Uses 600 m less of Ilparran Road
Kelleys Road to turbine 83	entry point 3	Request of the landowner Reduces track length by 60 m
Kelleys Road to turbine 109	entry point 4	Moves it further away (500 m west of the approved location) from the nearest residence to avoid disrupting farming activities Reduces track length by 400 m

Figure 3:
Modified site
entry locations



These changes are considered minor and do not change the transport impacts of the project because the same roads are impacted (albeit in slightly different locations) and the changes improve safety and / or reduce travel on Council roads.

Importantly, Glen Innes Severn and Inverell Shire Councils (as the relevant road authorities) received a copy of the modification and have raised no objections.

Inverell Shire Council requested involvement in the dilapidation assessment reporting. The Department notes that Inverell Shire Council would be involved in the road dilapidation report where applicable as the relevant roads authority. This is required in the existing approval and therefore does not require changes to the approval.

5.5 Other Issues

The Department has summarised its assessment of a range of other matters in **Table 2** below. Most of these matters are considered to be minor, and can be regulated under the existing conditions of approval.

Table 2: Assessment of other issues

Issue	Summary of Assessment	Recommendation
<i>Visual</i>	- The modification is of a minor nature, generally relocating approved infrastructure and facilities. The components relating to construction are temporary in nature and do not result in a permanent change to the visual landscape. - Although the new operations and maintenance building, concrete batching plant and construction compound would be visible from Kelleys Road, the impact does not significantly change the visual landscape. - The relocated transmission line reduces vegetation clearing which also reduces visual impact. Although small sections of the transmission line are more elevated (up to 40 m), the landscape and visual assessment concluded that there will be no discernible visual impact from that identified in the original EA. - The Department considers the visual impact to be either the same or reduced as for the approved project and the existing approval includes requirements for a Design and Landscape Plan.	Comply with the existing conditions.
<i>Soil and Water</i>	- Although new infrastructure may result in a minor increase to the area of disturbance, the existing approval includes requirements for a Construction Soil and Water Quality Management Plan. - The impacts for other elements of the modification are the same as for the approved project, albeit in slightly different locations. - The Department is satisfied that the modification does not alter the impact to soil and water from the project and can be managed by the existing conditions.	Comply with the existing conditions.
<i>Management Plans</i>	- OEH and EPA requested that existing Construction Environmental Management Plans be updated to include the modification. - The Department agrees and this requirement has been incorporated into the approval to apply more broadly for all strategies, plans and programs.	New condition added for revision of strategies, plans and programs.

6. RECOMMENDED CONDITIONS

The Department has drafted a recommended notice of modification (see **Appendix A**) for the proposal, as well as a consolidated version of the development consent as modified (see **Appendix B**). The recommended modifications to the conditions include:

- administrative changes to reflect the modified project (updated figure and schedule of land);
- new condition requiring the update of strategies, plans and programs on a regular basis.

7. CONCLUSION

The Department has assessed the modification application in accordance with the relevant statutory requirements, having regard to the EA, submissions, as well as documentation relating to the original project.

Based on this assessment, the Department is satisfied that the proposed modification is reasonable and would not result in any significant change in environmental impacts beyond those associated with the original project. The proposed changes reduce the impacts of the project and would continue to be managed under the existing conditions.

Consequently, the Department is satisfied that the proposed modification is in the public interest and should be approved, subject to conditions.

8. RECOMMENDATION

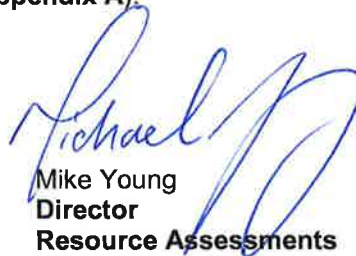
It is recommended that the Director, Resource Assessments, as delegate of the Minister for Planning:

- **considers** the findings and recommendations of this report;
- **determines** that the proposed modification falls within the scope of section 75W of the EP&A Act;
- **approves** the modification application, subject to conditions; and
- **signs** the attached Notice of Modification (**Appendix A**).



Nicole Brewer
Team Leader
Resource Assessments

29/3/16



Mike Young
Director
Resource Assessments

1/4/16.

APPENDIX A: NOTICE OF MODIFICATION

APPENDIX B: CONSOLIDATED CONSENT

APPENDIX C: ENVIRONMENTAL ASSESSMENT

See the Department's website at

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7117

APPENDIX D: ADDITIONAL INFORMATION PROVIDED TO THE DEPARTMENT

Letter from White Rock Wind Farm to the Department

Nicole Brewer

From: Jeff Bembrick <jeffbembrick@goldwindaustralia.com>
Sent: Tuesday, 29 March 2016 12:42 PM
To: Nicole Brewer
Cc: Mike Young (DPE-DASP); Tom Frood
Subject: RE: White Rock WF - Modification Application - Supplementary information relating to Solar Farm shared infrastructure

Dear Nicole,

Thank you for today's discussion of outstanding matters for the Department's review of WRWF Mod 3 Application.

I have reviewed the details of the proposed 33kV cabling for the WR Solar Farm that is to be proposed to be co-located in the WRWF cabling corridor.

After review of options for the design of the cabling installation, and particularly spacing requirements for the WRWF and WRSF 33kV cables, I am able to advise that the additional cable is able to be installed within the WRWF cabling corridor without any additional impacts beyond those assessed for the White Rock Wind Farm Project Approval (MP10_160).

Should you have any further questions on this matter please do not hesitate to contact me.

Regards,

Jeff Bembrick
Development Compliance Manager

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Email jeffbembrick@goldwindaustralia.com



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From: nicole.brewer@planning.nsw.gov.au [mailto:nicole.brewer@planning.nsw.gov.au]
Sent: Friday, 4 March 2016 5:18 PM
To: Jeff Bembrick <jeffbembrick@goldwindaustralia.com>
Cc: Mike.Young@planning.nsw.gov.au
Subject: White Rock Wind Farm - Modification Application - Supplementary information relating to Solar Farm DA

Jeff

Thank you for your letter regarding the White Rock Wind Farm Modification 1 (MP10_0160 MOD 1).

The Department understands that:

1. White Rock is seeking a variation to MOD 1 (currently on foot) to include changes for the purposes of receiving and exporting electricity from the proposed White Rock solar farm (SSD16_7487). This includes electricity cabling (33kV) proposed to be collocated within the same corridor as identified for the wind farm cabling between turbine 2 (north of the wind farm site) and the wind farm substation (south of the wind farm site, adjacent to turbine 34).
2. The clearing for the cabling corridor has been assessed in the wind farm application and no additional clearing would be required beyond that already assessed.
3. White Rock, with this variation, would still be able to comply with condition C1 relating to clearing and any clearing for would be offset in accordance C7 relating to the Biodiversity Offset package.

Please provide confirmation of the above points as soon as practicable.

Regards
Nicole

Nicole Brewer

Team Leader | Resource Assessments | Planning Services

Department of Planning & Environment GPO Box 39 Sydney NSW 2001
T 02 9228 6374 E nicole.brewer@planning.nsw.gov.au

****My regular work days are Tuesday, Thursday and Friday**

From: Jeff Bembrick [<mailto:jeffbembrick@goldwindaustralia.com>]
Sent: Thursday, 3 March 2016 1:31 PM
To: David Kitto
Cc: Mike Young (DPE-DASP); Nicole Brewer; Tim Kirby; Rose-Anne Hawkeswood; Diana Charteris; Tom Frood
Subject: White Rock WF - Modification Application - Supplementary information relating to Solar Farm DA

Hi David,

I am contacting you in regard to the White Rock WF (WRWF) Modification Application which I believe is at an advanced stage of assessment and pending Determination.

As you are aware we are also planning for a Solar Farm (WRSF) to be located adjacent to WRWF and lodgement of the DA is imminent.

As per your advice at meeting of 16th December we have:

- focussed the EIS for WRSF on the Solar Farm site and the new impacts arising for the Solar Farm
- Mentioned the arrangements for grid connection and the shared WRWF facilities where these are addressed by assessments for WRWF and where no additional assessment is provided.

Despite the above, we have a concern that the wording of the Project Approval for WRWF does not address the potential for WRWF infrastructure to be shared by the Solar Farm project. As a consequence we are seeking your advice as to whether the sharing of WRWF facilities for the purpose of the Solar Farm and export of renewable energy via the WRWF can be included within the modified Project Approval that we understand may be determined shortly.

I have attached supplementary information to explain the circumstances.

We would welcome the opportunity to discuss this matter to gain clarity on the ongoing process.

Please advise if we can meet or teleconference, to discuss this matter.

Regards,

Jeff Bembrick
Development Compliance Manager

Mobile 0499156665

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The Secretary,
Department of Planning and Environment
Bridge Street Sydney, NSW 2000

17 March 2016

Attention: Nicole Brewer (by email: nicole.brewer@planning.nsw.gov.au)

Dear Nicole,

White Rock Wind Farm (WRWF) – MP10_0160 - Modification Application
Supplementary Information – White Rock Solar Farm (WRSF) Proposal - Shared infrastructure

1. Purpose of this letter

This letter follows previous correspondence of 03 March 2016 that provided supplementary information in respect of the modification application for White Rock Wind Farm (**WRWF**) lodged on 04 December 2015 and. The correspondence of 03 March 2016 sought modified approval under MP10_160 for shared use of WRWF infrastructure by White Rock Solar Farm (**WRSF**).

The clarifications in this letter respond to our phone discussion of 8 March 2016, in respect of 33kV underground cabling for the WRSF purpose that is within the WRWF footprint. As discussed during our meeting with DPE on 16 December 2015 and, as shown in the WRSF EIS, the Development Application (SSD 16_7487) for the WRSF focuses on impacts at the Solar Farm Site that are new impacts not relevant to, or previously assessed by the WRWF Project Application. In contrast, the part of the 33kV cabling from the Solar Farm to the WRWF substation, that is to be located within 2m of the WRWF cable corridor which has been previously assessed for WRWF (MP10_160), does not significantly change the assessed impact of the WRWF. Accordingly, as discussed with DPE in December 2016, this part of the cable was not assessed in the EIS for the Solar Farm DA.

2. Consistency with WRWF approval

WRWFPL letter of 03 March 2016 provided details of those components of the WRWF infrastructure that could be shared by the WRSF project but, which are not identified specifically in the WRWF Project Approval as having a use for a Solar Farm. The sharing of WRWF infrastructure for the purpose of WRSF is for, generation and export of electricity generated from a renewable energy source, which is consistent with the objectives of the approved WRWF infrastructure.

The Epuron Environmental Assessment, April 2011 (EA 2011) set out the project objectives, the form of the project, the potential impacts and the management measures to be incorporated to mitigate the project's impacts. It is noted that the final design had not been developed at the time that EA 2011 was prepared and was still subject to refinement in the normal processes for such developments.

The WRWF Project Objectives were outlined in Section 1.3 of the WRWF EA, 2011, 'Strategic Justification' which in part states that:

"The key drivers for developing renewable energy projects in New South Wales such as the White Rock Wind Farm are: meeting a growing electricity demand, reducing greenhouse gas (GHG) emissions through clean energy sources, and contributing to state and federal renewable energy targets."

The proposal for the WRSF adjacent to the WRWF site has the same objectives, it provides an additional 20MW of renewable energy generation capacity at the same locality, it contributes to reducing greenhouse gas emissions intensity of electricity generation supplies and contributes to state and federal renewable energy targets. The additional cable within a proposed WRWF cable corridor for export of renewable energy is not inconsistent with the WRWF project objectives.

Utilisation of the WRSF Shared Infrastructure for export of Solar Generated electricity is consistent with the WRWF project objectives and increases the positive benefits of WRWF without any significant increase in impacts for the WRSF Shared Infrastructure. It also reduces the impacts of the Solar Farm development and enables efficiencies and cost savings through infrastructure sharing.

3. Co-location of WRSF cable in WRWF cable corridor

The shared WRWF components to be used by WRSF to connect to the Grid have been assessed for the WRWF Project Approval and, their use for WRSF, does not contribute any significant additional impacts on the environment. The placement of the 33kV solar cable where it is within the WRWF footprint will be within 2m of WRWF cabling. At locations closer to the Solar Farm where it is outside the WRWF footprint, the cable's impact has been assessed under DA SSD 16_7487 for WRSF (Fig 1).

A schematic for the WRSF cable route and WRWF cabling arrangements is provided in Figure 1.

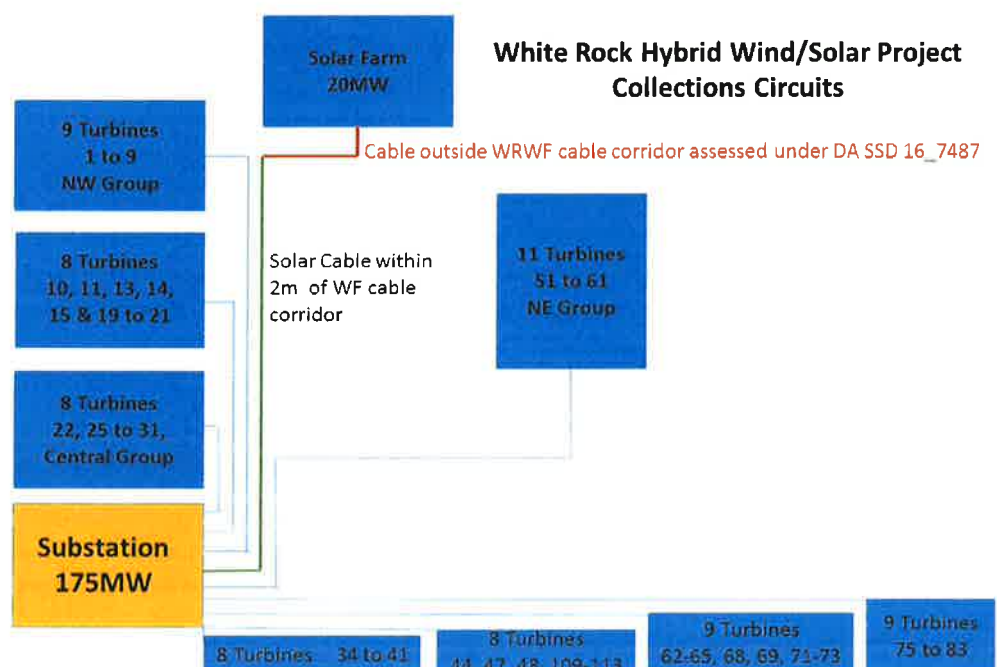


Figure 1 – Schematic arrangement of WRSF cable within WRWF cabling corridor

Figure 1 shows multiple cable circuits as there are limits on the number of turbines that can be feasibly connected via a single cable. Eight (8) collector circuits are proposed for WRWF Stage 1. The Solar Farm adds an additional cable that will join a WRWF cabling corridor. Multiple cables are aligned side by side within corridors. The cable route from the Solar Farm to a point near Turbine 1 or 2 has been assessed in the WRSF EIS. The solar farm cable then aligns with a single cable from the NW group of WRWF turbines, involving a corridor of two cables. From Turbine 10, the corridor involves three cables and eventually near the substation, a total of nine cables (including the solar farm cable) are aligned side by side approaching the substation. The schematic in Figure 1 shows the 33kV cable circuits that are proposed for WRWF and WRSF and schematic relations. The Solar Farm cable is within 2m of WRWF cable and within the cable and buffers assessed for WRWF.

The basis of the cabling for WRWF and the co-placement of WRSF cable is discussed further below.

The Epuron EA 2011 provided an indicative design for WRWF involving 119 turbines, grid connection options, access track routes and internal electrical collection cabling and overhead lines for the WRWF. The EA 2011 contemplated a need for flexibility to confirm the final design and the approval conditions do allow flexibility.

As is common for Environmental Assessments for wind farm projects, the details of the routes of collections circuits were not precisely defined in figures in the EA 2011. This is hardly surprising as there is substantial engineering design that follows the Project Approval phase. Many of the installed wind farms have been approved and implemented on this basis.

In respect of the arrangement for WRWF underground cabling, the EA 2011 indicated that:

1. *"Cable trenches would, where practical, be dug within or adjacent to the onsite access tracks to minimise any related ground disturbance. Underground cables would require a trench 0.75 to 1 metre deep and be typically 0.3 to 1 metre wide. (EA 2011 page 40-41, Section 3.4)*
2. *"every effort will be made to divert tracks and cabling infrastructure away from existing native vegetation stands and paddock trees." (Appendix 3 - Ecology Assessment Section 4.1.2, page 45)*
3. *"Statements of Commitment accompany this proposal to ensure that micro-siting is used to minimise environmental (particularly ecological) impacts. This would be undertaken with the assistance of an ecologist, especially where routes are located near sensitive environmental features"*

The first point is more prescriptive while the latter two indicate a degree of flexibility in location of cabling. While a priority objective is to mitigate environmental impacts, it is also important to minimise the length of cabling, to minimise cost, minimise electrical losses, reduce extent of trenching and disturbance and, minimise time to install the cabling. These aspects need not be mutually exclusive and an optimum design will take account of all of these factors.

The first point indicates that where practical, cable trenches, be dug within or adjacent to onsite access tracks. The general principle for this is accepted but the practicalities of placing cabling under access tracks have limitations for the following reasons:

- road construction requires more complex design and can require additional measures for trenching and cable installation;
- measures such as placing a concrete layer to bridge the cable and spread loads above the cable associated with the overmass vehicles using the access track may be needed. If this just involves a cable passing under a track, perpendicular to the track then it is a minor issue, but with many kilometres of cabling under an access track it requires considerable extra resources and time to construct;
- The scheduling and design of construction works becomes more complex with the proximity between access track and cable trenches and issues of engineering stability and safety;
- Where batters are needed adjacent to tracks this may not be a suitable location for cabling; and

- Any maintenance for the cables below access tracks may disrupt site traffic through the need to excavate the access tracks to reach the cabling.

For the reasons above, the practicality of always placing cables within or alongside access tracks is low and, for many installed projects, the cabling is discrete from access tracks. In contrast to access tracks that are permanent features, cable trenching and installation is generally undertaken over a short period and the trenches back filled, ground surface revegetated and, within 6 to 12 months, the cable route may be difficult to distinguish from adjacent land.

The EA 2011 was based on an indicative layout and the assessments available at that time. Project planning by WRWFPL has now advanced from an indicative arrangement provided in EA 2011 to a feasible project layout that is generally in accordance with EA 2011 but has been refined based on:

- pre-construction site investigations particularly geotechnical and flora and fauna surveys;
- receipt of contractor design advice and engineering design;
- development of layout for implementation;
- preparation and approval of the CEMP;

Cabling corridors are generally aligned with access tracks but the practicalities of cabling design mean there are some variations to this general approach for WRWF.

The cabling routes shown in drawings provided with the Modification Application 3 are the proposed routes for installation of the 33kV cable. The single solar farm cable would be aligned with the WRWF cables and within the assessed buffer zone for the WRWF cable corridor. The WRSF cable results in less than 0.01ha of impact on EEC which is considered insignificant in the context of the project's impact on native vegetation and precision of estimates at pre-construction phase. No increase in the WRWF limit on native vegetation impact is required due to inclusion of the cable. Furthermore, there is some potential to reduce conservative spacing of cables in corridors to limit the overall corridor width.

Overall, the shared infrastructure enables additional benefits for the WRWF project without any additional significant impacts. The co-use of the WRWF infrastructure enhances the amount of low emissions electricity generated at the site and avoids the need for such infrastructure at other locations.

The use of WRWF components for the purpose of an associated solar project is not specifically provided for in the wording of the WRWF Project Approval but subject to DPE acceptance of the supplementary information for MP10_160 Mod 3 Application and any rewording by DPE of the Project Approval instrument this could allow for the shared use of WRWF infrastructure by WRSF.

WRWFPL believes that the impacts of the WRWF project, as modified to include provision for use of the shared infrastructure for exporting electricity from the solar farm, are consistent with the WRWF Project Approval. Approval is therefore sought for use of the shared infrastructure under MP10_160.

Should you have any questions in relation to this matter, please do not hesitate to contact me as follows: email jeffbembrick@goldwindaustralia.com or mobile phone: 0499156665.

Yours Sincerely,

Handwritten signature of Jeff Bembrick in blue ink, with the date 17/3/16 written next to it.

Jeff Bembrick Development Compliance Manager, on behalf of White Rock Wind Farm Pty Ltd