Department of Planning, Housing and Infrastructure

dphi.nsw.gov.au

Middlebrook Solar Farm

State Significant Development Assessment Report (SSD 10455)

August 2024

Acknowledgement of Country

The Department of Planning, Housing and Infrastructure acknowledges that it stands on Aboriginal land. We acknowledge the Traditional Custodians of the land and show our respect for Elders past and present through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

Published by NSW Department of Planning, Housing and Infrastructure

dphi.nsw.gov.au

Middlebrook Solar Farm (SSD 10455) Assessment Report

Published: August 2024

Preface

This assessment report provides a record of the Department of Planning, Housing and Infrastructure's (the Department) assessment and evaluation of the State significant development (SSD) application for the Middlebrook Solar Farm located approximately 22 kilometres (km) south of Tamworth, lodged by Middlebrook Solar Farm Pty Ltd. The report includes:

- an explanation of why the project is considered SSD and who the consent authority is;
- an assessment of the project against government policy and statutory requirements, including mandatory considerations;
- a demonstration of how matters raised by the community and other stakeholders have been considered;
- an explanation of any changes made to the project during the assessment process;
- an assessment of the likely environmental, social and economic impacts of the project;
- an evaluation which weighs up the likely impacts and benefits of the project, having regard to the proposed mitigations, offsets, community views and expert advice; and provides a view on whether the impacts are on balance, acceptable; and
- an opinion on whether the project is approvable or not, along with the reasons, to assist the Independent Planning Commission in making an informed decision about whether development consent for the project can be granted and any conditions that should be imposed.

Executive Summary

Middlebrook Solar Farm Pty Ltd as trustee for the MSF Project Trust (MSF) proposes to develop the Middlebrook Solar Farm, a 320 megawatt (MW) solar farm and 320 MW / 780 MW-hour battery, approximately 22 kilometres south of Tamworth in the Tamworth Regional local government area.

The site is located close to the New England Highway in a rural area, with the nearest non-associated receiver located about 360 metres (m) north of the proposed development footprint. The project would connect to Transgrid's existing 330 kV transmission line that traverses the site.

The Department of Planning, Housing and Infrastructure (the Department) exhibited the EIS from 7 July 2023 to 3 August 2023 and received 129 unique submissions from the public, of which 120 objected to the project, five made submissions in support and four provided a comment.

The Department consulted with Tamworth Regional Council (Council) and relevant government agencies on key issues, inspected the site and met with nearby sensitive receivers. None of the agencies, Council or utility providers objected to the project and they each recommended the implementation of appropriate mitigation and management measures.

In response to agency and Council advice and public submissions, MSF undertook additional assessments and amended the project to strengthen the proposed mitigation measures, provide an additional site access point and widen and seal the portion of Middlebrook Road to be used by the project. The project amendments would lead to better outcomes and address many of the concerns raised by the Department, agencies and in public submissions by reducing traffic impacts and facilitating better road safety outcomes.

The Department has undertaken a comprehensive assessment of the merits of the project and considered all potential issues in accordance with the requirements of the *Environmental Planning and Assessment Act 1979*. The key assessment issues identified for the project are energy transition, land use compatibility, biodiversity, traffic and visual amenity. The Department has also undertaken a comprehensive assessment of the full range of other potential impacts and recommended detailed conditions, developed in conjunction with agencies and Council, to ensure all potential impacts are effectively minimised, managed or offset.

The Department considers that the project represents an effective and compatible use of the land and that the site is suitable to accommodate the development. The siting of the project is consistent with the NSW Government's *Large Scale Solar Energy Guideline* (2022), as well as the *New England North West Regional Plan 2041* which identifies the region as a renewable energy hub of NSW.

Most of the site has been cleared and is currently used predominantly for stock grazing, with some cropping. Land within the development footprint is predominantly Class 4 (90%) (moderate to severe

limitations) and Class 5 (10 %) (severe limitations) land, with a very small area (0.02%) of Class 3 land in the road reserve. The project would not significantly reduce the overall agriculturally productivity of the region and MSF are proposing concurrent grazing during operations. MSF would be required to establish and maintain groundcover throughout operations. The Department considers the site could be fully restored when the project is decommissioned and has recommended conditions requiring MSF to restore the land capability to pre-existing productive capacity.

While the project would result in the clearing of 4.3 ha of native vegetation, it has been designed to effectively minimise biodiversity impacts to native vegetation and most of the development footprint (495.52 ha of 515.41 ha) is Category 1 – exempt land and does not require offset under the NSW Biodiversity Offset Scheme.

The Department considers the project would not result in unacceptable impacts on the capacity, efficiency or safety of the road network. Potential traffic impacts would be suitably managed through road upgrades, road maintenance and the implementation of a Traffic Management Plan.

The site is located in a sparsely populated rural area, with 10 non-associated residences within 2.5 km of the development footprint. The solar arrays are relatively low-lying structures and expansive views across the broader landscape are limited by topography and established vegetation. While the introduction of the project would represent a change to the local rural landscape, the Department considers that potential visual impacts are low and acceptable in accordance with the Department's *Large Scale Solar Energy Guideline.*

The project is consistent with the Commonwealth's Renewable Energy Target and NSW's *Climate Change Policy Framework* and the *Net Zero Plan Stage 1: 2020 – 2030*, as it would contribute 320 MW of renewable energy to the National Electricity Market, including a battery storage facility with a capacity of 320 MW / 780 MW-hour. Importantly, the battery would enable the project to store solar energy for dispatch to the grid outside of daylight hours and / or during periods of peak demand, which has the potential to contribute to increased grid stability and energy security.

The project would also provide other flow on benefits to the local community, including up to 400 construction jobs and a capital investment value of $856 million. A Voluntary Planning Agreement has also been proposed to provide $3.74 million to Tamworth Regional Council. This includes annual contributions for community enhancement projects and sealing of a large portion (approximately 4 km) of Middlebrook Road beyond the scope of the required project-related road upgrades.

The Department considers the project would not result in any significant impacts on the local community or the environment, and any residual impacts could be managed through the implementation of the recommended conditions.

The Department considers that the project would result in benefits to the State of NSW and the local community and is therefore in the public interest and approvable.

Contents

1 Introduction

1.1 Project

1. Middlebrook Solar Farm Pty Ltd as trustee for the MSF Project Trust (MSF) proposes to develop a 320 megawatt (MW) State significant development (SSD) solar farm and associated battery energy storage system (BESS) approximately 22 kilometres (km) south of Tamworth, in the Tamworth Regional local government area (LGA) (see **Figure 1**).

2. The project would include a 320 MW / 780 MW-hour (MWh) BESS, an on-site substation and connection to Transgrid's existing 330 kV transmission line that traverses the western portion of the site (see **Figure 2**). The key components of the project are summarised in **Table 1**, shown in **Figure 2** and described in detail in the Environmental Impact Statement (EIS) and supporting documentation (see **Appendices Appendix A, D,** E and F).

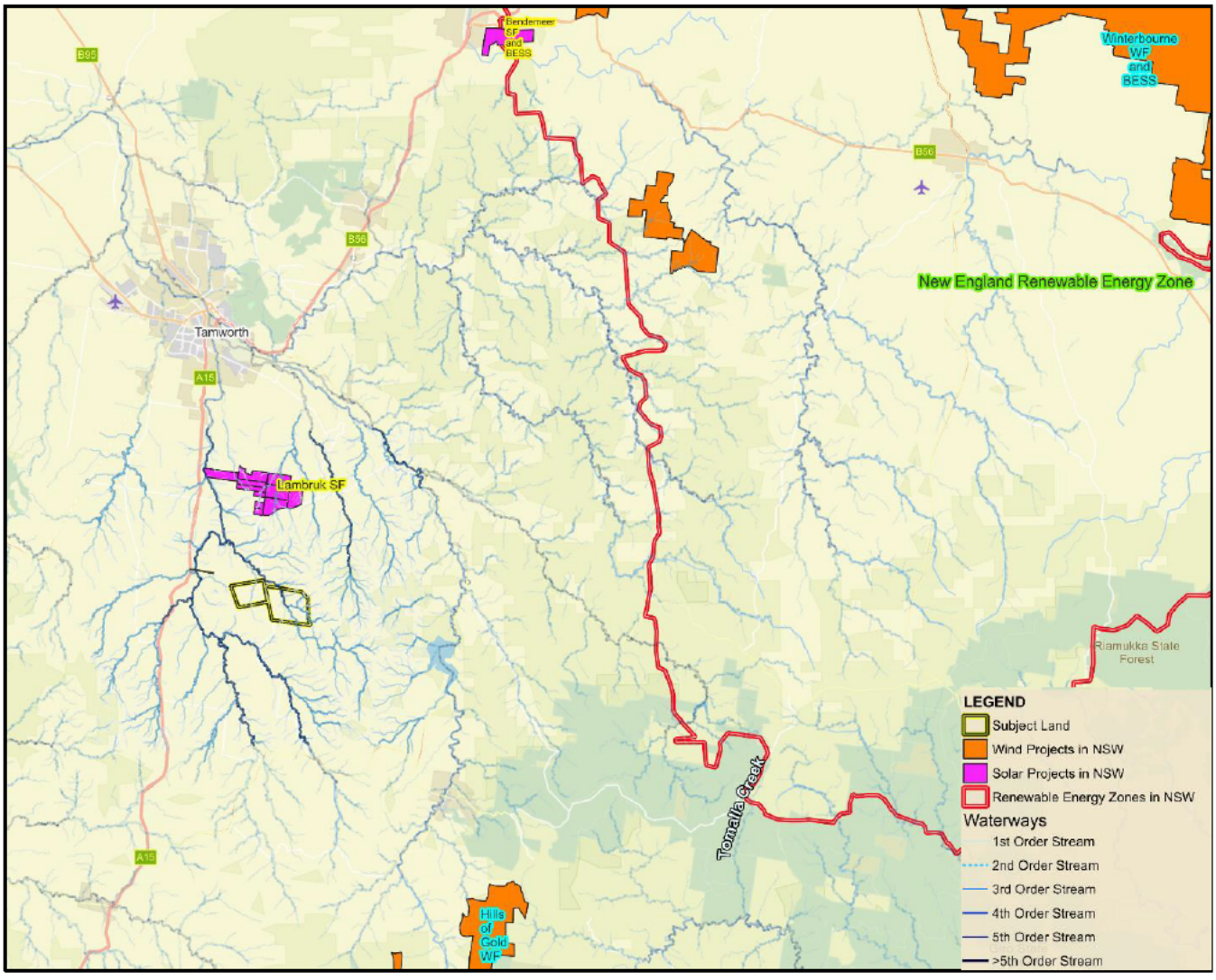

Figure 1 | Regional Context

Table 1 | Key Components of the Project

Aspect	Description
Project summary	The project has a generating capacity of 320 MW and includes: • approximately 750,000 PV modules, mounted on a single-axis tracking system (up to 3m high) supported by approximately 100 inverters, transformers and associated control equipment; • underground cabling between solar panels and inverters/transfer stations; • an on-site substation, switching station and direct connection to existing overhead 330kV line; • a lithium-ion BESS with up to 320 MW / 780 MWh capacity; and • internal access tracks, staff amenities, control buildings, maintenance buildings, offices, laydown areas, car park and security fencing.
Project area	• Site: 1398.25 ha • Development footprint: 515.41 ha
Site entry and access route	• The proposed access route is via New England Highway and Middlebrook Road. • Most vehicles would access the site via access point 1 on Middlebrook Road. • The remaining vehicles and heavy vehicles requiring escort would use access point 2, located approximately 800m east on Middlebrook Road. • Two connecting accesses on Middlebrook Road would provide crossing points between the eastern and western portions of the site and would not be used to enter or exit the site from or onto Middlebrook Road.
Road upgrades	Road upgrades proposed: • upgrade the intersection of New England Highway and Middlebrook Road to provide a BAL turn treatment, including amending line marking and widening; • construct site access at access point 1 and point 2 as rural property accesses; • widen (to 7 m) and seal Middlebrook Road from the New England Highway intersection to 440m beyond access point 1, then widen to 7 m (unsealed) up to access point 2 (see **Figure 2**); • signage and line marking on Middlebrook Road, as required; and • construct two east-west crossing points on Middlebrook Road as rural property accesses.
Construction	• The construction period would be 21-30 months with a peak of up to 18 months. • Construction hours would be limited to Monday to Friday 7am to 6pm and Saturday 8am to 1pm.
Operation	• The expected operational life of the infrastructure is approximately 30 years, however infrastructure upgrades may extend the operational life. • The solar farm and BESS would operate 24 hours a day, seven days a week.
Decommissioning & Rehabilitation	At the end of the project life, all above and below ground infrastructure, where buried above 500 mm, would be removed and the land rehabilitated.
Subdivision	Subdivision would be required to facilitate connection to the transmission network for the onsite substation (which will become the property of Transgrid).
Employment	Up to 400 construction jobs and up to 15 operational jobs.
Capital Investment	$856 million.
VPA	Comprises payments to Council of approximately $3.74 million, if agreed with Council, including annual contributions for community enhancement projects and a Community Benefit Fund and sealing of a section of Middlebrook Road.

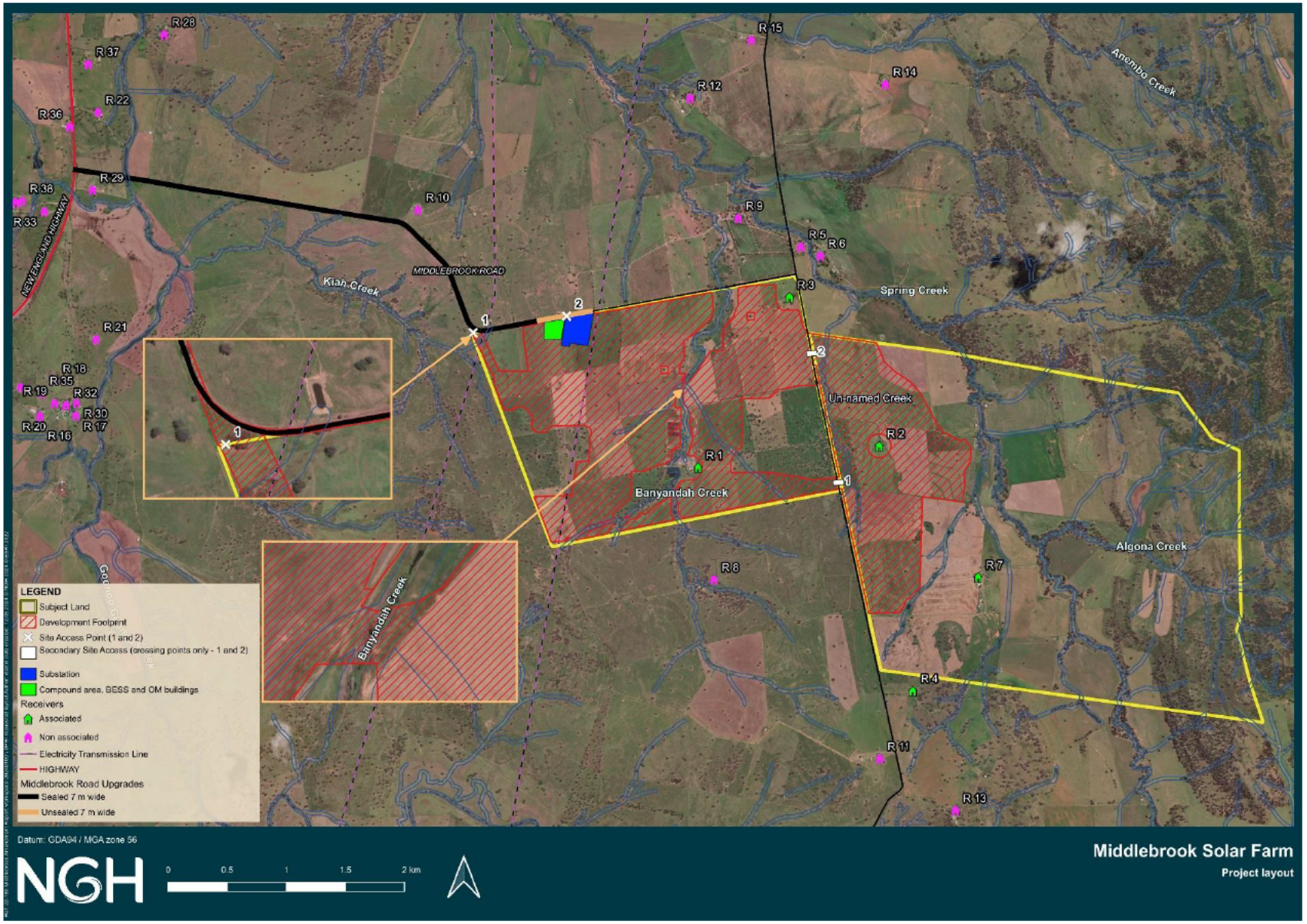

Figure 2 | Project layout

2 Strategic context

2.1 Site and surrounds

3. The site and surrounds consist of largely cleared grazing and cropping land zoned RU1 (Primary Production). The land and soil capability within the development footprint is predominantly Class 4 (moderate to severe limitations) and Class 5 (severe limitations) land, with a very small area (0.02%) of Class 3 land (moderate limitations).

4. Access to the site would be primarily via an existing site access point off Middlebrook Road at the north-western corner of the site, that would be upgraded. A secondary site access would be located 800 m east of the primary access on Middlebrook Road (see **Figure 2**).

5. Two 330kV transmission lines operated by Transgrid traverse the western portion of the development footprint. Several Essential Energy 11kV distribution lines are also present within the development footprint and may be relocated in consultation with the network operator and landowners.

6. The development footprint was designed to avoid site constraints, including areas of intact native vegetation, Aboriginal heritage items and Biophysical Strategic Agricultural Land. There are 10 non-associated receivers located within 2.5 km of the development footprint. The closest residence (R5) is located 360 m north of the nearest panel.

7. Spring Creek and two of its tributaries, Algona Creek and Banyandah Creek (stream orders 5, 4 and 3 respectively) traverse the site, all of which are ephemeral. There are 25 small farm dams and numerous minor unnamed ephemeral tributaries within the site. These features would be retained, and temporary fencing would be used to protect these features from any impacts from the project.

8. The key aspects of the project are provided in detail in the project description chapter of the Amendment Report and outlined in **Table 1**.

2.2 Other Energy Projects

9. There are eight State significant renewable energy projects within 50 km of the site (see **Table 2** and **Figure 3**), of which three development applications were lodged or approved prior to MSF's application. Of these:

   - Hills of Gold Wind Farm has been referred to the Independent Planning Commission; and
   - Tamworth Solar Farm and Calala BESS were approved in November 2022 and June 2024, respectively, and have not yet commenced construction.

10. The Department notes that since the time of lodgement of the development application for this project, applications have also been lodged for the Kingswood BESS, Tamworth BESS and Bendemeer Solar Farm. In addition, Secretary's Environmental Assessment Requirements have been issued for Lambruk Solar Farm and Nottingham Park Solar Farm, however development applications have not been lodged for these projects. As per the Department's *Cumulative Impact Assessment Guidelines for State Significant Projects 2021*, MSF and the Department's assessments of cumulative impacts has considered the relevant future projects to be those that have been exhibited and are currently under assessment.

11. Potential cumulative impacts at a regional level relate to agricultural land and workforce accommodation. The broader potential cumulative impact on agricultural land in the region is discussed further in **section 5.2** and workforce accommodation is addressed in **section 5.6**. Potential cumulative impacts on the local roads along the proposed transport route from these projects is discussed further in **section 5.4**

Table 2 | Nearby Renewable Energy Projects

Project	Capacity (MW)	Status	Approximate distance from the project (km)
Lambruk Solar Farm	500	Proposed	10 km (north)
Tamworth BESS	200	Proposed	17 km (north)
Calala BESS	300	Approved	17 km (north)
Kingswood BESS	500	Proposed	16 km (north)
Hills of Gold Wind Farm	390	Proposed	36 km (southeast)
Nottingham Park Solar Farm	250	Proposed	32 km (northwest)
Tamworth Solar Farm	65	Approved	42 km (north)
Bendemeer Solar Farm	280	Proposed	50 km (northeast)

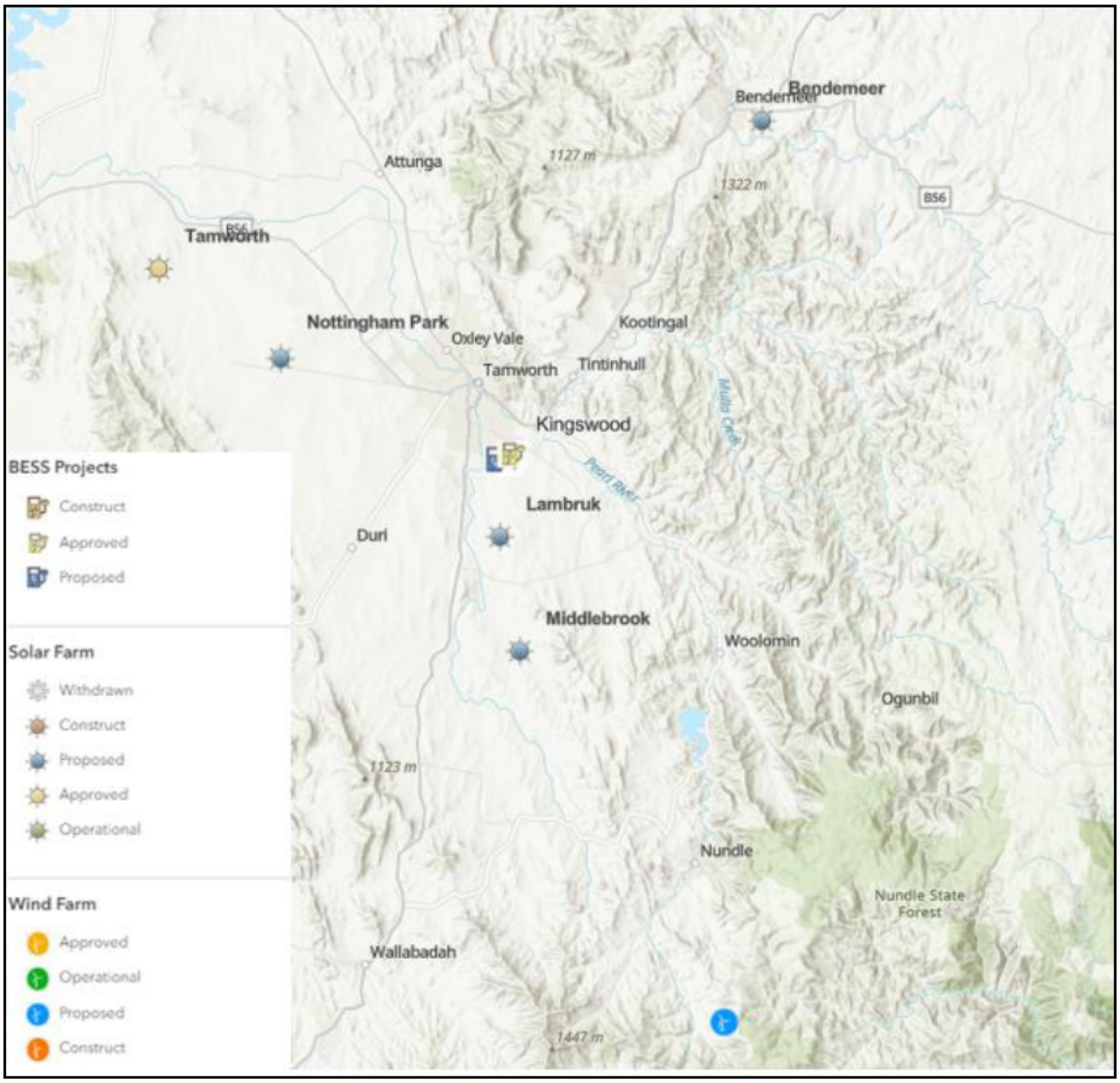

Figure 3 | Nearby SSD renewable energy projects

2.3 Energy Context

12. The national and State energy context is described in **Table 3**.

Table 3 | Energy Context

Policy	Summary
Australia's Long Term Emissions Reduction Plan (2021)	Sets a pathway to net zero emissions by 2050 and affirms Australia's commitment to meeting its revised 2030 target (43% below 2005 levels).
Australia's Energy Market Operator's 2024 Integrated System Plan (ISP)	Notes that: • without coal, investment is urgently needed to meet significantly increased electricity demand requiring a six-fold increase in large- scale variable renewable energy generation (wind and solar);

Policy	Summary
	• a mix of solar and wind is needed, as they offer complementary daily and seasonal profits; and • forecasts that there will be a demand for 83 GW of utility-scale wind and solar in the National Electricity Market by 2034-35, and 127 GW by 2049-50.
NSW *Climate Change Policy Framework (2016), Transmission Infrastructure Strategy (2018), Electricity Strategy (2019), Electricity Infrastructure Roadmap (2020), Net Zero Plan Stage 1: 2020 – 2030 (2020) and Implementation update (2022)* and *New England North West Regional Plan 2041*	Relevant aspects of these policy documents include: • aims to achieve net zero emissions in NSW by 2050 and reduce emissions by 70% below 2005 levels by 2035; • notes that all coal fired power plants in NSW are scheduled for closure within the next twenty years; • regional goals to support the State's transition to lower emissions and Council goals to promote renewable energy production; and • positioning the New England North West region to be a leader in renewable energy generation.

13. In 2023, NSW derived approximately 36% of its energy from renewable sources. The rest was derived from fossil fuels, including 61% from coal and 3% from gas. NSW is one of the nation's leaders in large-scale renewable generation projects, with 39 operational and 57 approved SSD projects.

14. The project's alignment with existing Commonwealth and State policies and strategies are considered in **section 5.1**.

2.4 NSW Solar Guideline

15. The Department released the *Large-Scale Solar Energy Guideline* in December 2018 to provide the community, industry, and regulators with guidance on the planning framework for assessing largescale solar projects and identifying the key planning considerations relevant to solar energy development in NSW.

16. The *Large-Scale Solar Energy Guideline* was revised in August 2022 following extensive consultation, to ensure the assessment of large-scale solar energy projects continues to be transparent, consistent and supported by the best available information. The Department's *Large-Scale Solar Energy Guideline* (2022) applies to the assessment as it was in force at the time of the development application.

17. The *Large-Scale Solar Energy Guideline* (2022) recognises that large-scale solar projects could help to reduce reliance on fossil fuels, thereby contributing to reduction in air pollution and greenhouse gas emissions, while also supporting regional NSW through job creation and investment in communities that may not have similar opportunities from other industries.

3 Statutory Context

3.1 State Significant Development

18. The project is classified as SSD under Section 4.36 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This is because it triggers the criteria in Section 20 of Schedule 1 of *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP), as it is development for the purpose of electricity generating works with a capital investment value of more than $30 million.

19. Under Section 4.5(a) of the EP&A Act and Clause 1(b) of Section 2.7 of the Planning Systems SEPP, the Independent Planning Commission is the consent authority for the development as the project has received more than 50 unique public submissions by way of objection.

3.2 Amended Application

20. In accordance with Section 37 of *the Environmental Planning and Assessment Regulation 2021* (EP&A Regulation), a development application can be amended at any time before the application is determined. MSF sought to amend its application, the details of which are summarised in **section 4.6** of this report. Under the delegation from the consent authority (i.e. the Commission for this development), of 14 June 2022, the Director, Energy Assessments can agree to amendments to an application.

21. The Department accepted the amended application for the following reasons:

- the project amendments, while slightly increasing the development footprint of the project, ultimately serve to reduce potential traffic impacts of the project;
- the amended application directly responds to the key issues raised in public submissions received by the Department during the exhibition of the original application;
- MSF assessed the impacts of the amended project (see **Appendix E** and **F**); and
- the Department made the additional information available online and sent it to the relevant agencies for comment.

3.3 Permissibility

22. The site is located on land zoned RU1 – Primary Production, under the *Tamworth Local Environmental Plan 2010* (Tamworth LEP). Electricity generating works are permissible with consent on any land in a prescribed rural zone, including RU1, under Clause 2.36 of the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (Transport and Infrastructure SEPP). Consequently, the project is permissible with development consent.

3.4 Integrated and Other Approvals

23. Under Section 4.41 of the EP&A Act, a number of other approvals are integrated into the SSD approval process, and therefore are not required to be separately obtained for the project. Under Section 4.42 of the EP&A Act, a number of further approvals are required, but must be substantially consistent with any development consent for the proposal (e.g. approvals for any works under *the Roads Act 1993*).

24. The Department has consulted with the relevant agencies responsible for the integrated and other approvals, considered their advice in its assessment, and included suitable conditions in the recommended conditions of consent to address these matters (see **Appendix G**).

25. MSF considers that the project does not need approval from the Commonwealth Minister for the Environment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as assessments undertaken to date have not identified any significant impacts on matters of national environmental significance listed under the EPBC Act.

3.5 Mandatory Matters for Consideration

26. Section 4.15 of the EP&A Act outlines the matters that a consent authority must take into consideration when determining development applications. The Department has considered these matters in its assessment of the project as well as MSF's consideration of environmental planning instruments in its EIS (see **section 5**). The Department has also considered relevant provisions of the environmental planning instruments in **Appendix I**.

3.6 Objects of the EP&A Act

27. In determining the application, the consent authority should consider whether the project is consistent with the relevant objects of the EP&A Act (Section 1.3) including the principles of ecologically sustainable development (ESD). Consideration of those factors is described in **Appendix I**. As a result of the analyses in **Appendix I**, the Department is satisfied that the development is consistent with the objectives of the EP&A Act and the principles of ESD.

3.7 Biodiversity development assessment report

28. Section 7.9(2) of the *Biodiversity Conservation Act 2016* (BC Act) requires all SSD applications to be accompanied by a Biodiversity Development Assessment Report (BDAR) unless it is determined that the project is not likely to have any significant impact on biodiversity values (as identified in the BC Act and in the *Biodiversity Conservation Regulation 2017*). The BDAR (see **Appendix A** and **Appendix E**) and the overall impact of the project on biodiversity values is assessed in **section 5.3**.

4 Engagement

4.1 Department's Engagement

29. The Department publicly exhibited the EIS from 7 July 2023 until 3 August 2023, advertised the exhibition in the Northern Daily Leader, and notified neighbouring landowners to the project boundary. The Department consulted with Council and relevant government agencies throughout the assessment and inspected the site and visited with surrounding landowners in May 2024 to assess the potential visual impacts of the project and to understand the concerns and issues raised by residents in more detail.

30. The Department also notified and sought comment from Transgrid and Transport for NSW in accordance with the Transport and Infrastructure SEPP, as discussed in **section 4.2**.

4.2 Summary of advice received from government agencies

31. During exhibition of the EIS, the Department received advice from 10 government agencies. A summary of the advice is provided in **Table 4**. A link to the full copies of the advice is provided in **Appendix C**.

Table 4 | Summary of agency advice

Agency	Advice Summary
NSW DCCEEW's Biodiversity, Conservation and Science Group (BCS)	• Requested further evidence justifying the extent of Category 1 Land within the site, use of the scattered tree module, identification of vegetation types, and corrections to species polygon mapping and credit calculation. • Requested additional flora and targeted species surveys and further justification for the removal of ecosystem and candidate species. • Following their review of the Amendment Report, Submissions Report and additional information, BCS were satisfied with the amendments made and supported MSF's avoidance of Box-Woodland CEEC.
Transport for NSW (TfNSW)	• Raised concerns about the adequacy of the traffic impact assessment and requested additional information, including additional traffic counts, turn warrant assessments, swept paths, road upgrades and further consideration of construction traffic impacts. • TfNSW requested further information following review of the Amendment Report and Submissions Report regarding the proposed heavy vehicle requiring escort route, traffic distribution and turn warrant assessment. • MSF has since responded to TfNSW queries on the Amendment Report and Submissions Report. • TfNSW confirmed they are satisfied with the information provided by MSF, and recommended conditions of consent limiting peak hour vehicle

Agency	Advice Summary
	movements and requiring all relevant approvals to be obtained and implemented prior to the use of heavy vehicles requiring escort on the public road network.
Heritage NSW	• Requested details of updated consultation with Registered Aboriginal Parties (RAPs) and consideration of Tamworth Local Aboriginal Land Council feedback. • Requested clarification on how the 150 m archaeological sensitivity buffer on Spring Creek was established and recommended test excavations where there is potential for the potential archaeological deposits (PADs) to be impacted. • Requested confirmation whether two possible scarred trees are Aboriginal objects and if so, requested of they be recorded in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*. • Recommended an Aboriginal Cultural Heritage Management Plan which considers secondary impacts and long-term conservation. • Heritage NSW advised that responses provided with the Amendment and Submissions Reports adequately addressed its comments.
Water Group	• Requested MSF confirm the ability to source water from a Council standpipe, or include a provision for alternative water supply arrangements, to meet project requirements during construction and operation. • Confirmed the proposed layout would meet the buffer requirements from watercourses as per the *Guidelines for Controlled Activities on Waterfront Land*.
DPI Agriculture	• Recommended preparation of Grazing, Pest and Weed Management Plans. • Supports MSF's commitment to remove all below ground infrastructure to a depth of 500 m, excluding those retained by the landholder. • Requested consideration of local and regional cumulative impacts of the proposal on the loss of land mapped as Land and Soil Capability Class 4.
DPI Fisheries	Noted Banyandah Creek is considered Key Fish Habitat and crossings must be constructed in accordance with *Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings*, and riparian buffer zones must be maintained.
Fire & Rescue NSW	Recommended preparing a Fire Safety Study, Emergency Plan, Emergency Services Information Package and Emergency Responders Induction Package.
Rural Fire Service (RFS)	Recommended bushfire and hazard management measures, including the implementation of a Fire Management Plan (FMP).

32. Mining, Exploration and Geoscience and Transgrid did not raise any concerns with the project.

4.3 Summary of Council's Submission

33. Council provided comments during exhibition and throughout the Department's assessment of the project. Council initially raised concerns about visual, water, soil, decommissioning, waste and traffic impacts (particularly regarding the condition of Middlebrook Road).

34. Following review of the submissions report and amendment report, Council provided additional feedback and raised further queries about traffic impacts, requesting that MSF increase the extent of proposed sealing along Middlebrook Road to 440m east of the first site access (noting 150m east of the first site access was initially proposed).

35. MSF provided additional information to the Department to address Council's concerns, and agreed to increase the extent of the sealing on Middlebrook Road. The Department has also consulted with Council on conditions of consent for the project.

36. Council also indicated they were supportive of a VPA and recommended a contribution of 1.5% of the total build cost to a fund to be managed by Council. This would equate to a development contribution of around $12.84 million due to the high capital cost associated with the development. The Department notes that the high capital costs are the result of specialised equipment required for the project, including a battery storage system and underground electrical reticulation which make up a large portion of the overall cost. Further, the development would employ around 15 operational staff, which would have limited demand on Council's services and infrastructure.

37. In accordance with Division 7.1 of Part 7 of the EP&A Act and the Department's *Large-Scale Solar Energy Guideline* (2022) and following multiple discussions with the Department and Council, MSF made an offer to Council to enter a VPA consisting of:

- an annual payment (CPI adjusted) of $82,070 for the operational life of the project;
- an annual payment of $32,000 for the operational life of the project into a community benefit fund; and
- sealing of a large portion (approximately 4 km) of Middlebrook Road beyond the scope of the required project-related road upgrades.

38. To date, MSF and Council have not reached an agreement. The Department has considered sections 7.12 and 7.13 of the EP&A Act, noting under section 7.13, the Minister has the power to impose a condition with regard to any contributions plan that applies to the development. The Department has recommended a condition that in the instance that MSF and Council do not enter VPA with the above terms, MSF must make a section 7.12 contribution to Council comprising an annual payment of $300 per MW (CPI adjusted) from the commencement of operations and until cessation of operations.

4.4 Summary of Public Submissions

39. During the exhibition period of the EIS, the Department received 129 unique submissions from the public (including four interest groups), of which 120 objected to the project, five made submissions in support and four provided a comment.

40. A summary of the proximity of public submissions is provided in **Table 5** and a link to all submissions in full is provided in **Appendix B**.

Table 5 | Breakdown of public submissions

Submitter distance to development footprint	Number of submissions	Position
0-5km	6	Object
	0	Support
	1	Comment
5-100km	85	Object
	4	Support
	1	Comment
> 100km	29	Object
	1	Support
	2	Comment

41. Around 5% of submissions were received from residents located locally (within 5 km of the site), 70% were from residents located regionally (5 – 100 km from the site), and 25% were from over 100 km from the site. Local submissions typically focused on impacts and matters related to the local community, where submitters located at greater distances from the site raised broader concerns including the justification for renewable energy developments and concerns with NSW and national policies.

42. The key issues raised in public submissions are summarised in **Figure 4**. The most common matters raised in submissions include the following:

- agricultural land: use of agricultural land, biosecurity and weeds, rehabilitation (60% of all submissions);
- economic: property devaluation, impacts on local services, suppliers and labour, community benefit scheme (36% of all submissions);
- visual: impacts on the surrounding landscape, proximity to residents, effectiveness of vegetation screening, visual impacts to Goonoo Goonoo Station, glint and glare (35% of all submissions);

- traffic and roads: impact on local roads, cumulative impacts, ability of roads to support increased traffic, impacts on bridges (34% of all submissions);
- dust: neighbouring properties, road safety, impacts on agriculture, water quality, human health (31% of submissions).

43. Other issues raised in objections included location, social, biodiversity, adequacy of the EIS, noise, justification for the project, fire, land and water, waste and decommissioning, community engagement, local climate impacts, planning instruments and resource use.

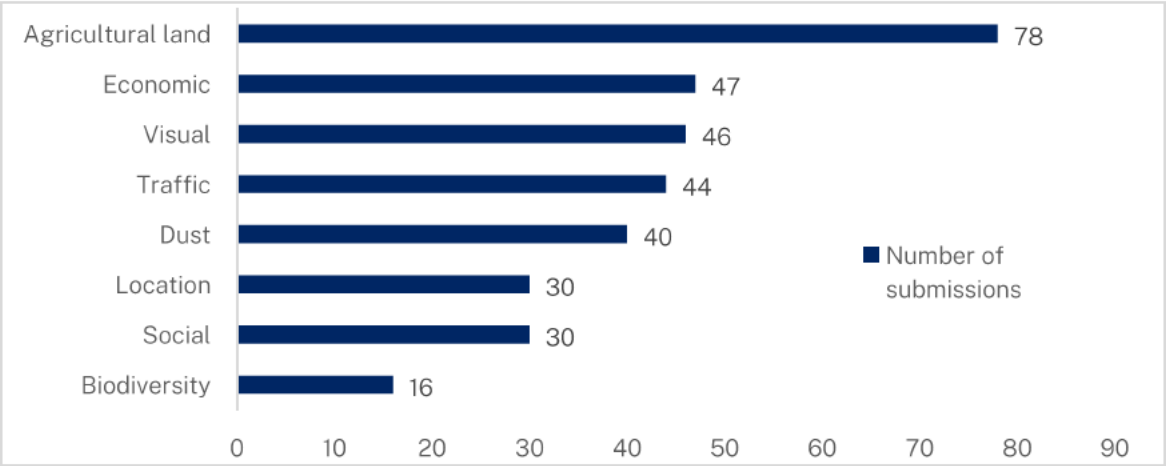

Figure 4 | Key issues raised in submissions

44. A further breakdown and summary of key issues raised by the public is summarised in **Appendix H**. **Section 5** of this report provides a summary of the Department's consideration of these matters and recommended conditions.

4.5 Response to submissions

45. Following the public exhibition period, the Department asked MSF to respond to the issues raised in submissions and the advice received from government agencies. MSF provided a submissions report (**Appendix D**) and provided additional information during the Department's assessment (see **Appendix F**).

46. The Department published the Submissions Report on the NSW Planning Portal and forwarded it to relevant government agencies and Council for comment.

4.6 Amendment Report

47. Following consideration of submissions, MSF amended its application (as detailed in the Amendment Report in **Appendix E**). The amendments are summarised in **Table 6**.

Table 6 | Amendment comparison

Aspect	EIS Project	Amended Project	Difference
Generation capacity	320 MW	320 MW	No change
BESS	300 MW / 600 MWh DC distributed*	320 MW / 780 MWh AC centralised	BESS would be centralised
Development footprint	510.22 ha	515.41 ha	+ 5.19. ha to include road upgrades
Biodiversity impacts Native Vegetation: Box Gum Woodland: Hollow bearing trees: Scattered trees:	 2.52 ha 2.52 ha 3 194	 4.30 ha 2.58 ha 1 197	 +1.78 ha +0.06 ha - 2 +3
Site access	One site access point One east west crossing	Two site access points Two east-west crossings	+1 site access point + 1 east-west crossing
Waterway crossing of Banyandah Creek	70 m wide	45 m wide	-25 m
Water Requirements	100 ML (non-potable)	92.6 ML (non-potable)	-7.4 ML
Road Upgrades	Upgrade to 7 m wide unsealed surface, 3.8 km of Middlebrook Road	Upgrade and seal to 7 m wide, 4.09 km of Middlebrook Road	+ 0.29 km + sealing

5 Assessment

48. The Department has undertaken a comprehensive assessment of the merits of the project. This report provides a detailed discussion of the key issues, namely the energy transition (**section 5.1**), land use compatibility (**section 5.2**), biodiversity (**section 5.3**), traffic and transport (**section 5.4**) and visual amenity (**section 5.5**).

49. The Department has also considered the full range of other potential impacts associated with the project and has included a summary of the conclusions in **section 5.6**.

5.1 Energy Transition

50. The project aligns with a range of national and State policies, which identify the need to diversify the energy generation mix and reduce the carbon emissions intensity of the grid while providing energy security and reliability.

51. With a generating capacity of 320 MW, the solar farm could generate enough electricity to power about 122,200 homes. This is consistent with the *NSW Climate Change Policy Framework* of achieving net zero emissions by 2050. The inclusion of a battery would enable

the project to store solar energy for dispatch to the grid outside of daylight hours and/or during peak demand as well as providing grid stability services and back-up capacity to ensure security of supply.

52. The project is in an area with direct access to the transmission network and abundant solar resources, on land where solar development is permissible with consent under the Transport and Infrastructure SEPP.

53. As such, the project would play an important role in:

- increasing renewable energy generation and capacity;
- firming the grid by including 320 MW / 780 MWh of energy storage; and
- contributing to the transition to a cleaner energy system as coal fired generators retire.

5.2 Land Use Compatibility

5.2.1 Provisions of the LEP

54. The site is located on land within the RU1 Primary Production zone under the Tamworth LEP, which is a permissible land use for the project under the Transport and Infrastructure SEPP (as discussed in **section 3.3**).

55. The project is consistent with the objectives of the RU1 zoning under the LEP, particularly by:

- providing diversity in primary industry enterprises and systems appropriate for the area;
- minimising the fragmentation and alienation of resource lands; and
- minimising conflict between land uses within this zone and land uses within adjoining zones.

56. While the Tamworth LGA has traditionally relied upon agriculture, the introduction of solar energy generation would contribute to a more diverse local economy, thereby supporting the local economy and community. In addition, the proposed solar farm would encourage renewable energy development which is consistent with Council's *Delivery Plan 2023-2025* and *Environmental Sustainability Strategy and Action Plan 2022-2026*.

57. Further, the development is consistent with key government strategic planning guidance, including the *New England North West Regional Plan 2041*, which includes a direction to leverage new renewable energy opportunities and contribute to the State's transition to lower emissions. The plan identifies renewable energy generation as a priority growth sector for the region and emphasises the need to leverage the strategic and integrated approach to renewable energy projects to provide new opportunities and help meet the NSW Government's goal of a carbon-neutral NSW by 2050.

58. While the Department considers that the project is compatible with the LEP, and broader strategic planning objectives for the site, the project's impacts on other land uses are further discussed below.

5.2.2 Potential Loss of Agricultural Land

59. The project has a development footprint of 515.41 hectares, the majority of which has been previously cleared and used for agricultural activities including stock grazing (80%) and some cropping (20%).

60. Seventy-eight submissions objecting to the project raised concerns about establishing a solar farm on agricultural land.

61. Siting of the project has avoided important agricultural land with the development footprint designed to avoid BSAL. Most of the development footprint is mapped as Class 4 (89.8%) and Class 5 (10.2 %), with a very small area (0.02%) of Class 3 land under the *Land and Soil Capability Mapping for NSW* (OEH 2017), indicating that the land is moderately to severely limited and largely restricted to moderate and low-moderate impact uses such as grazing and occasional cultivation for pastures and crops. This is consistent with the Large-Scale Solar Energy Guideline's focus on identifying BSAL and land classes 1, 2 and 3 as constraints that should be considered in site selection.

62. The inherent agricultural capability of the land would not be affected by the project due to the relatively low scale of the development, and MSF has committed to continued grazing on the site and to restoring the Land and Soil Capability (LSC) of disturbed land through decommissioning and rehabilitation to the existing LSC. Accordingly, the Department has included requirements to maintain the site's current land capability, including ground cover within the development footprint during the construction and operation of the project.

63. Regarding potential cumulative impacts, the project's development footprint (515.41 ha) combined with the other proposed, approved and operational SSD solar farms and BESS projects in the Tamworth LGA, as per the Department's *Cumulative Impact Assessment Guidelines for State Significant Projects 2021*, would be approximately 674.81 ha. The cumulative loss of 674.81 ha of agricultural land represents a tiny fraction (0.09%) of the 729,929 ha agricultural land within the Tamworth LGA as described by the Australian Bureau of Statistics (ABS, 2021). The project would result in a negligible reduction in the overall productivity of the LGA and the region, noting the development footprint comprises 0.008% of the 6.76 million hectares of agricultural land in the New England and North West region (ABS, 2021). The Department's assessment of cumulative impacts considers the relevant future projects to be those that are existing, approved or have been exhibited, as per the *Cumulative Impact Assessment Guidelines for State Significant Projects 2021*.

64. The Department notes that neither Council nor DPI Agriculture raised concerns that the project would compromise the long-term use of the land for agricultural purposes, subject to the implementation of the recommended conditions, including management measures for biosecurity risks, pests, weeds, and soil and land degradation to avoid long-term impacts associated with construction and operation of the project and removal of project infrastructure at decommissioning.

65. The potential loss of a small area of grazing and cropping land in the region must be balanced against:

- the broader strategic goals of the Commonwealth and NSW governments for the development of renewable energy into the future;
- the environmental benefits of solar energy, particularly with reducing greenhouse gas emissions;
- the economic benefits of solar energy in an area with good solar resources and capacity in the existing electricity network; and
- the benefits of dispatchable energy for grid stability and reliability.

66. Based on these considerations, the Department considers that the proposed solar farm represents an effective and compatible use of the land within the region and that the site is suitable to accommodate the development.

67. The Department considers that the development would not fragment or alienate any resource lands in the LGA, and the land could readily be returned to agricultural land following decommissioning.

68. The Department considers that the project represents an effective and compatible use of the land within the region and that the site is suitable to accommodate the development.

5.3 Biodiversity

69. The project has the potential to impact biodiversity through the clearing of 4.3 ha of native vegetation.

70. The site is predominantly comprised of paddocks that have been historically cleared for grazing and some cropping, however areas of remnant woodland and associated derived native grassland occur in patches throughout the site, including within the road reserve. Approximately 495.52 ha of the 515.41 ha development footprint (i.e. 96 %) is Category 1 – Exempt Land in accordance with the *Local Land Services Act 2013*. Clearing on Category 1 land does not require assessment or offsetting under the *Biodiversity Assessment Method* (BAM) *2020*.

71. Public submissions expressed concerns about the biodiversity impacts on the vegetation and threatened species present on site. These issues are discussed further below.

72. A BDAR was prepared for the project in accordance with the BC Act and Biodiversity Assessment Method, with a revised BDAR prepared in response to issues raised by BCS, including vegetation zone mapping and additional flora and fauna surveys. The revised BDAR was reviewed and accepted by BCS.

73. The Department notes that the Amendment Report presented a 1.78 ha increase to native vegetation impact due to additional widening of Middlebrook Road requested by Council and changes to methodology and mapping. Despite this increase, the project has been designed to largely avoid impacts to native vegetation. The Department has also imposed strict clearing limits on the clearing of native vegetation in the recommended conditions.

5.3.1 Avoidance and mitigation

74. MSF has generally focused on avoidance of impacts through site selection and avoidance of higher quality native vegetation and habitat during the preliminary design process for the project, as noted by BCS. This is consistent with the *Large-Scale Solar Energy Guideline*'s focus on avoiding or minimising impacts during site selection and design.

75. Overall, MSF has designed the project to avoid and minimise impacts on high quality vegetation and habitat, including:

- project siting to avoid impacts to native vegetation, which, following project amendments, comprise 4.3 ha (less than 1%) of the 515.41 ha development footprint;
- avoiding areas of higher quality vegetation to maintain connectivity; and
- establishing no-go zones which have been incorporated into the final development footprint to avoid Box Gum Woodland within the Subject Land.

5.3.2 Native Vegetation

76. Of the 515.41 ha development footprint, the project would clear 4.3 ha of native vegetation. The remainder of the development footprint comprises roads, exotic areas, tracks (7.81 ha) and Category 1 land (495.52 ha), which does not require offsetting under the NSW Biodiversity Offset Scheme.

77. Of the 4.3 ha of native vegetation impacted by the project, 4.29 ha (PCTs 433 and 599) is *White Box – Yellow Box – Blakely's Red Gum Grassy Woodland Critically Endangered Ecological Community* (Box-Gum Woodland CEEC) under the BC Act, 2.58 ha of which meets the condition threshold under the EPBC Act (PCTs 433 and 599 excluding planted vegetation). Only 0.40 ha of impacted vegetation is woodland (0.1 ha high quality and 0.3 ha

disturbed/exotic understory), with the remaining being derived native grassland (2.18 ha) or planted (1.71 ha). The balance of native vegetation impacted (0.01 ha) is River Oak - Rough-barked Apple - red gum - box riparian tall woodland (PCT84), which is not a listed TEC. The project would clear 189 scattered trees, of which 115 contain hollows. MSF has avoided 220 (54%) of the 409 scattered trees within the site and BCS did not raise any concerns about the impact to scattered trees.

78. Table 7 provides a summary of the impacts of the project, and the relevant ecosystem credit liability under the NSW Biodiversity Offset Scheme.

Table 7 | Ecosystem credit species

Plant Community Types (PCT)	Condition	Disturbance Area (ha)	Ecosystem credits required
PCT 433 – White Box grassy woodland to open woodland on basalt flats and rises in the Liverpool Plains sub-region in the Brigalow Belt South Bioregion	Woodland	0.29	8
	Grassland	1.87	20
PCT 599 - Blakely's Red Gum - Yellow Box grassy tall woodland on flats and hills in the Brigalow Belt South Bioregion and Nandewar Bioregion	Woodland	0.31	6
	Grassland	0.11	3
	Planted	1.71	39
PCT 84 - River Oak - Rough-barked Apple - red gum - box riparian tall woodland (wetland) of the Brigalow Belt South Bioregion and Nandewar Bioregion	Riparian Woodland	0.01	1
	Total	4.3	77

5.3.3 Serious and Irreversible Impacts

79. The project would impact up to 2.58 ha of Box Gum Woodland CEEC , which is a serious and irreversible impact (SAII) candidate entity.

80. The Department has considered the principles for determining SAII in its assessment, as set out in clause 6.7 of the *Biodiversity Conservation Regulation 2017*, including the *Guidance to assist a decision-maker to determine a serious and irreversible impact*.

81. The Department notes that in the context of their BDAR and SAII assessment, MSF use the term 'subject land' which comprises the Development Footprint and areas of land that could be indirectly impacted by the proposal. While this area is less than the site area, this methodology is consistent with the *Biodiversity Assessment Method 2020*.

82. The project was refined to avoid 94.7% of the extent of this CEEC within the subject land. Given that the removal of 2.58 ha of Box Gum Woodland CEEC would constitute 0.001% of

the distribution of this entity within the Peel subregion, the Department considers the project would not contribute to further decline of the ecological community (Principle 1), not materially reduce the population size (Principle 2) and would result in a very minimal reduction in the geographic distribution of the species (Principle 3).

83. Only 0.4 ha of the Box Gum Woodland CEEC impacts would be to woodland condition vegetation, meaning that 40.93 ha (99%) of woodland for this CEEC in the subject land has been avoided. BCS raised no concerns about impacts to Box Gum Woodland and considers MSF has taken reasonable steps to avoid this SAII entity within the development footprint.

84. The Department and BCS consider that there is unlikely to be a serious and irreversible impact on this SAII entity. Notwithstanding, the Department has included strict clearing limits on the clearing of Box Gum Woodland in the recommended conditions.

5.3.4 Threatened Flora and Fauna Species

85. The project has the potential to affect flora and fauna species listed in the BC Act and EPBC Act through direct habitat loss from vegetation clearing, and from indirect impacts.

Ecosystem Credit Species

86. Direct impacts resulting from the development footprint include loss of habitat for 26 threatened species identified or predicted to occur as ecosystem credit species. Two species were detected within the site during field surveys (Yellow-bellied Sheathtail-bat - *Saccolaimus flaviventris*), including one species not determined by the BAM-C to be associated with the PCTs within the development footprint (Greater Broad-nosed Bat - *Scoteanax rueppellii*). Potential impacts on these species would be offset via the ecosystem credit offsets detailed in Table 8.

Table 8 | Ecosystem credit species

PCT	Credits Required
PCT433 - White Box grassy woodland to open woodland on basalt flats and rises in the Liverpool Plains sub-region, BBS Bioregion	28
PCT599 - Blakely's Red Gum - Yellow Box grassy tall woodland on flats and hills in the Brigalow Belt South Bioregion and Nandewar Bioregion	48
PCT 84 - River Oak - Rough-barked Apple – red gum - box riparian tall woodland (wetland) of the Brigalow Belt South Bioregion and Nandewar Bioregion	1

Scattered Tree Credits

87. Offsets are also required for the clearing of Class 2 and Class 3 scattered trees which were assigned to PCTs based on species and PCTs within close proximity to scattered trees. Table 9 provides a summary of the impacts of the project, and the relevant scattered tree credit liability under the NSW Biodiversity Offset Scheme.

Table 9 | Ecosystem credits - scattered tree credit requirements

PCT	Number of Trees	Ecosystem Credits Required
PCT599 - Blakely's Red Gum - Yellow Box grassy tall woodland on flats and hills in the Brigalow Belt South Bioregion and Nandewar Bioregion	118	97
PCT433 - White Box grassy woodland to open woodland on basalt flats and rises in the Liverpool Plains sub-region, BBS Bioregion	71	62

Species Credit Species

88. Thirteen candidate threatened flora species and 23 candidate threatened fauna species were identified as having potential to occur within the development footprint and were the subject of targeted surveys. Targeted species surveys detected one species within the development footprint (Squirrel Glider – *Petaurus norfolcensis)*. Table 10 details the conservation significance and the species credit liability for this species.

Table 10 | Species credit species

Species Impacts	Type	Conservation Significance		Species credits required
		BC Act	EPBC Act	
Squirrel Glider (*Petaurus norfolcensis*)	Fauna	Vulnerable	-	40

5.3.5 Recommended Conditions

89. The Department has recommended MSF retire the ecosystem and species credits outlined in Table 8, Table 9 and Table 10 in accordance with the NSW Biodiversity Offsets Scheme prior to carrying out any development that could directly or indirectly impact the biodiversity values requiring offset.

90. Further, the Department has recommended conditions requiring MSF to:

- avoid the disturbance of native vegetation or fauna habitat located outside the development footprint;
- retire the applicable biodiversity offset credits in accordance with the NSW Biodiversity Offsets Scheme prior to commencing construction;

- prepare and implement a Biodiversity Management Plan in consultation with BCS, including measures to minimise clearing and avoid unnecessary disturbance of vegetation located within the development footprint; and
- prepare and implement an incidental threatened species finds protocol to avoid and/or minimise and/or offset options to be implemented if additional threatened species are discovered on the site.

91. With these measures, the Department and BCS consider that the project is unlikely to significantly impact the biodiversity values of the locality.

92. Overall, the Department considers the project appropriately avoids impacts to biodiversity values through project design and, subject to the implementation of recommended conditions, would not result in a significant impact on biodiversity values, including no serious or irreversible impacts.

5.4 Traffic and Transport

93. Forty-four public submissions raised concerns about the potential traffic and road safety impacts on local roads during the construction period.

94. Construction of the project involves the delivery of plant, equipment and materials, including the movement of heavy vehicles requiring escort, which has the potential to impact on the local and regional road network, primarily during construction.

95. Initially, TfNSW and Council raised concerns about the relatively low number of light vehicles proposed to travel during peak hour, given to the proposed number of construction workers, and about the condition of Middlebrook Road (predominantly unsealed) respectively.

96. In response to submissions and advice received from Council and TfNSW, MSF supplemented its Traffic Impact Assessment with an additional assessment of the haulage route, revised traffic volumes, the addition of a second site access point on Middlebrook Road and a revised design for the Middlebrook Road / New England Highway intersection.

5.4.1 Traffic Route and Site Access

97. Most of the components for the project would be transported from the surrounding areas or Port of Newcastle. The haulage route from port, an approved heavy vehicle route for vehicles up to 26m in length, would be via Selwyn Street, George Street, Industrial Drive, Maitland Road, New England Highway, John Renshaw Drive, Hunter Expressway, New England Highway and Middlebrook Road. Heavy vehicles requiring escort would travel to and from the site via the New England Highway and Middlebrook Road and MSF would be required to

obtain and implement the relevant permits under the *Heavy Vehicle National Law* (NSW) for the use of heavy vehicles requiring escort on the road network.

98. Most workers would travel to site from Tamworth (north) via light vehicles, including 12-seater shuttle buses, and heavy vehicles comprising 40-seater shuttle buses. The remaining workers (approximately 10%) would travel to the site via the New England Highway from the south.

99. Light and heavy vehicles associated with the project would primarily (75%) access the site via site access point 1 on Middlebrook Road, with the remaining (25%) vehicles (mostly those related to the construction of the substation) accessing the site via site access point 2,800 m east of the primary site access, on Middlebrook Road (see **Figure 2**). All heavy vehicles requiring escort associated with the project would access the site via the site access point 2.

100. Access between the eastern and western portions of the site would be via two proposed crossing points (see **Figure 2**) that would be constructed to accommodate heavy vehicle movements. These crossing points would not be used to access or leave the site at any stage of the project from Middlebrook Road and would be limited to providing access between the eastern and western portions of the site.

5.4.2 Traffic volumes

101. The main increase in project related traffic would occur during the 21 – 30 month construction period, with a peak period of up to 18 months. The estimated peak daily vehicle movements would be up to 158 heavy vehicles (including two 40-seater shuttle buses) and 127 light vehicle movements (including four 12-seater shuttle buses). Additionally, it is anticipated that there would be a total of 6 movements of heavy vehicles requiring escort during the construction phase of the project.

102. As construction activities would be restricted to daytime hours, construction related vehicles would be using the local road network (between the New England Highway and the second site access point) during the day only. Heavy vehicles up to 26 m in length would be used for transporting materials and components to the site.

103. The Department notes that MSF has proposed to use shuttle buses from Tamworth to minimise the number of construction related light vehicle movements. The Department has recommended a condition requiring MSF to develop measures within the Traffic Management Plan to ensure employee use of this service, which is supported by TfNSW and Council.

104. Traffic generation during operations would be significantly less than the construction phase. It is anticipated that approximately 10 light vehicle movements would be required for routine maintenance, including replacing components such as solar panels or tracker systems. This will not have a discernible impact on the external road network.

5.4.3 Road upgrades and maintenance

105. TfNSW and Council support the proposed transport route, subject to the recommended conditions requiring road upgrades to be undertaken to support the increased traffic associated with the project.

106. The Department has included a requirement for MSF to develop and implement these measures through the Traffic Management Plan (TMP), including the following requirements:

- a Basic Left Turn (BAL) treatment for vehicles turning from New England Highway on to Middlebrook Road from the north (including line marking, continuation of guard rail, edge lines, chevron markings and a give way sign);
- construction of site access point 1 and site access point 2 with rural property access type treatments;
- construction of two crossing points at Middlebrook Road between the eastern and western panel arrays;
- if required, review and replace signage and line marking at a single lane bridge on Middlebrook Road;
- upgrade Middlebrook Road between the New England Highway and 440 m east of site access point 1 (widen and seal to a width of 7m); and
- upgrade Middlebrook Road from 440 m east of site access point#1 to site access point 2 (unsealed, widen to a width of 7m, for 360 m).

107. MSF's traffic impact assessment, including swept path analyses, considered that the identified route for heavy vehicles requiring escort would be viable. However, the Department has consulted with TfNSW and recommended a condition requiring all relevant approvals to be obtained and implemented for the use of roads and any road upgrades that may be required on the haulage route. This would ensure any necessary road upgrades would be completed prior to use of the public road network by heavy vehicles requiring escort associated with the development.

108. MSF consulted with TfNSW and Council about the proposed road upgrades and have committed to preparing road dilapidation surveys and repairing any damage to the local road network resulting from the construction, upgrading or decommissioning traffic, which the Department has required in the recommended conditions of consent.

109. TfNSW and Council have confirmed they are satisfied with the proposed road design and upgrades, subject to the recommended conditions of consent.

5.5 Visual

110. Forty-one public submissions objecting to the project raised concerns about visual impacts, including a number of residences in close proximity to the site. These concerns included potential impacts on the visual landscape and scenic quality of the region.

111. MSF provided a Landscape and Visual Impact Assessment with the EIS, and further information with the Submissions Report (collectively the 'visual reports'), which provided further clarity on visual impacts to locally heritage-listed, Goonoo Goonoo Station, and glint and glare impacts along Middlebrook Road.

112. The Department visited the site, and nearby non-associated residences to assess visual impacts and to further understand residents' concerns.

113. MSF undertook an assessment of the residual visual impacts using the methodology outlined in the revised *Large-Scale Solar Energy Guideline* (2022) and accompanying *Technical Supplement - Landscape and Visual Impact Assessment*. These methods confirmed the effectiveness of proposed mitigation strategies.

5.5.1 Visual Context

114. The site and surrounds are located within a largely cleared agricultural landscape that is heavily disturbed by grazing and cropping. Land within the site is predominantly characterised by flat or gently sloping plains. The surrounding landscape is undulating with hills ranging from 500-850 m in elevation, particularly to the east of the site.

115. The site is traversed by two 330 kV transmission lines, which cross the north western portion of the development footprint. Goonoo Goonoo Station, which hosts pastoral lands, a restaurant, function centre and luxury accommodation, is located 3.5 km west.

116. There are 10 non-associated residences within 2.5 km of the site (see **Figure 5**), with the closest residence (R5) located 360 m north. Middlebrook Road is located along the northern boundary of the site and travels south between the western and eastern portions of the site (see **Figure 2**).

5.5.2 Project Design Considerations and Mitigation

117. MSF has proposed the following measures to avoid and minimise its visual and glint and glare impacts, including:

- use of single portrait panel arrays (up to 3 m high);
- implementing minimum resting angle restrictions for specific panels arrays to reduce the potential glare along Middlebrook Road;
- using non-reflecting materials and paint; and

- minimising unnecessary night-time lighting of the development and using lower intensity lighting to reduce disturbance to neighbouring properties.

118. The Department considers that the selection of site and project design is consistent with the *Large-Scale Solar Energy Guideline*, particularly in avoiding sites with high visibility such as those on prominent or high ground positions, or sites located in a valley with elevated nearby residences with views toward the site.

5.5.3 Assessment

Landscape character

119. Public submissions highlight that the landscape is valued by the community for its scenic value and agricultural history. However, the Department notes that the low-lying nature of the development, gently undulating topography and existing vegetation would minimise views of the project from the surrounding area. Impacts on the local landscape have been reduced through project design.

120. Three public viewpoints would have potential views of the development (see **Figure 5**), being Middlebrook Road (VP02 and VP06), Marsden Park Road (VP03) and the State Heritage Listed Goonoo Goonoo Station (VP05). Visual impacts at these locations would be either low or very low due to topography, existing vegetation and adequate set back distances. Views from Middlebrook Road and Marsden Park Road would be filtered and brief as road users travel along each road.

121. The Department recognises that the introduction of solar infrastructure to a rural area would result in a change to the local landscape, but considers it would have a limited impact on the local landscape and region as a whole, and would not be visible from Tamworth (22 km north).

122. The Department has recommended conditions requiring the MSF to minimise the off-site visual impacts of the development and ensure the visual appearance of all ancillary infrastructure (including paint colours) blend in as far as possible with the surrounding landscape.

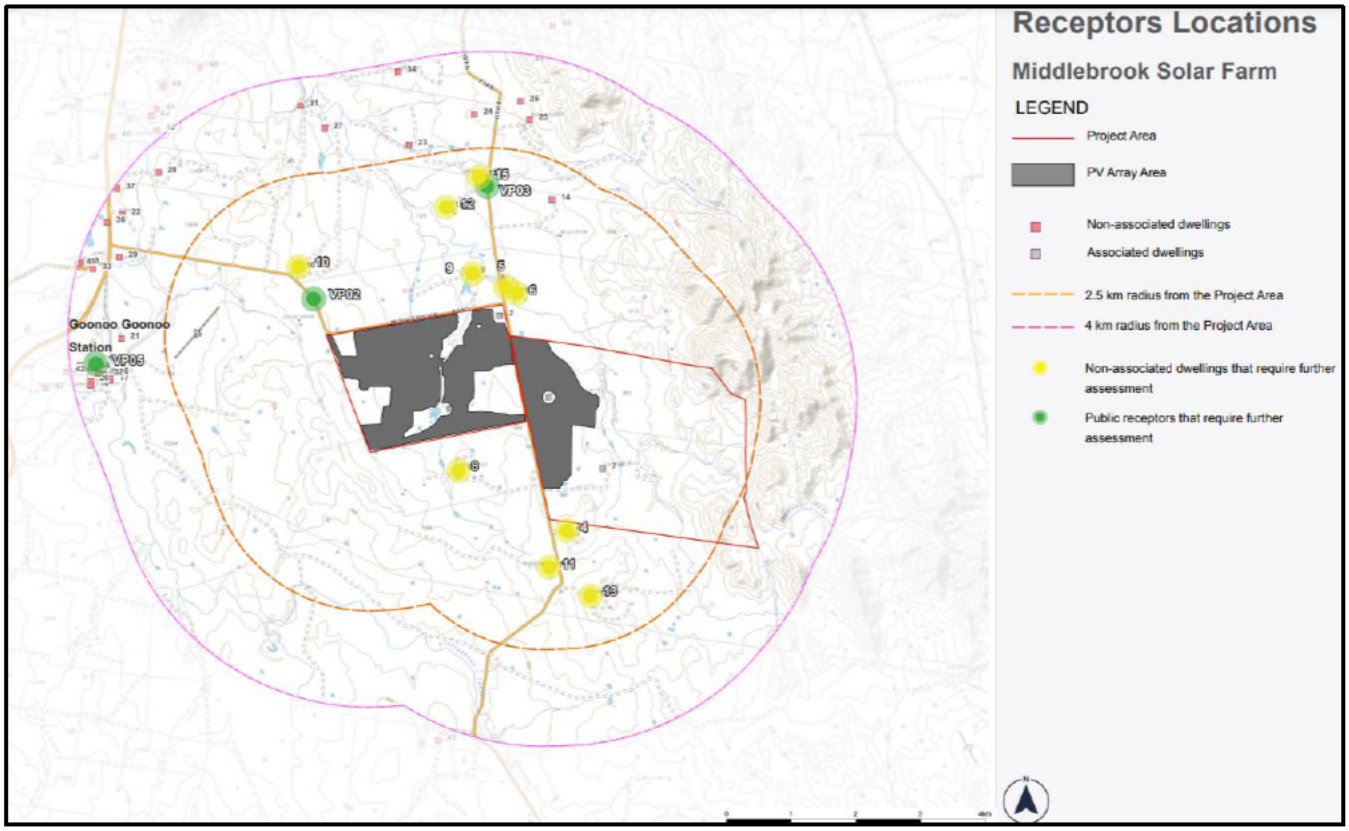

Figure 5 | Non associated residences and viewpoints within 4 km

Residences

123. The nature of the proposed development would minimise its visibility from surrounding residences, as the solar panels would be relatively low lying (up to 3 m high) and the BESS (3 m), maintenance buildings (4.4 m), inverter stations (2.6 m high) and the onsite substation (poles up to 9m high) would generally be a similar size to agricultural sheds commonly used in the area. The presence of roads along the northern and eastern boundary creates a natural separation and setback between most residences and the site.

124. A total of 34 residences are located within 4 km of the site (see **Figure 5**), with the closest residence (R5) located 360 m north. Due to separation distances, topography and intervening vegetation, the visual impact to all residences surrounding the site would be low or very low when assessed against the *Large-Scale Solar Energy Guideline* (2022) and accompanying *Technical Supplement - Landscape and Visual Impact Assessment*. As such, the Department is satisfied that the project would not result in significant visual impacts on nearby residences or Goonoo Goonoo Station.

Glint and Glare

125. While photovoltaic panels are designed to absorb rather than reflect sunlight, the Department recognises that some project components have the potential to generate glare

or reflection, including galvanised steel used for the mounting framework, but that diminishes over time.

126. MSF's glare analysis, which is based on a worst-case scenario, demonstrated that glare impacts would not be experienced by any residences surrounding the development, however high impacts may be experienced by users of Middlebrook Road. In response to additional information requested by the Department, MSF has committed to restricting minimum resting angles in certain areas of the panel array to 22 degrees during times when glare would be experienced. As a result, glare would be eliminated along Middlebrook Road and there would be no impact to road safety.

127. Subject to the recommended conditions, including a condition limiting the resting angle of specific panels during specified time periods, the Department is satisfied the project would not cause significant glint or glare to nearby residences, road users and aircrafts.

Night Lighting

128. Minimal night-time lighting would be required by the project and it would generally be limited to low level lighting for security, night-time maintenance (if required) and emergency purposes.

129. Notwithstanding, the Department has recommended conditions requiring MSF to minimise the offsite lighting impacts of the development and ensure that any external lighting is installed as low intensity lighting (except where required for safety or emergency purposes), does not shine above the horizontal and complies with *Australian/New Zealand Standard AS/NZS 4282:2019 – Control of Obtrusive Effects of Outdoor Lighting.*

130. The Department considers MSF has adequately reduced the potential visual impacts of the project to an acceptable level, while maintaining the proposed solar power generating capacity.

5.6 Other Issues

The Department's consideration of other issues is summarised in **Table 11**.

Table 11 | Assessment of other issues

Issue	Recommended Conditions
Heritage	
Aboriginal Cultural Heritage • MSF surveyed the site in consultation with Registered Aboriginal Parties (RAPs).Surveys identified a total of 32 new Aboriginal heritage sites within the site including 19 isolated finds, 11 artefact scatters and two modified trees. An archaeologically sensitive area comprising the floodplains within 150m of Spring Creek was also identified. • The project would avoid 21 of the above Aboriginal sites, including the two modified trees and the archaeologically sensitive area proximate to Spring Creek, through detailed design and with exclusion zones to be established to protect these items / areas. • Twelve sites would be subject to direct impacts, noting, where possible, MSF proposes to salvage stone artefact sites within the development footprint as a mitigation strategy. Heritage NSW did not raise any concerns with the proposed methodology, subject to the recommended conditions. • One previously recorded site (AHIMS# 29-2-0263/Kiah Creek ISO 1) was unable to be located during surveys. As requested by Heritage NSW, the Department has recommended a condition requiring the item to be avoided. MSF would therefore be required to locate and protect the item, through measures such as fencing and demarcation. • If Aboriginal artefacts or skeletal material are identified during construction of the project, all work would cease and an unexpected finds procedure would be implemented, as committed to by MSF in the EIS. • With these measures, the Department and Heritage NSW consider the project would not significantly impact the Aboriginal heritage values of the locality. **Historic Heritage** • Three submissions raised concerns regarding historic heritage impacts. • The site and surrounds are not subject to any Commonwealth or State historic heritage listings. • The boundary of the locally listed Goonoo Goonoo Station runs adjacent to the western boundary of the site. The Station contains a collection of buildings, the closest of which is approximately 1.3 km from the site. MSF's visual assessment concluded that visual impacts from the Station, including its restaurant, would be low. • The Department considers the project would not have any adverse impacts on historic heritage items in the area.	• Ensure the development does not cause any direct or indirect impacts on any items located outside the approved development footprint. • Salvage and relocate Aboriginal items in consultation with RAPs. • Prepare and implement a Heritage Management Plan including procedures for unexpected finds in consultation with RAPs and Heritage NSW. • Cease any works and notify the NSW Police and Heritage NSW if human remains are identified over the life of the project.

Issue	Recommended Conditions
Water	
Surface Water • Spring Creek traverses the eastern portion of the site and Banyandah Creek and Algona Creek, both tributaries to Spring Creek, traverse the western and eastern portions of the site respectively. The site also contains numerous minor un-named tributaries of these creeks. • All watercourses within the site are ephemeral and would only contain flowing water during and shortly after rainfall events. Notwithstanding, the development footprint has been designed to avoid watercourses within the site and MSF proposes fencing to protect riparian zone buffers and drainage lines. • A waterway crossing of Banyandah Creek is proposed and would be constructed in accordance with *Guidelines for Watercourse Crossings on Waterfront Land* (NSW DPI, 2012a). Banyandah Creek is a third order stream (Strahler Stream Order) and is therefore considered Key Fish Habitat. MSF has committed to works in waterways complying with *Why do fish need to cross the road? Fish Passage Requirements for Waterway Crossings* (DPI(Fisheries), 2003). • All 25 small farm dams on the site would be retained and temporary fencing would be used to protect these features from any impacts from the project. • Construction of the project has potential to alter surface water drainage patterns and soil disturbance may lead to sediment being present in runoff. • Any potential for adverse water quality impacts would be managed through a Soil and Water Management Plan, including erosion and sediment control measures. With the implementation of these measures the Department considers there would be limited impacts to surface water. **Flooding** • The site is not mapped as flood prone. Flood modelling demonstrates that the project is not predicted to have a significant impact on flood behaviour. Some minor increase in flood level of up to approximately 20 mm would be expected within the solar array and up to approximately a 400 mm increase in flood level within the substation site occurs for the 1% AEP event. The 1% AEP velocities remain largely unchanged by the development. • MSF has committed to measures to mitigate potential flood impacts including locating buildings and structures outside of high hazard areas, drainage works around the proposed substation and ensuring the design of the solar panels will have sufficient freeboard from inundation and flood events. • Notwithstanding, the Department has recommended conditions requiring the development to ensure the solar panels and ancillary infrastructure do not cause increased water being diverted off the site or alter hydrology of the site.	• Design, construct and maintain the project to reduce impacts on surface water and flooding at the site. • Prepare a Soil and Water Management Plan in consultation with the Water Group and Council. • Ensure there is sufficient water for all stages of the development, and if necessary, adjust the scale of the development to match its available water supply

Issue	Recommended Conditions
Groundwater • One functioning bore is located within the development footprint for stock and domestic use. This bore would not be accessed to provide water during construction but may be accessed during operation to provide water to grazing stock. • High potential terrestrial groundwater dependent ecosystems traverse the site, but have been avoided by the implementation of exclusion areas designed around sensitive features. • Noting the proposed excavations and earthworks required and the type of pile driving technology proposed, the Department considers that there would be a low potential for groundwater to be encountered during construction of footings and road upgrades. **Water Supply** • The project would require up to 200 kilolitres of potable water and 100 megalitres (ML) of non-potable water during construction which would be sourced from a Council standpipe. Council provided advice acknowledging MSF's intention to utilise a Council standpipe and did not raise any concerns. Notwithstanding, the Department has recommended a condition requiring MSF to ensure there would be sufficient water for all stages of the development, and if necessary, adjust the scale of the development to match the available water supply. • 10 ML of water per year would be required during operation, to be sourced from a Council standpipe, and would be primarily used for cleaning panels, watering livestock and staff amenities. Approval under the *Local Government Act 1993* would be required to operate an onsite sewage management system and to draw water from the standpipe. • A water tank would be installed at the site, and a minimum of 20,000 L would be reserved for firefighting purposes. Noting that the Water Group and Council did not raise any issues with the proposed water supply, the Department is satisfied that MSF has demonstrated sufficient access to viable water supplies is available and considers that the project would not result in significant impacts on water resources.	
Hazards and Risks	
Battery Storage • The project includes a centralised battery storage, which would be located near the northern boundary of the site adjacent to the substation. • MSF's Preliminary Hazards Analysis (PHA) considered the risk associated with operation of the BESS, in accordance with the *State Environmental Planning Policy (Resilience and Hazards) 2021* (Resilience and Hazards SEPP), and relevant Hazardous Industry Planning Advisory Papers.	• The BESS must not exceed the proposed total capacity of 780 MWh and must be installed in an arrangement consistent with the EIS. • Prepare a Fire Safety Study, an Emergency Plan, Emergency Services Information Package and

Issue	Recommended Conditions
• The PHA found that subject to mitigation measures, including minimum separation distance between BESS containers, the risks at the site boundary did not exceed acceptable criteria, and propagation risks within the site were acceptable. • The PHA considered an area of 3.46 ha to accommodation the BESS, separation distances of 3.25 m between batteries and no-back-to-back configurations. The Department considers the proposed BESS area is sufficient to house a 780 MWh BESS and is satisfied the proposal meets the qualitative risk criteria in accordance with the Department's *Hazardous Industry Planning Advisory Paper No. 4 'Risk Criteria for Land Use Safety Planning'*. • The project would comply with the *International Commission on Non-Ionizing Radiation Protection* (ICIRNP) guidelines for electric, magnetic and electromagnetic fields. • The Department considers the hazard risk for the project can be managed subject to the recommendations of the PHA and recommended conditions of consent. **Bushfire Risk** • Public submissions raised concerns regarding increased bushfire impacts. • The majority of the site is mapped as category 3 (medium risk) bushfire prone land, with smaller areas of category 1 (high risk) bushfire prone land predominantly in the eastern section of site (and a small area in the centre). • No category 1 bushfire prone land is located within the development footprint and the BESS would be located in the north western section of the development footprint, providing a sufficient buffer from higher risk vegetation. • To actively manage bushfire risk, MSF would implement a range of management measures including (but not limited to): - establish and maintain a 10 m Asset Protection Zone around all critical project infrastructure; - onsite water storage of 20,000 L reserved for fire-fighting purposes; - suspension of work involving risk of ignition during total fire bans; - comply with the requirements of RFS's *Planning for Bushfire Protection 2019* and Standards for Asset Protection Zones; and - prepare an Emergency Plan, consistent with the recommendations of Fire and Rescue NSW. • The Department considers the bushfire risks can be suitably controlled through the implementation of standard fire management procedures.	Emergency Responders Induction Package for the development. • Ensure the project complies with the relevant asset protection requirements in the RFS's *Planning for Bushfire Protection 2019* and Standards for APZs. • All chemicals, fuels and oils to be stored in accordance with Australian Standards and EPA requirements.
Erosion and sediment control	
• Disruption to the soils would be limited to the construction of tracks, laydown areas, the BESS, management compounds and piling operations. Sheet, rill and gully erosion hazards are associated with the soils in most soil landscapes within the development footprint.	• Minimise any soil erosion in accordance with the *Managing Urban Stormwater: Soils and Construction* (Landcom, 2004) and the *Managing Urban Stormwater:*

Issue	Recommended Conditions
• Areas most vulnerable to soil erosion are those located in the northwest of the site where the site entry and laydown areas would be located and comprise approximately 40 ha of the development footprint. • One submission raised potential erosion concerns to a neighbouring property. Changes in peak velocity from the development would be in the range of plus or minus 0.25m/s within existing watercourses, which would ensure the stability of the bed and banks within existing watercourses and minimise further erosion potential. MSF has committed to treating any areas of existing erosion within the proposed development footprint prior to the erection of solar array modules to minimise erosion impacts. • Suitable erosion and sediment control measures would be required to mitigate the potential for widespread erosion and sedimentation. MSF has committed to preparing Erosion and Sediment Control Plans to manage any potential impacts. • Concentrated runoff from the panels is not anticipated to lead to erosion during operations. MSF has committed to monitor ground cover during operations and develop triggers for remedial actions to ensure risks would be well managed. • Any potential long-term erosion impacts would also be mitigated and managed through the implementation of a Soil and Water Management Plan (SWMP) and Ground Cover Management Plan. • The Department considers any erosion and sedimentation risks associated with the project can be effectively managed by following the *Managing Urban Stormwater: Soils and Construction (Landcom, 2004)* and *Managing Urban Stormwater: Soils and construction - Volume 2A manual* (Landcom, 2008).	*Soils and construction - Volume 2A manual* (Landcom, 2008) manuals and ensure the project is constructed and maintained to avoid causing erosion on site.
Accommodation and workforce	
• Up to 400 workers would be required during the peak construction period of 18 months. • MSF's assessment concluded there is sufficient accommodation in Tamworth and the surrounding region for the accommodation workforce. • The Department is satisfied that there is sufficient accommodation in Tamworth LGA and notes MSF's commitment to hiring locally where possible. • Council did not raise any issues about workforce accommodation, and asked to be consulted to maximise local benefit. • There is the potential for construction of the project to overlap with the construction of the approved Tamworth Solar Farm and Calala BESS, and the proposed Tamworth BESS, Kingswood BESS, Hills of Gold Wind Farm, Bendemeer Solar Farm and Lambruk Solar Farm. • While the Department considers there is sufficient workers accommodation for this project, to manage potential cumulative impacts associated with multiple projects in the region and to manage local and regional labour availability, the Department has recommended MSF be required to develop an Accommodation and Employment Strategy in consultation with Council. The Strategy would require MSF to:	• Prepare an Accommodation and Employment Strategy for the project in consultation with Council, with consideration of the cumulative impacts associated with other State significant development projects in the area.

Issue	Recommended Conditions
- consider local and regional labour availability; - propose measures to ensure there is sufficient accommodation for the workforce associated with the project; - consider cumulative impacts with other projects in the area; and - monitor and review the effectiveness of the strategy, including regular monitoring during construction.	
Noise	
• Ten non-associated residences (R5, R6, R8, R9, R10 R11, R12, R13, R14, R15) are located within 2.5 km of the site. The closest non-associated residence (R5) is located 360m north east of the development footprint. Receivers R22, R29, R33 and R36 although over 2.5 km from site, may be impacted by upgrades to Middlebrook Road as part of the project. • Noise generated during construction, upgrading and decommissioning activities is predicted to be below the 'highly noise affected' criterion of 75dB(A) in the EPA's *Interim Construction Noise Guideline* (the ICNG) at all non-associated residential receivers, and construction is limited to daytime hours. • Construction noise would exceed the noise management level of 45 dB(A) at two non-associated receivers (R10 and R29), during road upgrade works by up to 7 dB(A) and 9 dB(A) respectively. Noise exceedances would only occur when works are being undertaken within 700m of these dwellings, which would likely be over a period of a few weeks, and in all other scenarios construction noise would comply with the construction noise management level. • The Department has recommended conditions restricting works to standard construction hours (i.e. 7am to 6 pm Monday to Friday and 8 am to 1 pm Saturday), with no works permitted on Sundays or NSW public holidays. • Operational noise would comply with relevant noise criteria, as calculated in accordance with the *NSW Noise Policy for Industry* (NPfI), at all non-associated receivers. • Road traffic noise during construction would comply with the relevant criteria in the EPA's *Road Noise Policy*. Road traffic noise impacts associated with operation of the project would be negligible due to the minimal traffic movements. • MSF identified that the potential for vibration impacts from construction works would be very low due to the large distances between receiver locations and the construction activities. • The Department considers noise generated during construction and operation of the project can be appropriately managed through implementation of the proposed mitigation measures and the recommended conditions.	• Minimise noise generated by the construction, upgrading or decommissioning activities on site in accordance with best practice requirements outlined in the ICNG. • Comply with the noise management levels as derived from the *NSW Noise Policy for Industry* (EPA, 2017) at any non-associated residence. • Restrict construction hours to Monday to Friday, 7am to 6 pm and Saturday, 8 am to 1 pm.
Community benefit	
• Many submissions raised concerns regarding the economic impact of the project, including availability of local services and labour, impacts on land values and compensation for surrounding landholders and spread of financial benefits. • The Department considers that, in addition to its contribution to energy transition, the project would generate direct and indirect benefits to the local community, including:	• MSF to implement its offer to enter into a planning agreement, if agreed by Council. If MSF and Council do not enter into a VPA or

Issue	Recommended Conditions
- construction workers over the 21 to 30 month construction period, including up to 400 construction workers during the 18 month peak construction period; - expenditure on accommodation and business in the local economy by workers who would reside in the area; and - the procurement of goods and services by MSF and associated contractors. • MSF has advised that the project would utilise accommodation within the Tamworth LGA and notes some of the workforce would be sourced from the local region. The Department has recommended a condition requiring MSF to prepare an Accommodation and Employment Strategy to avoid pressure being placed on local services. • The Department considers that the project would not result in any significant or widespread reduction in land values in areas surrounding the project. • In accordance with Division 7.1 of Part 7 of the EP&A Act and the Department's *Large-Scale Solar Energy Guideline* (2022), MSF has made an offer to Council to enter into a VPA. The VPA offered consists of: - annual payments of $32,000 for the operational life of the project into the community benefit fund; - annual payments (escalating at CPI) of $82,070 for the operational life of the project to Council; and - sealing of a section of Middlebrook Road (where the road has been upgraded to facilitate the project). • To date, MSF and Council have not reached an agreement, and in this instance, the Department has considered sections 7.12 and 7.13 of the EP&A Act and recommended a condition that, in the case that the VPA is not entered into prior to the construction commencing, MSF would instead be required to make annual payments equivalent to $300 per MW per annum (CPI adjusted) for the life of the project.	other agreement prior to the commencement of construction, MSF must make a Section 7.12 of the EP&A Act contribution to Council. • Prepare an Accommodation and Employment Strategy for the project in consultation with Tamworth Regional Council.
Subdivision	
• MSF proposes to subdivide Lot 60 DP755343 for an area of approximately 6 ha for Transgrid assets within the substation area. • The proposed subdivision would be below the minimum lot size of 400 ha identified in the LEP. Under Section 4.38(3) of the EP&A Act, development consent for the project can be granted despite the subdivision component of the application being prohibited by the LEP. • The Department considers that the subdivision should be approved as it: - is necessary for the operation of the substation; - would not result in any additional dwelling entitlements on the subdivided lots; and - is consistent with the key objectives of the RU1 zone as it would encourage diversity and primary industry enterprises and minimise conflict between land uses.	• Subdivide the proposed land in accordance with requirements of the EP&A Act, EP&A Regulation and the *Conveyancing Act 1919* (NSW).

Issue	Recommended Conditions
Decommissioning and rehabilitation	
• The operational life of Middlebrook Solar Farm is likely to be approximately 30 years, however they have the potential to operate for a longer period of time if solar panels are upgraded over time, which would be permitted under the recommended conditions of consent. • The *Large-Scale Solar Energy Guideline* identifies four key decommissioning and rehabilitation principles for circumstances where an applicant ceases operating a project, which are the removal of project infrastructure, returning the land to its pre-existing use, including rehabilitating and restoring the pre-existing LSC Class where previously used for agricultural purposes, and the owner/operator of the project should be responsible for the decommissioning and rehabilitation and this should be reflected in an agreement with the host landowner(s). • With the implementation of objective-based conditions and monitoring requirements, which are consistent with these key principles, the Department considers that the solar farm would be suitably decommissioned at the end of the project life, or within 18 months if operations cease unexpectedly, and that the site would be appropriately rehabilitated	• Include rehabilitation objectives requiring the site to be rehabilitated within 18 months of cessation of operations.

6 Evaluation

131. The Department has assessed the development application, EIS, Submissions Report, Amendment Report and additional supporting documents provided by MSF and has carefully considered:

- submissions received from members of the community
- comments provided by Council
- advice received from government agencies.

132. The Department has considered the objectives of the EP&A Act, including the Ecologically Sustainable Development principles, and relevant considerations under Section 4.15(1) of the EP&A Act. The Department has given consideration to MSF's evaluation of the project's merits against applicable statutory and strategic planning requirements.

133. The site is wholly located on land zoned RU1, in which electricity generating works are a permissible with consent. The site is located in an area traditionally used for agricultural practices, 22 km south of Tamworth, with 10 non-associated residences within 2.5 km of the site. The site has good solar resources, access to the regional road network and the electricity network via Transgrid transmission lines that traverse the site.

134. The project has been designed to avoid site constraints such as items of heritage value, watercourses and native vegetation, while maintaining its ability to utilise the existing electricity infrastructure and road network. Any residual impacts would be relatively minor and can be managed through the recommended conditions of consent. This is consistent with the Department's revised *Large-Scale Solar Energy Guideline's* focus on avoiding or minimising impacts during site selection and design.

135. The project would not result in any significant reduction in the overall agricultural productivity of the region, and it would avoid all areas of BSAL. Following decommissioning, the site could return to agricultural land as the inherent agricultural capability of the land would not be affected in the long term. The Department considers that there would be no significant visual impacts on surrounding residences, due to distance from non-associated residences, intervening topography and existing vegetation providing screening. Although views of the solar array would still be possible from some residences and Middlebrook Road, the Department does not consider the broader landscape character of the area would be significantly affected.

136. To address the residual impacts including traffic and transport, water, hazards, biodiversity and noise, the Department has recommended a range of stringent conditions, developed in

consultation with agencies and Council, to ensure these impacts are effectively minimised, managed or offset.

137. The Department considered the submissions made through the exhibition of the project and the issues raised by the community and agencies during consultation. These matters have been addressed through changes to the project and the recommended conditions of consent.

138. Importantly, the project would assist in transitioning the electricity sector from coal and gas-fired power stations to low emissions sources and is consistent with the goals of the NSW's *Climate Change Policy Framework*, the *Net Zero Plan Stage 1: 2020 – 2030*. It would have a generating capacity of 320 MW of clean electricity, which is enough to power approximately 122,200 homes and 780 MW of energy storage to dispatch energy to the grid when the energy generation from renewable resources is limited.

139. The Department considers that the project achieves an appropriate balance between maximising the efficiency of the solar resource development and minimising the potential impacts on surrounding land users and the environment. Through job creation and capital investment and a planning agreement with Council, the project would also stimulate economic investment in renewable energy and provide flow-on benefits to the local community.

140. On balance, the Department considers that the project is in the public interest and is approvable, subject to the recommended conditions of consent (see **Appendix G**).

141. This assessment report is hereby presented to the Commission to determine the application.

Prepared by:

Elisha Dunn, Team Leader, Energy Assessments

Samantha Oyston, Senior Environmental Assessment Officer, Energy Assessments

Megan Ramsdale, Planning Officer, Energy Assessments, Energy Assessments

Recommended by:

[redacted] 16/08/2024

Iwan Davies

Director

Energy Assessments

[redacted] 16/08/2024

Chris Ritchie

A/Executive Director

Energy, Resources and Industry

Appendices

Appendix A – Environmental Impact Statement

Appendix B – Submissions

Appendix C – Agency advice

Appendix D – Submissions Report

Appendix E – Amendment Report

Appendix F – Additional Information

Appendix G – Recommended Development Consent

Appendices A to G available at: https://www.planningportal.nsw.gov.au/major-projects/projects/middlebrook-solar-farm

Appendix H – Consideration of community views

The Department exhibited the Environmental Impact Statement (EIS) for the project from 7 July 2023 until 3 August 2023 and received 129 unique submissions from the community (120 objections, 5 submissions in support and 4 comments on the project).

The Department consulted with government agencies and Tamworth Regional Council throughout the assessment process. The key issues raised by the community (including in public submissions) and considered in the Department's Assessment Report include traffic, agricultural land, visual amenity, and socioeconomic impacts.

Other issues are addressed in detail in the Department's Assessment Report.

Issue	Consideration
Compatibility of the proposed land use • Loss of agricultural land • Impacts on neighbouring	Assessment • Land within the development footprint is primarily Class 4 land (moderate capability), with the balance of the site being Class 5 (low to moderate capability). • The cumulative loss of agricultural land for this project and other approved solar projects in the region represents a very small fraction (0.07%) of the 729,929 ha of

Issue	Consideration
agricultural activities (including weeds, pests, soil and erosion)	agricultural land within the Tamworth LGA, therefore resulting in a negligible reduction in the overall productivity of the region • The site would be returned to agricultural use following decommissioning. • Agricultural operations of adjoining landholders would not be impacted as weeds would be controlled through strict land management measures, erosion and sediment risks can be managed effectively by implementing a control plan, water pollution is not permitted, and noise and dust would not be significant, subject to the conditions of consent. • The site would also support local agriculture by potentially allowing sheep grazing, and as a result, the Department is satisfied that the project would not result in any significant reduction in agricultural productivity of the region or of local agribusiness. • The site is located on land zoned RU1- Primary Production under the Tamworth LEP and the project is permitted with consent within this zone, due to the Transport and Infrastructure SEPP. • The project is consistent with the New England North West and Tamworth Regional Plan's. Recommended conditions • Restore land capability to pre-existing use. • Restore the groundcover of the site following construction or upgrading, maintain the groundcover with appropriate perennial species and manage weeds within the groundcover. • Minimise any soil erosion associated with the construction, upgrading or decommissioning of the development. • Ensure that the development does not cause any water pollution, as defined under Section 120 of the POEO Act. • Ensure that noise associated with the construction, operation, upgrading and decommissioning of the project complies with the relevant noise criteria. • Minimise dust generated by the development.
Traffic and transport	Assessment • The traffic impacts associated with the development have been referred to both Council and TfNSW for advice. • MSF has worked with and responded to matters raised by both Council and TfNSW in preparing suitable road upgrades and in detailing suitable management of traffic generation associated with the development • Council and TfNSW have provided input in draft conditions, with the proposed impacts and road upgrades considered acceptable. • Proposed road upgrades have been designed in consideration of cumulative transport impacts associated with other projects in the region. Recommended conditions • Undertake the relevant road upgrades prior to commencement of construction. • Restrict project related vehicles to the use of the approved access route only. • Restrict the number of vehicles during construction, upgrading and decommissioning to the peak volumes identified in the EIS. • Restrict vehicle movements during the project and network peaks on the local road network. • Ensure the length of vehicles (excluding heavy vehicles requiring escort) does not exceed 26 m.

Issue	Consideration
	• Prepare a Traffic Management Plan (TMP) in consultation with TfNSW and Council, including provisions for dilapidation surveys, and details of measures that would be implemented to address road safety.
Visual Amenity • Impacts on landscape views and rural character • Glint and glare impacts	Assessment • The closest non-associated residence (R5) is located approximately 360m north from the development footprint. • The project has been designed to minimise potential impacts on surrounding receivers. • Of the 10 non-associated residences within 2.5 km of the development footprint, the visual reports concluded that all would experience low or very low visual impacts due to separation distances, topography and intervening vegetation in the area surrounding the project, within neighbouring properties and to be retained on site. • The solar panels would be relatively low lying (maximum of 3 m) and ancillary infrastructure such as maintenance buildings, inverter stations and the onsite substation would generally be a similar size to agricultural sheds commonly used in the area. • MSF has committed to implementing limits on backtracking to eliminate all glare impacts to nearby residences, road users and aircrafts. Recommended conditions • Minimise and mitigate the off-site visual impacts of the development, including the potential for any glare or reflection. • Limit the angle of solar panel backtracking in accordance with the additional information provided by MSF to the Department. • Ensure the visual appearance of all ancillary infrastructure (including paint colours) blends in with the surrounding landscape, where reasonable and feasible.
Socioeconomic • Land devaluation • Community benefit	• The project would generate direct and indirect benefits to the local community, including: - expenditure on accommodation and business in the local economy by workers who would reside in the area; and - the procurement of goods and services by MSF and associated contractors. - MSF has advised that the project would utilise accommodation within the Tamworth LGA and notes much of the workforce will be sourced from the local region. - The Department considers that the project would not result in any significant or widespread reduction in land values in areas surrounding the project. - MSF has reached an in-principle agreement with Council to enter into a Voluntary Planning Agreement (VPA). The VPA consists of: o annual payment (escalating at CPI) of $82,070 for the operational life of the project paid to Council; and o an annual payment of $32,000 for the operational life of the project paid into the community benefit fund. Recommended conditions • Prior to commencing construction, MSF must prepare an Accommodation and Employment Strategy for the development in consultation with Council. • Unless the Planning Secretary agrees otherwise, MSF must enter into a VPA with Council.

Appendix I – Statutory considerations

Objects of the EP&A Act

In line with the requirements of Section 4.15 of the EP&A Act, the Department's assessment of the project has given detailed consideration to a number of statutory requirements. These include:

- the objects found in Section 1.3 of the EP&A Act; and
- the matters listed under Section 4.15(1) of the EP&A Act, including applicable environmental planning instruments and regulations.

The Department has considered all these matters in its assessment of the project and has provided a summary of this assessment below.

Summary
Objects of the EP&A Act
The objects of most relevance to the Consent Authority's decision on whether to approve the project are found in Section 1.3(a), (b), (c), (e) and (f) of the EP&A Act. The Department considers the project encourages the proper development of natural resources (Object 1.3(a)) and the promotion of orderly and economic use of land (Object 1.3(c)), particularly as the project: • is a permissible land use on the subject land; • is located in a logical location for efficient solar energy development; • is able to be managed such that the impacts of the project could be adequately minimised, managed, or at least compensated for, to an acceptable standard; • would contribute to a more diverse local industry, thereby supporting the local economy and community; • would not fragment or alienate resource lands in the LGA; and • is consistent with the goals of NSW's *Climate Change Policy Framework* and *Net Zero Plan Stage 1: 2020 – 2030* and *Implementation update* (2022) and would assist in meeting Australia's renewable energy targets whilst reducing greenhouse gas emissions. The Department has considered the encouragement of Ecologically Sustainable Development (ESD) (Object 1.3 (b)) in its assessment of the project. This assessment integrates all significant socio-economic and environmental considerations and seeks to avoid any potential serious or irreversible environmental damage, based on an assessment of risk-weighted consequences. In addition, the Department considers that appropriately designed SSD solar facility development, in itself, is consistent with many of the principles of ESD. MSF has also considered the project against the principles of ESD. Following its consideration, the Department considers that the project can be carried out in a manner that is consistent with the principles of ESD. Consideration of environmental protection (Object 1.3(e)) is provided in **section 5** of this report. Following its consideration, the Department considers that the project could be undertaken in a manner that would at least maintain the biodiversity values of the locality over the medium to long term and would not

Summary

significantly impact threatened species and ecological communities of the locality. The Department is also satisfied that any residual biodiversity impacts could be managed and/or mitigated by imposing appropriate conditions and retiring the required biodiversity offset credits.

Consideration of the sustainable management of built and cultural heritage (Object 1.3(f)) is also provided in **section 5.6** of this report. Following its consideration, the Department considers the project would not significantly impact the built or cultural heritage of the locality, and any residual impacts can be managed and/or mitigated by imposing appropriate conditions.

State significant development

Under Section 4.36 of the EP&A Act the project is considered a State Significant Development.

Under Section 4.5(a) of the EP&A Act and Clause 1(b) of Section 2.7 of the Planning Systems SEPP, the Independent Planning Commission is the consent authority for the development as the project received more than 50 unique public submissions by the way of objection to the application.

Environmental Planning Instruments (EPIs)

The *Tamworth Local Environmental Plan 2010* (LEP) applies to the extent of determining the permissibility of the project. The project is located in RU1 land use zone under the LEP and is permissible with consent under the provisions of the Transport and Infrastructure SEPP.

In accordance with the Transport and Infrastructure SEPP, the Department has given written notice of the project to Transgrid (s2.48) and TfNSW. The Department has considered the advice received and, where appropriate, developed conditions of consent to address recommendations and advice of these authorities. The development does not have frontage to any classified roads (s2.119).

MSF completed a preliminary risk screening in accordance with *State Environmental Planning Policy (Resilience and Hazards) 2021* (Resilience and Hazards SEPP) and confirmed the project was not categorised as potentially hazardous or potentially offensive development (Ch 3). A preliminary hazard analysis (PHA) prepared for the project concluded the risk profile of the project was tolerable and that there was negligible risk of off-site consequences associated with the project. MSF has committed to implementing all controls recommended by the PHA. Accordingly, the Department is satisfied that the proposed development is not potentially hazardous or potentially offensive development and does not pose an unacceptable risk to community or environment.

The Department has also considered the provisions of Resilience and Hazards SEPP (Ch 4). The site is not listed as a contaminated site in the NSW EPA Contaminated Land Record and list of NSW contaminated sites. Given the site has historically been used for agricultural uses, the Department considers the site would be suitable for the proposed development.