Landscape character & visual impact assessment

Lot 102 DP 579423 No 11498 Newell Highway, Narrabri, NSW

Narrabri 3A Solar Farm

Zenith

TOWN PLANNING PTY LTD

0408 258 877 | PO Box 591 Moruya NSW 2537 Australia

zenithplan@bigpond.com | www.zenithplan.com.au

This page is left blank intentionally

TABLE OF CONTENTS

Document Details & History

Project number	2020
Project title	Narrabri 3A Solar Farm
Document title	Landscape character & visual impact assessment
Client	ITP (Development) Pty Ltd
Author	Allen Grimwood, Director
Qualifications	Bachelor of Arts (Honours) UNSW Master of Urban & Regional Planning, USyd PIA Registered Planner — Planning Institute Australia
ABN	Zenith Town Planning Pty Ltd 11 624 467 349
Version	Preliminary draft 11 March 2021
	Draft 24 March 2021
	Final 31 March 2021

The report has been prepared using information supplied by the client and other stakeholders. All care is taken to ensure the accuracy and veracity of this information, however, no responsibility is accepted for the interpretation of that information by end users.

1. Introduction

The purpose of this report is to assess the landscape character and visual impacts of a proposed solar farm at Narrabri, located in Narrabri local government area and to be known as the Narrabri Solar Farm.

The scope of this report is to evaluate the potential impacts on landscape character and visual amenity. To achieve this end the report addresses:

- the location and physical characteristics of the site on which the works are proposed,
- the character or the surrounding landscape and the visual catchment within which the proposed works may be of significance,
- potential impacts on the landscape, viewpoints and receivers located within the visual catchment, and
- means to avoid or mitigate potential impacts.

A site visit was carried out on 23 September 2020 and a meeting with Narrabri Shire Council staff was held on the same day.

2. Methodology

Impacts on the visual and scenic amenity of the proposed Narrabri Solar Farm have been assessed by Zenith Town Planning Pty Ltd using the RMS guideline *Environmental Impact Assessment Practice Note– Guideline for Landscape Character and Visual Impact Assessment* (EIA-N04 Version 2.1 released on 14 December 2018). Details of methodology are given below.

A site inspection of the location of the proposed works and the surrounding area has been carried out to identify the visual catchment, the context of the site of the proposed works and observation points. Land uses and characteristics of the environment such as topography, vegetation, architecture of neighbouring buildings and any heritage values of any significant sites in the vicinity of the proposed solar farm were noted and the capacity of the area to absorb physical change is assessed.

Development plans for the solar farm have been reviewed and the likely impacts on landscape character identified. This is determined by the sensitivity of the landscape to physical change and the magnitude, or relative size and scale, of the works.

The visual significance of the site to observation points and receivers within the visual catchment is described in terms of proximity to the site, landscape character, the composition of views and the

sensitivity to change that will affect scenic values. The visual impacts that will be experienced by each receiver are identified and evaluated in terms of the sensitivity of each receiver to change and the magnitude of that change in terms of the proposed works.

The impacts are calculated and ranked according to negligible, low, moderate or high impact based on the following matrix (Table 1).

Table 1: Landscape character and visual impact grading matrix. Source: RMS Guideline for Landscape Character and Visual Impact Assessment, 2018

Landscape character and visual impact grading matrix					
	Magnitude				
Sensitivity		High	Moderate	Low	Negligible
	High	High impact	High-moderate	Moderate	Negligible
	Moderate	High-moderate	Moderate	Moderate-low	Negligible
	Low	Moderate	Moderate-low	Low	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

An explanation of the rankings of impacts on landscape character and visual amenity are provided in Table 2, sourced from *Pacific Highway HW10 and Wyong Road MR335 intersection and approaches upgrade Tuggerah* by Peter Andrews & Associates Pty Ltd/Corkery Consulting Pty Ltd, September 2012.

Table 2: Explanation of rankings based on sensitivity and magnitude.

Rank	Landscape character	Visual amenity
High	The development would be the dominant feature in the landscape and would significantly affect and alter character	There is a substantial change to visual amenity or a total loss of view towards key features caused by the introduction of new elements that contrast with existing landscape character
Moderate	The development introduces a new element to the landscape and would form a significant and recognisable part of the landscape that alters character	There is partial loss or change of visual amenity towards key features caused by the introduction of new elements that may be prominent but not substantially in contrast with existing landscape character.
Low	The development constitutes a minor element of the wider view that merges with other land uses	There is a minor loss or change of visual amenity towards key features caused by the introduction of new elements that are consistent with existing landscape character
Negligible	The development is either not visible or only a small part is visible that due to distance separation does not alter character	There is very minor loss or change to visual amenity towards key features caused by the introduction of new elements that are consistent with existing landscape character approximating no change

Where magnitude and sensitivity impacts differ, the ranking would be a hybrid of the two impacts, e.g. moderate-high. Such a ranking would combine elements of both the explanation of a moderate rank and that of a high rank.

The RMS methodology has been validated by the Land and Environment Court. For example, in the case of Houghton V Shoalhaven City Council [2016] NSWLEC 1195 the commissioner upheld an appeal by the applicant and agreed with the findings of the visual assessment that was prepared using this methodology.

The methodology of the guidelines addresses impacts in both qualitative and quantitative terms. The qualitative assessment involves the use of descriptive and conceptual data such as descriptions of landscape characteristics and the setting of the development or viewpoint. The quantitative assessment uses numbers and values such as the distance of a viewpoint from the development and the direction of the view towards the development. The purpose of the assessment is to identify impacts and to determine whether these impacts are acceptable given the benefits of the development to the community and economy.

Although the proposed development is not classified as a state significant project reference has been made to the Large-Scale Solar Energy Guideline during the preparation of plans, drawings and reports. The document provides the following guidance for assessing visual impacts:

The impacts on landscape character and values and the visual amenity of landholders and communities.

Using the RMS methodology, which is based on the magnitude (size and scale) of the development and the sensitivity of the landscape and visual receivers to change, ensures that an objective judgement of impacts is made by the assessor. The methodology prevents the assessor from making subjective judgements. Sensitivity is a measure of how sensitive the character of the setting is to the proposed change and its capacity to absorb the change. Magnitude refers to the scale, form and character of a development proposal.

Planning principles established by the NSW Land and Environment Court were also considered as a check on the findings of the landscape character and visual assessment. These principles are derived from the case *Tenacity Consulting v Warringah* [2004] NSWLEC 140 when considering the acceptability of the impact of a proposed development on views enjoyed from private property in the vicinity of that development, and from *Rose Bay Marina Pty Ltd V Woollahra Municipal Council and Anor* [2013] NSWLEC 1046 when assessing the impact of a development on the public domain.

THE RMS methodology has been compared with that required by government guidelines that apply in other states, i.e. South Australia, Victoria and Queensland. South Australia's guideline is silent on the issue of visual assessment and the Queensland guideline suggests that visual amenity and proximity to sensitive receptors should be investigated when assessing the feasibility and impacts of a project. The Victorian guideline includes advice on minimising impacts on landscape values and on providing screening to reduce visual impacts. It also recommends that design includes visual simulations (photomontages) to illustrate the development in the context of the surrounding area and key viewpoints, and that an assessment of the impacts have regard to the scale of the project, the sensitivity of the landscape to change, visibility to private property and public places, the locations and distances from which a facility may be seen, the significance of the landscape and landscape/environmental values. This assessment applies a methodology that would comply with the Victorian guidelines.

The findings of the landscape character and visual impact assessments are summarised in the conclusion. Recommendations as to refinements of the development plans to avoid or mitigate significant landscape and visual impacts are made if necessary.

3. Proposed works

ITP (Development) Pty Ltd proposes to develop a solar farm and ancillary facilities with an AC output of 5.0MW at 11498 Newell Highway, Narrabri, NSW. The site is located approximately 4.5 kilometres to the south-west of the town centre of Narrabri and is an irregular shape with a total area of 62 hectares. The proposed development would occupy 11.32 hectares of the total site.

Components of the facility which would impact on the landscape and visual amenity are:

- 12,100 solar modules ranging in height from 1.5 metres to 2.75 metres installed in 140 rows running north to south with approximately 6.25 metres centre to centre spacing between each row,
- Two 3MW inverter stations each mounted on a 12.2 metre long skid,
- A temporary car parking and materials laydown area,
- A 1.8 metre high security fence topped with three rows of barbed wire to give a total height of 2.3 metres, and
- Perimeter landscaping on the outer side of the security fence.

The layout of the solar farm is shown on General Arrangement Plan (Drawing No NAR3A-G-2100) prepared by ITP Renewables.

4. Description of the landscape

The character of the landscape near the development site of the Narrabri Solar Farm is summarized in Table 3 below.

Table 3: Landscape character in the vicinity of the development site

Item	Description
Land use	The development site is zoned RU1 Primary Production and is located south of the township of Narrabri. The closest part of urban area of Narrabri is just over 1 kilometre from the site to the north. Land to the west of the site and separated by the Newell Highway is occupied by rural lifestyle dwellings on small acreages of around 10 hectares also zoned RU1. Larger properties used for agriculture are located to the south. Land to the east and north-east is largely industrial uses lining the Kamilaroi Highway.
Structures	The site is occupied by a dwelling house and several farm sheds. Farm machinery is scattered over the eastern section near the dwelling. The northern half of the property is separated by a low wire fence. Structures within the vicinity of the site comprise scattered farm and rural lifestyle dwellings set within vegetated properties, a service station and industrial developments to the east-north-east
Topography	The topography is generally flat with low hills in the distance to the south and east. The higher ranges of Mount Kaputar National Park provides a backdrop to the town to the north-east. A watercourse runs through the property in a south to north direction close to the eastern boundary and parallel to the Namoi River. The watercourse drains to Narrabri Lake that is within Gooriah Hill alongside open space and Narrabri Showground. The surrounding landscape is similar with gentle rolling hills typical of the south west slopes
Vegetation	Much of the rural landscape has been cleared in the past for agricultural use other than scattered eucalyptus trees and riparian vegetation along watercourses, property boundaries and road reserves. The majority of the property is covered with exotic pasture grasses. Native vegetation regrowth surrounds some of the rural lifestyle dwellings in the vicinity of the site
Infrastructure	The site is located between the Newell Highway on the western side and the Kamilaroi Highway to the east. The Newell Highway provides a major link between south-eastern Queensland and Victoria via central NSW. It carries large amounts of road freight. The Kamilaroi Highway runs east-west and extends from the New England Highway near Quirindi in the east to the Mitchell Highway at Bourke in the

Item	Description
	west. A 22kV feeder line runs through the centre of the site to connect to the Essential Energy Narrabri Zone sub-station. The Werris Creek Mungundi Railway line runs parallel to the Kamilaroi Highway and veers east before the township and joins the Narrabri West Walgett Railway line that branches to the west

Below are an aerial image of the development site and photographs of the landscape and surrounding development. All photographs were taken by Zenith Town Planning Pty Ltd at the time of the site inspection.

Figure 1: Aerial image of the development site. Source: SIX Maps, 26 April 2016

Plate 1: Looking south along the western boundary of the development site

Plate 2: The dwelling on the development site

Plate 3: Looking north-east from within the development site

Plate 4: Looking north along the Newell Highway across the development site

Plate 5: A dwelling on the adjoining property to the south

Plate 6: Farm dwelling to the south-east of to the development site

Plate 7: A rural property to the east of the development site

Plate 8: Looking north-east from within the development site

Plate 9: The proposed access to the development site

5. Assessment of impacts on landscape character

The rural landscape in the vicinity of the development site has been modified by the agricultural industry. It is characterised by a mix of farming, rural uses including rural industrial facilities, rural living dwellings and scattered remnant native vegetation along boundaries, road reserves and patches within private property.

The project occupies 11.32 hectares and the 12,100 panels have a maximum height of 2.75 metres. The development footprint within an open paddock wedged between the Newell and Kamilaroi Highways. Some existing native vegetation along the Newell Highway partially screens the site. The Kamilaroi Highway is some 600 metres to the east at the nearest point.

The size and scale, or magnitude, of the project and impact on landscape character is considered to be high for private property in the immediate vicinity of the site due to the introduction of a new type of development that is substantial in size and scale, and will change the nature of the rural landscape. It is also judged to be high for the two arterial roads from which it is visible.

The sensitivity of private property to landscape change is considered moderate given the existing modified landscape which is predominantly agricultural with intervening vegetation between the dwellings and the development footprint. All dwellings to the west of the site are setback significantly from the Newell Highway. Dwellings to the south and east of the site have a direct line of sight towards the development footprint. Vegetation would provide effective screening of the facility from dwellings to the north and west. The flat topography means that sensitivity would decrease with distance so that visibility of the solar farm to properties further away than about 1 kilometre would be negligible. The sensitivity of the two arterial roads would be moderate given the existence of commercial and industrial developments at the entry to the township.

The overall impact on landscape character in relation to private property is assessed to be moderate-high. The overall impact on landscape character in relation to the public domain is also assessed to be moderate-high particularly where there is an uninterrupted line of sight to the facility. However, when landscaping matures to the height of 2.5 metres this impact would be reduced to low for both public and private property due to vegetative screening on all sides.

6. The visual catchment

The visual impact of solar farms depends on the scale and type of infrastructure, the prominence and topography of the site relative to the surrounding environment; vegetation; and any proposed screening measures to reduce visibility of the site. Some potential observation points may not have a clear line of sight towards the solar farm because of significant existing features such as built structures and vegetation. The greater the distance from the development site the less clear is the view of the solar farm. The ability to distinguish the type of land use and the actual composition of materials diminishes with distance.

For the purposes of this analysis the visual catchment of the site of the proposed development is defined by an area within 1 kilometre of the development site from which the works may be visible as shown on the visual catchment map below (Figure 2). The separation distances from each dwelling to the nearest point of the development area are given in Table 4. The distance has been measured as a straight-line from the nearest point of a neighbouring dwelling to the centre of the solar array. Whilst it is acknowledged that the array may be visible from unoccupied parts of a property, it is considered that the view from a dwelling is more critical than from yards and paddocks. GDA94 Geographic coordinates are also provided.

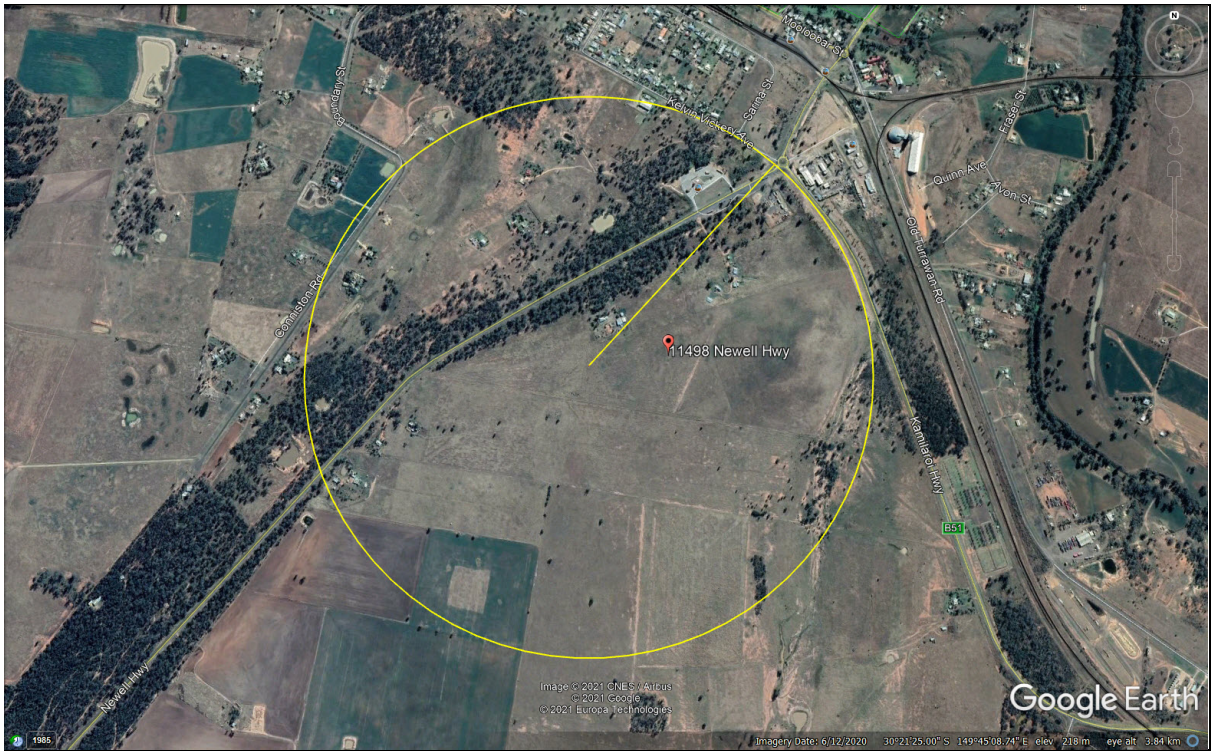


Figure 2: The visual catchment. Source: SIX Maps

Observation points are shown in Figure 3. The observation points are all located within 1 kilometre of the centre of the development footprint. This is considered sufficient distance to assess visual impacts given the very flat landscape surrounding the site.

There are no dwellings or other observation points on the distant vegetated hillsides or Mount Kaputar National Park. There are 11 residential dwellings within the visual catchment plus two commercial properties. Two public roads being the Newell Highway and the Kamilaroi Highway are also within the visual catchment.

The residence on the development site that is occupied by the landowner is located 170 metres north of the facility. Commercial properties (observations points R7 and R12) are not considered sensitive receivers in terms of visual impact and consequently an impact rating is not assigned to these properties.

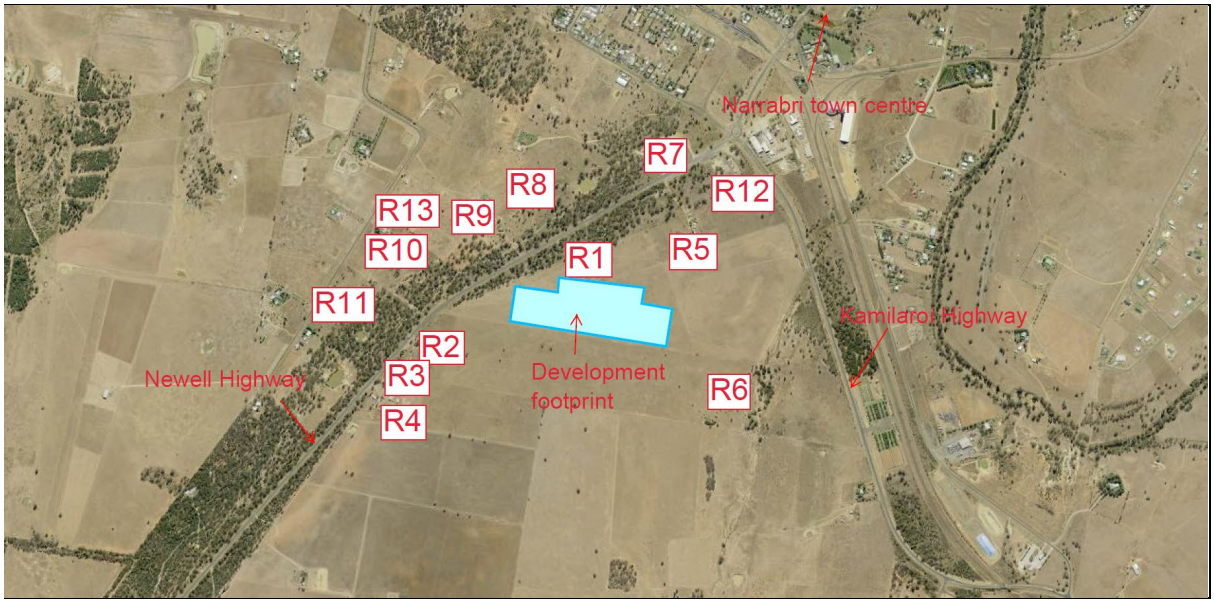


Figure 3: Observation points. Source: SIX Maps

7. Assessment of visual impacts

The magnitude of the proposed solar farm in terms of the quantum of change to views and proximity to each observation point, and the degree of sensitivity based on the quality of the view, whether the site is clearly visible or obscured by landform or vegetation, the direction and composition of the view is assessed in Table 4 below. An impact rating is then given based on magnitude and sensitivity using the landscape character and visual impact grading matrix provided in section *2 Methodology*.

The visual impact of the proposed works is assessed to range from low to high for the residential observation points identified in this assessment. Three dwellings to the south and one to the east will have a direct line of sight to the solar farm. Vegetation and existing structures on the property is likely to screen visibility to receiver R5 to the north. Although the development footprint is cleared, extensive building line setbacks and existing vegetation along the Newell Highway road reserve, within adjoining rural properties and along property boundaries would screen the site from the receivers located to the west of the development site although it may be visible from the access driveways of these dwellings. The dwelling on the same site as the proposed solar farm would have unimpeded views towards the facility from the residence, outbuildings and yards, however, this is acceptable given that the land owner has entered into a lease agreement to construct and operate the facility.

It is assessed to be low for motorists using the Kamilaroi Highway due to the flat topography and presence of industrial development on approach to the township, and moderate for the Newell Highway

due to gaps in roadside vegetation which allow full visibility of the site particularly when approaching from the south.

However, when landscaping matures to the height of 2.5 metres impact would be reduced to low for both public and private property due to vegetative screening on all sides. The visual connection from properties with a direct line of sight would gradually improve as vegetation matures.

Table 4: Visual impacts on observation points

Observation point	Land use	Location relative to solar farm	Latitude	Longitude	Comment	Magnitude	Sensitivity	Impact rating
R1	Dwelling	170m north	-30.353179	149.75308	Dwelling on the same property as the solar farm and in same ownership	High	Low	Moderate
R2	Dwelling	623m south-west	-30.35653	149.74615	Direct line of sight to the development	High	High	High
R3	Dwelling	752m south-west	-30.357123	149.745012	Direct line of sight to the development	High	High	High
R4	Dwelling	875m south-west	-30.358363	149.744197	Slight impeded line of sight to the development due to other dwellings	High	High	High
R5	Dwelling	602m north-east	-30.351938	149.757801	Direct line of sight to the development	High	High	High
R6	Dwelling	870m south-east	-30.357993	149.760247	Direct line of sight to the development	High	High	High
R7	Commercial	755m north-east	-30.348753	149.756685	Service station located on the Newell Highway	n/a	n/a	n/a
R8	Dwelling	535m north-west	-30.350013	149.750184	Visibility impeded by intervening vegetation on private property and road reserve	Low	Low	Low
R9	Dwelling	560m north-west	-30.350605	149.748574	Visibility impeded by intervening vegetation on private property and road reserve	Low	Low	Low
R10	Dwelling	855m west	-30.351883	149.743875	Visibility impeded by intervening vegetation on private property and road reserve	Low	Low	Low
R11	Dwelling	1km west	-30.354438	149.741515	Visibility impeded by intervening vegetation on private property and road reserve	Low	Low	Low
R12	Commercial	870m north-east	-30.34942	149.759325	Depot located on the Newell Highway	n/a	n/a	n/a
R13	Dwelling	850m west	-30.350994	149.744476	Visibility impeded by intervening vegetation on private property and road reserve	Low	Low	Low
Kamilaroi Highway	Public road				Uninterrupted view across farmland from a section close to rural industrial development	Low	Low	Low
Newell Highway	Public road				Partial screening by roadside vegetation. Direct line of sight on approach from the south	Moderate	Moderate	Moderate

These impacts are considered acceptable given the nature of the proposed development and that it will contribute to renewable energy generation directed to Narrabri for use by households and businesses, use local labour where available for construction and operations, and assist to reduce greenhouse gas emissions and reliance on fossil fuels.

Photomontages that show the site prior to development and after completion of the solar farm with and without landscape screening are provided as Attachment A. The photomontages depict the appearance of the facility through stages of vegetation growth. The first image is taken from the internal fenceline near the dwelling on the development site. The second is taken from the Newell Highway on approach from the south looking across the site from a gap in roadside vegetation. The photomontages demonstrate that landscaping will provide effective screening from all directions.

Due to the complexity of the landscape and the solar farm design, photomontages can be difficult to produce and do not necessarily provide a realistic view of how the constructed solar farm will look. These are indicative only and the actual development may differ from these images.

8. Assessment against planning principles

The Land and Environment Court consistently applies a set of planning principles derived from the case *Tenacity Consulting v Warringah* [2004] NSWLEC 140 when considering the acceptability of the impact of a proposed development on views enjoyed from private property in the vicinity of that development. These planning principles are addressed below in relation to the proposed solar farm.

Impact on private property

Step 1: The views to be affected

The solar farm would be visible to dwellings located to the south and east of the development site and potentially to a dwelling located to the north. The view enjoyed from these properties is one of a cleared rural farm landscape interspersed with remnant or regrowth native vegetation along road reserves and boundaries and within private properties. Elsewhere vegetation and significant building line setbacks would obstruct direct visibility of the array.

Step 2: From what part of the property the views are obtained

Views across the rural landscape are available from the dwellings and paddocks of the properties to the south and east. The view from the property to the north would be predominantly from yards and paddocks. Vegetation obscures visibility from land to the west.

Step 3: The extent of the impact

The array will occupy approximately 11 hectares of the 62 hectare property, i.e. 18% of the total rural property. The topography is flat meaning that extensive views are available from all directions, however, intervening vegetation obscures views from the west. The extent of the impact is considered significant from the south and east, however, the proposed footprint of the array occupies less than a quarter of the whole property and is a single direction only. These properties have rural landscape views over their own land and will retain views across farmland in all other directions.

Step 4: The reasonableness of the proposal that is causing the impact

The proposed solar farm is a project that is suited to a rural location. The property is a working farm and the production of solar energy is an activity that is mandated by *SEPP (Infrastructure)* as permissible in a rural zone. The development will contribute to the viability of other farm operations, be compatible with those operations and enable the property to continue to be productive. A solar farm is considered a reasonable land use of the development site. Landscaping on all sides to screen the development is a reasonable response to the impacts on the landscape and visual amenity.

Impact on the public domain

The case *Rose Bay Marina Pty Ltd V Woollahra Municipal Council and Anor* [2013] NSWLEC 1046 established planning principles to be considered when assessing the impact of a development on the public domain. The process must account for reasonable development expectations as well as the enjoyment of members of the public of outlooks from public places.

Step 1: The nature and scope of existing views

Views from the public domain towards the development site are from two arterial roads to the east and west. The scope of views from the Newell Highway is limited by roadside vegetation although gaps in that vegetation allow uninterrupted views from the southern approach to Narrabri. Views from easterly aspects along the Kamilaroi Highway are across an open rural landscape.

Step 2: The locations from which the potentially interrupted view is enjoyed

Views from the section of the Newell Highway to the south of the site are across the development footprint. Views towards the facility from the Kamilaroi Highway are close to the town entry and industrial development.

Step 3: The extent of the obstruction at each relevant location

The photomontages indicate the extent of view obstruction from the affected roads. There are no significant landscape features that would obscure views of the solar farm from the southern approach to town along the Newell Highway although the generally flat landscape would moderate impacts. The relative distance from the Kamilaroi Highway would lessen the extent of impacts.

Step 4: The intensity of public use of those locations where that enjoyment will be obscured

Both highways are arterial roads and used extensively for freight movements as well as passenger vehicles.

Step 5: Whether or not there is any document that identifies the importance of the view

There is no strategic plan of Narrabri Shire Council or the NSW Government that identifies the importance of the view. It is not mapped as a scenic landscape or as visually sensitive land in *Narrabri LEP 2012.*

In summary, assessment against the planning principles established by the NSW Land and Environment Court finds that the potential impacts of the proposed solar farm on views from both private property and the public domain are acceptable and, although significant, affect only a minor proportion of the total landscape views. It is important to note that all development has a visual impact, irrespective of the size or scale of that development. Impacts would be greatest during construction when there will be traffic movements into and out of the site and the temporary car parking and materials laydown areas are installed. Once operational, the proposed landscaping will provide effective screening of the fence, array and inverters over time as vegetation matures.

The planning principles are not predicated on a position that a landowner or occupant has a proprietary right to retain all or part of the views enjoyed from their land. The Court has acknowledged that even entire view loss is reasonable in certain circumstances (Lindsay Taylor Lawyers, November 2015).

9. Conclusion and recommendations

The rural landscape in the vicinity of the development site has been modified by the agricultural industry. It is characterised by a mix of farming, rural uses including rural industrial facilities, rural living dwellings and scattered remnant native vegetation along boundaries, road reserves and patches within private property.

The overall impact on landscape character in relation to private property is assessed to be moderate-high. The overall impact on landscape character in relation to the public domain is also assessed to be moderate-high particularly where there is an uninterrupted line of sight to the facility. The visual impact of the proposed works is assessed to range from low to high for the residential observation points identified in this assessment, depending upon whether there is any roadside vegetation or within private property that interfere with a direct visual connection with the facility. It is assessed to be low for motorists using the Kamilaroi Highway due to the flat topography and presence of industrial development on approach to the township, and moderate for the Newell Highway due to gaps in roadside vegetation which allow full visibility of the site particularly when approaching from the south.
The findings of the assessment acknowledge that there will be impacts on the landscape and visual amenity as there are with any type of development. However, there is no view loss; the impact is a change to the view – a new element within the landscape. Impacts are greatest in close proximity to the solar farm as the further the distance a viewpoint is from the site the less the overall visual impact as the development occupies a lesser proportion of the total view.

The potential impacts of the proposed solar farm on views from both private property and the public domain affect only a minor proportion of the total landscape views. Impacts would be greatest during construction when there will be traffic movements into and out of the site and the temporary car parking and materials laydown areas are installed. Once operational, the proposed landscaping will provide effective screening of the fence, array and inverters over time as vegetation matures.

To mitigate impacts on the landscape and visual amenity, it is recommended that native plants that are endemic to the Narrabri district be selected for the vegetation screen that is proposed to be planted around all sides of the array. Narrabri Shire Council should be consulted to determine appropriate plant species.

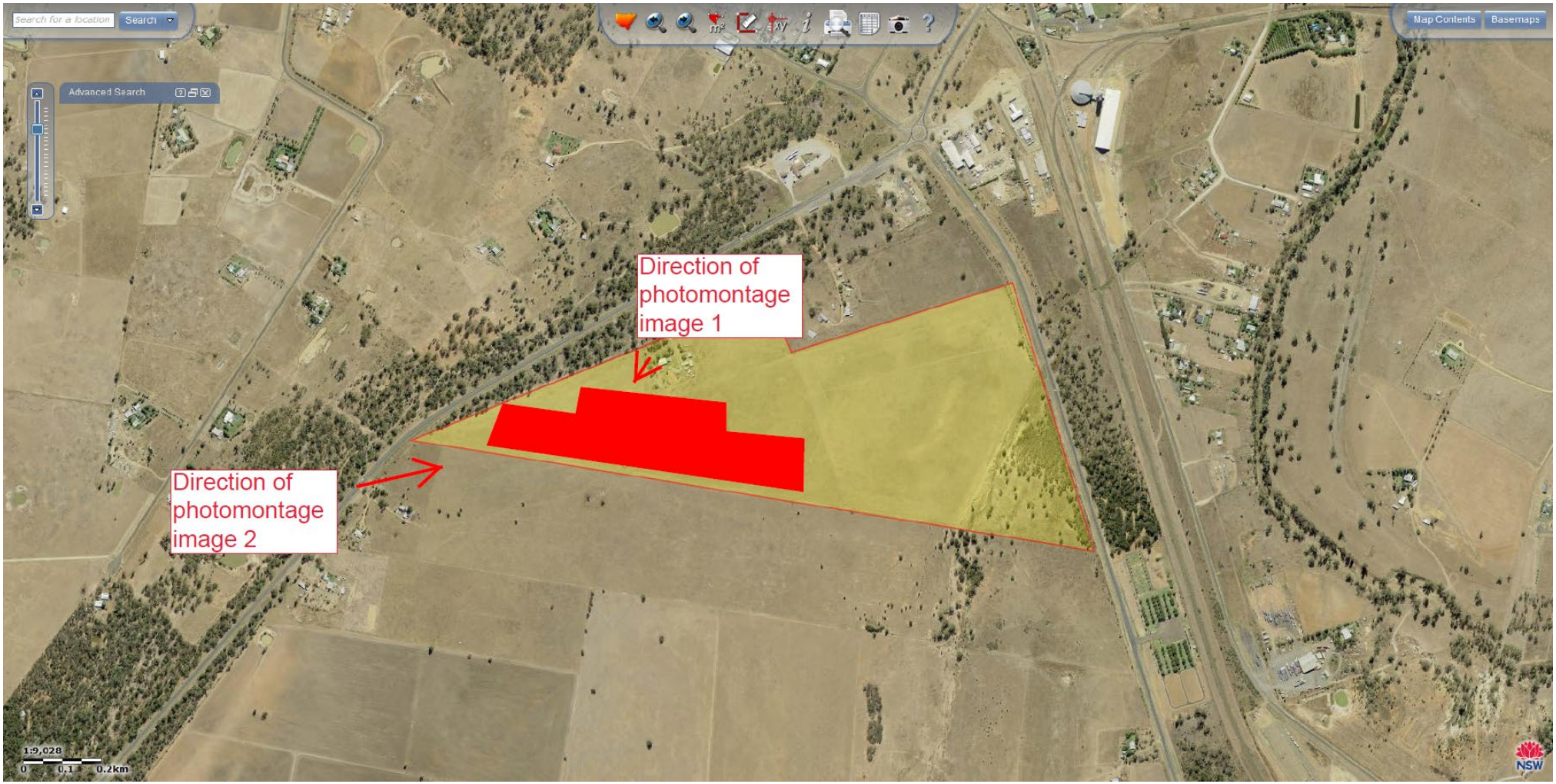
On balance and having regard to other matters for consideration under section *4.15 Evaluation* of the *Environmental Planning and Assessment Act 1979*, the impacts are considered acceptable given that:

- the solar farm will contribute to renewable energy generation and provide a source of electricity for local domestic and commercial use whilst at the same time assisting to reduce greenhouse gas emissions and our reliance on fossil fuels,
- It will also generate employment opportunities during the construction phase and once operational will provide employment for maintenance crews,
- The placement of the array within the property downslope has been chosen to maximise distance separation from neighbouring dwellings,
- Existing vegetation along road reserves and property boundaries is to be maintained,

- The proposed landscaping surrounding all sides of the array will grow to a height that will screen the facility from observation points including public roads that are on level ground with the development site and elsewhere will soften the visual impact from land that is slightly elevated above the development site.

Attachment A

Photomontages



Relative location of photomontage images

Narrabri Solar Farm

Image 1a: Looking south from internal fenceline before development of solar farm

Image 1b: Looking south from internal fenceline after development and before landscaping

Image 1c: Looking south from internal fenceline after development and landscape planting

Image 1d: Looking south from internal fenceline after development with semi-mature landscaping

Image 1e: Looking south from internal fenceline after development with mature landscaping

Image 2a: Approaching north on the Newell Highway before development of solar farm

Image 2b: Approaching north on the Newell Highway after development without landscaping

Image 2c: Approaching north on the Newell Highway after development and landscape planting

Image 2d: Approaching north on the Newell Highway after development with semi-mature landscaping

Image 2e: Approaching north on the Newell Highway after development with mature landscaping