ibvogt

Visual Impact Assessment

SEBASTOPOL SOLAR FARM

AUGUST 2018

ngh environmental

Document Verification

Project Title: Visual Impact Assessment Sebastopol Solar Farm

Project Number:

Project File Name: 171206 Sebastopol VIA Draft1

Revision	Date	Prepared by (name)	Reviewed by (name)	Approved by (name)
FinalV0.1	20/08/18	Sarah Hillis	Erwin Budde	Erwin Budde

www.nghenvironmental.com.au e: ngh@nghenvironmental.com.au

Sydney Region
18/21 mary st
surry hills nsw 2010 (t 02 8202 8333)

Canberra - NSW SE & ACT
8/27 yallourn st (po box 62)
fyshwick act 2609 (t 02 6280 5053)

Bega - ACT and South East NSW
suite 1, 216 carp st (po box 470)
bega nsw 2550 (t 02 6492 8333)

Newcastle - Hunter and North Coast
7/11 union st
newcastle west nsw 2302 (t 02 4929 2301)

Wagga Wagga - Riverina and Western NSW
suite 1, 39 fitzmaurice st (po box 5464)
wagga wagga nsw 2650 (t 02 6971 9696)

Brisbane
Suite 4, Level 5, 87 Wickham Terrace
Spring hill qld 4000 (t 07 3129 7633)

CONTENTS

TABLES

FIGURES

1 INTRODUCTION

This Visual Impact Assessment (VIA) has been prepared for the proposed Sebastopol Solar Farm (the proposal). The Solar Farm is proposed at a property located on the eastern side of Goldfields Way, approximately 17 kilometres (km) south of Temora (Figure 1-1). This report has been prepared by NGH Environmental with input from Moir Landscape Architects on behalf of ib vogt GmbH (ib vogt) to assess the potential visual impacts of the proposed solar farm infrastructure.

As visual amenity values and visual impacts can be subjective, the assessment includes a transparent, systematic evaluation with reference to existing guidelines, to address subjectivity as much as possible.

1.1 PROJECT OVERVIEW

The proposal would involve the installation and operation of a photovoltaic (PV) solar plant with a capacity of up to 108 megawatts (MW) (DC). The development footprint would occupy around 248 hectares (ha) of the 642 ha property.

The proposed layout of solar farm infrastructure is shown in Appendix A.

In total, the construction phase of the proposal is expected to take approximately 9 months. Sebastopol Solar Farm is expected to have approximately a 30-year operating life, at which point the solar farm would either:

- Be decommissioned, removing all above ground infrastructure and returning the site to its existing land capability; or
- Continue operation (which could involve reconditioning), if the lease agreement is renewed. Reconditioning would involve replacing components that were originally installed with new components that reflect technology that is available at that time.

The proposed solar farm would involve both construction and operational visual impacts.

1.1.1 Visual characteristics of construction components

During construction, the following elements would be temporarily introduced into the visual environment both within and surrounding the proposed solar farm:

- Site compound areas, site facilities, material storage areas and stockpiles located within the site boundaries.
- Site facility sheds, which may generate reflection and glare.
- Areas of bare soil created through excavation, grading or trenching.

These areas may be visible from local and main roads (including Eurolee Road, Sebastopol Road and Goldfields Way) and sensitive receivers.

1.1.2 Visual characteristics of operational components

Key operation infrastructure components would include:

- Single axis tracker photovoltaic (PV) solar panels, mounted on steel frames over most of the site (up to approximately 308,000 PV solar panels).
- Battery storage to store energy on-site.
- Inverter/ transformer units.

- Electrical conduits.
- On site substation.
- Site office, parking, access tracks and perimeter fencing.
- Operations and maintenance buildings with associated car parking.
- Access point via Eurolee Road.
- 132 kv overhead transmission line to connect the proposal to the existing 132 kV transmission line located to the west of the site.

Within the development site, ground disturbance would be limited to:

- The installation of the piles supporting the solar panels, which would be driven or screwed into the ground.
- Construction of internal gravel access tracks.
- Establishment of inverter/transformer units, construction compound and solar substation.
- Trenching and possible boring for the installation of cables.
- Establishment of staff amenities and offices.
- Construction of parking area.
- Construction of perimeter security fencing.
- Installation of overhead 132 kv transmission line to connect to the existing 132 kV transmission line located to the west of the site.

1.2 SITE CONTEXT

The Sebastopol Solar Farm proposal area is in Temora Shire Local Government Area (LGA) approximately 17 kilometres south of the township of Temora, as shown in Figure 1-1. The Sebastopol property and subject land comprises of Lot 4 DP 1186823, Lot 1 DP 133994, Lots 62, 88, 90, 91 and 92 of DP751424 (Figure 1-2), with the proposal footprint comprising of Lot 1 DP 133994, Lots 90, part 91 and part 92 and the transmission line parts of Lot 4 DP 1186823 and lots 62 and 88 DP 392383. Goldfields Way runs to the west of the property, Sebastopol Road to the north, and Eurolee Road to the south. Eurolee Road is located within the Junee LGA. Several transmission lines run across the western side of the Sebastopol property, one being a 132 kv transmission line which is part of the electricity distribution network that originates at TransGrid's North Wagga substation. The proposed solar farm would connect directly to the transmission line via a new 132 kv overhead powerline, with an additional substation required at the point where the proposal connects.

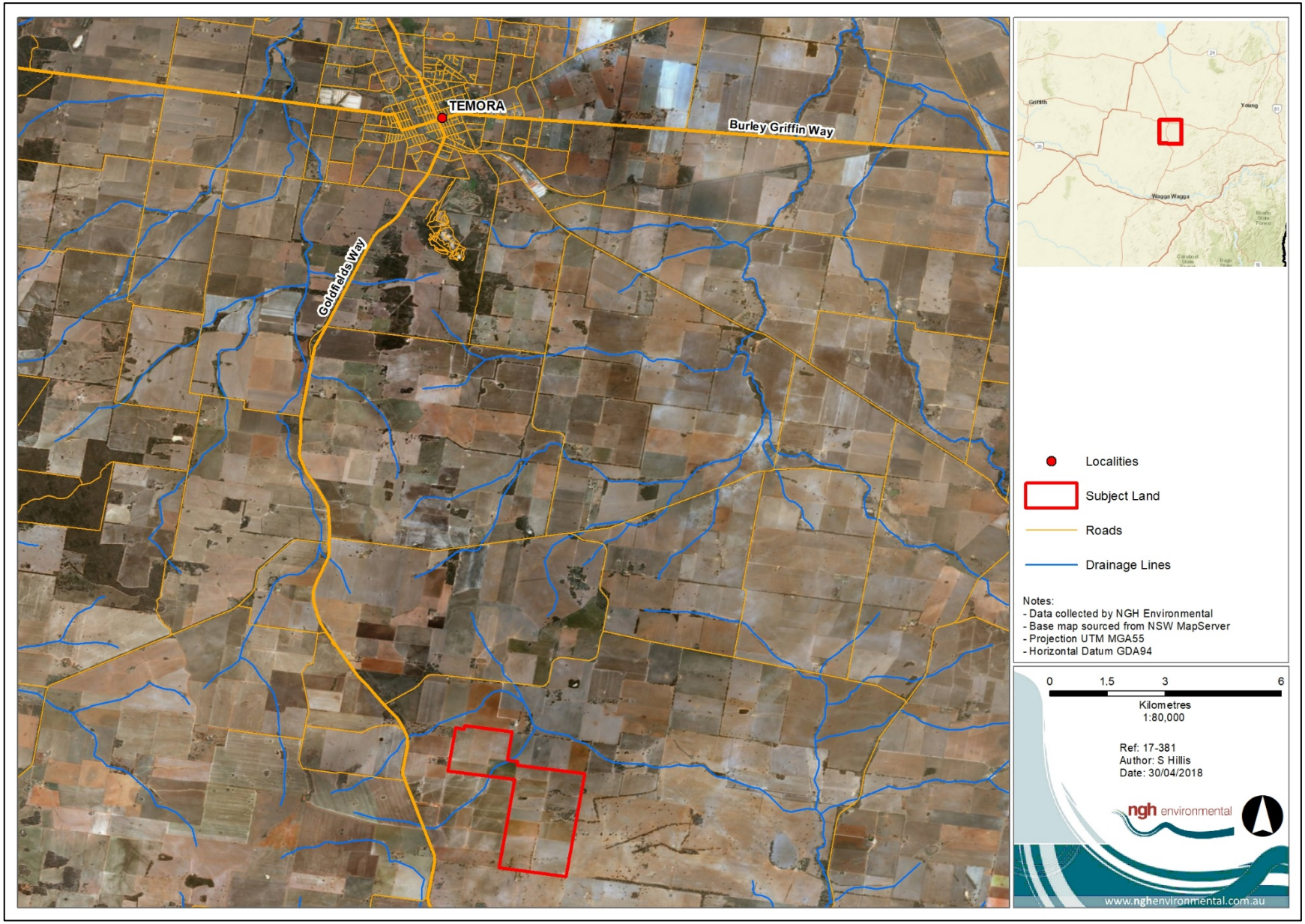

Figure 1-1 Location of the Sebastopol Solar Farm

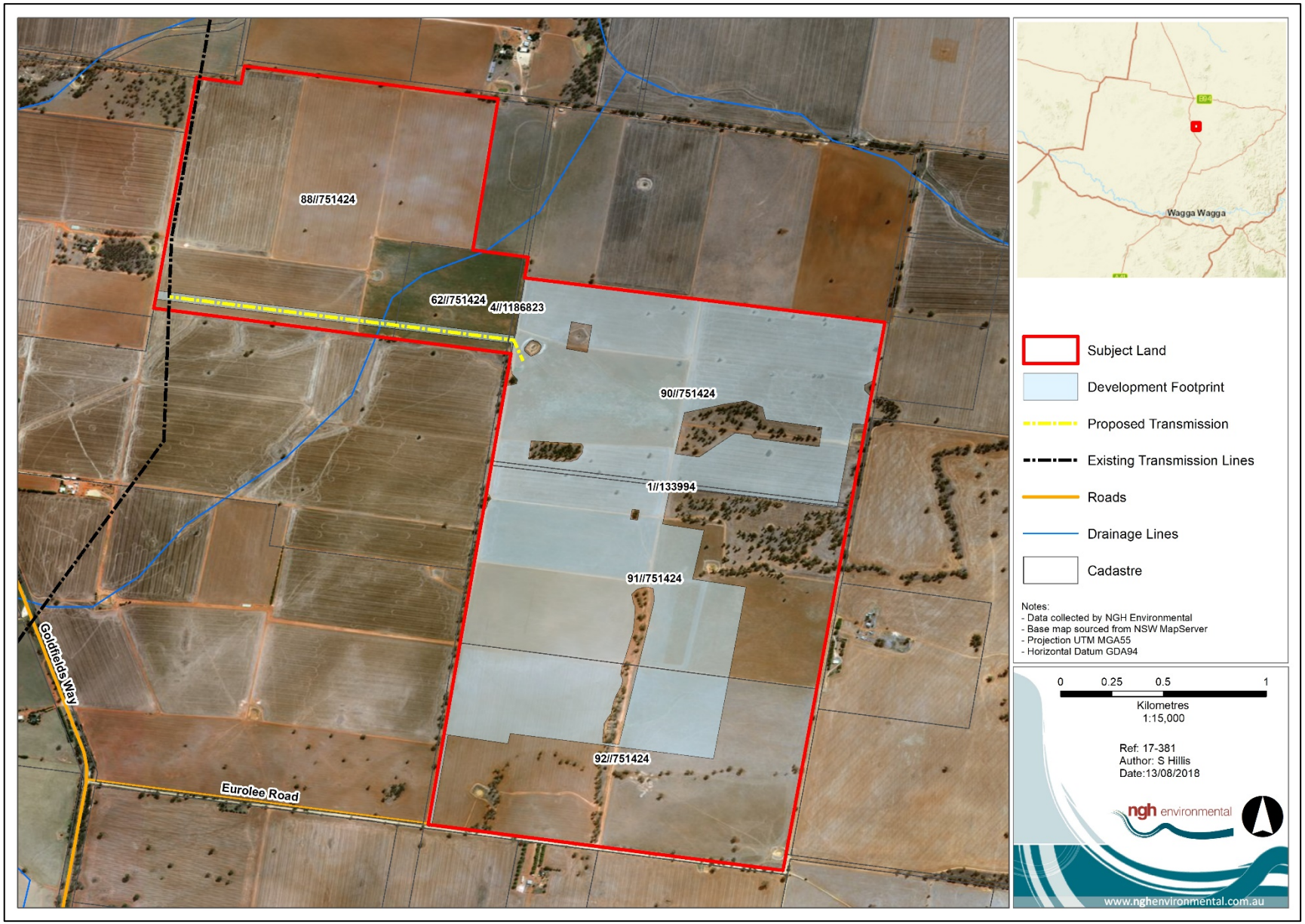

Figure 1-2 Proposal Site and Footprint

1.3 OBJECTIVES OF THIS REPORT

This VIA includes a full assessment of the potential visual impacts associated with the proposed Sebastopol Solar Farm. Specifically, it includes an assessment of:

- Landscape character and scenic vistas in the locality.
- Stakeholder values regarding visual amenity.
- Potential impacts on representative viewpoints, including residences and road corridors.

Secretary's Environmental Assessment Requirements (SEARs) for the proposal were provided by NSW Department of Planning and Environment (DPE) on 3 March 2018. The SEARs are intended to guide the structure and content of the Environmental Impact Statement (EIS) and reflect the responsibilities and concerns of NSW government agencies in relation to the environmental assessment of the proposal. This report addresses the SEARs for the proposed Sebastopol Solar Farm where relevant to potential visual impacts, as shown in Table 1-1.

Table 1-1 Secretary's Environmental Assessment Requirements for visual impact assessment of the Sebastopol Solar Farm

Requirement	Addressed in this report
Visual – including an assessment of the likely visual impacts of the development (including any glare, reflectivity and night lighting) on surrounding residences, scenic or significant vistas, air traffic and road corridors in the public domain, including a draft landscaping plan for on-site perimeter planting, with evidence it has been developed in consultation with affected landowners.	The following matters are addressed in this report: • Likely visual impacts on surrounding residences, road corridors, scenic or significant vistas. • Glare, reflectivity and night lighting. • A draft landscaping plan for on-site perimeter planting (Appendix B). • Consultation with most affected landowners regarding the solar farm proposal and perimeter planting. It is noted that air traffic is considered separately in the EIS.

1.4 TERMINOLOGY

Terminology used in this report includes:

Study Area	Defined as the community of Sebastopol and surrounding areas.
Development Footprint	The area of land that is directly impacted by the proposal.
Development Site	The area of land that will experience works related to the solar farm and any additional infrastructure required for the operation of the proposed solar farm.
Proposed activity	All infrastructure and activities required for the construction, operation and decommissioning of the proposed solar farm.

Subject Land	All land within the affected lot boundaries.
Landscape Character Unit (LCU)	LCUs take into account topography, vegetation, land use, and other distinct landscape features. They are a way to categorise the existing scenic quality of the receiving environment and consider the ability of the environment to absorb visual change at the landscape scale.
Viewer sensitivity	Viewer sensitivity is subjective but can be discussed in terms of factors such as whether the view relates to recreational or work environments, or whether the view is experienced continuously or intermittently.
Landscape Management Zone (LMZ)	LMZs are derived by combining scenic quality with viewer sensitivity and proximity to the proposed infrastructure at the landscape scale. A three-tiered management hierarchy sets out appropriate management objectives for each zone.

2 METHODOLOGY

2.1 OVERVIEW

The VIA has been completed in the following stages:

1. Background investigations and mapping.
2. Field survey including reconnaissance, ground truthing and photography.
3. Consultation.
4. Impact assessment.
5. Development of a visual impact mitigation strategy.

These methods are detailed below.

2.2 BACKGROUND INVESTIGATIONS, MAPPING AND MODELLING

Background investigations included identifying key landscape features that may be affected by the visual impacts of the proposed solar farm. This was done using existing literature and aerial photos.

Mapping and modelling were undertaken to:

- Identify and classify LCUs within Sebastopol and surrounding. LCUs are a way to summarise differences in landscape amenity and the sensitivity of different areas within the landscape to visual impacts.
- Define areas in which the infrastructure of the proposed solar farm may be visible using topographic information.
- Identify key viewpoints such as major travel routes, potential receivers (dwellings and other structures), and built up areas.
- Understand the feasibility of screening to mitigate visual impacts.

The results were used to inform the field survey.

2.3 FIELD SURVEY

With reference to the mapping and modelling, field reconnaissance and ground truthing was undertaken to:

- Verify and document the existing LCUs in the study area.
- Identify representative viewpoints within the LCUs.
- Understand the likely sensitivity of the LCUs to views of the proposed solar farm.

Moir Landscape Architects identified the representative viewpoints, which involved driving along major roads and publicly accessible minor roads, investigating and documenting dominant visual character elements and potential views to the proposed infrastructure. Photographs were taken at representative locations. Some roadside viewpoints have also been identified as ‘residential’ where they occur near a residence.

2.4 COMMUNITY CONSULTATION

Community consultation specific to this assessment of visual impacts is required to:

- Understand how the community values existing visual amenity in the study area.
- Document the perceptions of the community to the proposed development.

Community consultation has been undertaken in accordance with the proposal's Community Consultation Plan. As part of the plan, respondents have been surveyed on their views regarding solar farm development and local visual amenity.

Specific questions relating to visual impacts were included in a feedback form distributed via:

- A Project Website (http://sebastopolsolarfarm.com.au) that went live in February 2018 with a dedicated email address for feedback.
- Direct engagement with neighbours though phone calls, letters, emails and face to face meetings.
- Community Open Days held on 9 March and 22 May 2018 in Temora.
- A newsletter issued to residence in May 2018.

These questions related to:

- Local values, including views.
- Interest in solar farms in general.
- Concerns about the solar farm, including visual impact.

The feedback form is included in Appendix C. The results are used in the impact assessment and are summarised in Section 3.4.2.

2.5 IMPACT ASSESSMENT

The potential impact of the proposed activity on visual amenity during construction has been assessed qualitatively given the construction period would be short in duration.

The impact assessment methodology used in this VIA for operational impacts is based on the Bureau of Land Management (BLM) Visual Resource Management System, developed by the BLM, US Department of the Interior (n.d.). The BLM developed a systematic process to analyse the visual impact of proposed developments. The basic philosophy states that the degree to which a development affects the visual landscape depends on the visual contrast imposed by the project.

Key steps undertaken to assess the visual impact are as follows:

- Define LMZs for the representative viewpoints, based on:
    - The scenic quality of the study area's LCUs.
    - The expected sensitivity at representative viewpoints.
    - The proximity of each representative viewpoint.
- Evaluate the degree of contrast the solar farm would generate at representative viewpoints in consideration of the management objectives of the relevant LMZ.
- Determine the acceptability of the contrast with the management objectives of the relevant LMZ; this is the resultant visual impact, rated as high, medium or low.

Criteria for scenic quality, sensitivity, proximity, contrast and visual impact are included in the assessment in Section 3.

Mitigation measures are considered to be required for high impact receivers, where unmitigated impacts are deemed greater than what is acceptable. For medium impact receivers, the contrast is considered acceptable and mitigation may be recommended. For low impact receivers, the contrast is deemed unlikely to be perceived and therefore acceptable with no mitigation required.

For the purpose of the assessment, a height of 4 m was used to model onsite infrastructure. The model does not take into account screening such as vegetation or infrastructure. On this basis is considered a 'worst case' model.

2.6 VISUAL IMPACT MITIGATION STRATEGY

The Visual Impact Mitigation Strategy was developed after consideration of the above methods. The mitigation strategy is outlined in Section 6.

3 EXISTING ENVIRONMENT

3.1 TEMORA LOCAL GOVERNMENT AREA

Temora is situated within the South West Slopes/Riverina area, approximately 90 km north of Wagga Wagga. The Temora LGA encompasses the township of Temora, and villages of Ariah Park and Springdale (Temora 2017).

Temora was originally a major gold field, with the Temora field producing a large percentage of NSW's gold. Once gold returns started to decline, focus shifted to wheat production. Temora is now a key rail hub and centre to a large wheat and sheep area. It has one of NSW's largest inland grain storage terminals, a major agricultural research station outside of town, an extensive feedlot and some manufacturing (Traveller 2008a).

Temora is also a centre for harness racing with The Golden Gift Foot Race held on the second weekend in February, the Temora Show on the fourth Saturday in September, The Father's Day Weekend Aircraft Showcase the first Sunday in September, the May Gilmore Festival mid-September and the Antique Engine Field Day and Warbirds Downunder in October.

Data from the 2016 Australian Bureau of Statistics (ABS) Census details a population of 6,110 people within the LGA covering an area of 2,802 km^2. Of these, 49.7% were male and 50.3% were female. Aboriginal and Torres Strait Islander people made up 2.3% of the population, with 88% of the population born in Australia. Temora consists of an aging population, with a median age of 46 years (ABS 2018a).

Temora is a rural service town, with its major economic driver being wheat, canola and wool production. Temora's main employers are Woolworths, Temora Shire Council, Narraburra Lodge (nursing home), BFB (grain merchants) and Graincorp (grain merchants) (Country Change 2017).

3.2 JUNEE LOCAL GOVERNMENT AREA

Junee is also situated in the South West Slopes/Riverina area, approximately 40 km north of Wagga Wagga. The Junee LGA encompasses the township of Junee, and villages of Bethungra, Illabo, Wantabagery, Harefield, Old Junee, Junee Reefs and Dirnaseer (Junee 2018).

Junee was a major railway centre, with the railway still running adjacent to the main road and through the Central Business District. Junee LGA is NSW's largest producer of canola, whole wheat, oats, barley, triticale, pasture seeds, lamb, wool olives and deer also contribute to the local economy (Traveller 2008b).

Data from the 2016 ABS Census details a population of 4,922 people within the LGA covering an area of 2,030 km^2. Of these, 58.6% were male and 41.4% were female. Aboriginal and Torres Strait Islander people made up 9.1% of the population, with 81.9% of the population born in Australia. The median age of people in Junee was 39 years old (ABS 2018b).

3.3 SEBASTOPOL

Sebastopol is a village community in the north-east part of the Riverina, situated 15 km south of Temora within the Temora LGA. The village consists of rural dwellings and Saint Stephen's Presbyterian church.

For the purpose of the VIA, the Subject Land is defined as the community of Sebastopol within 3 km of the proposed development. Two involved residence and 10 uninvolved residence are located within the Subject Land (Figure 3-1).

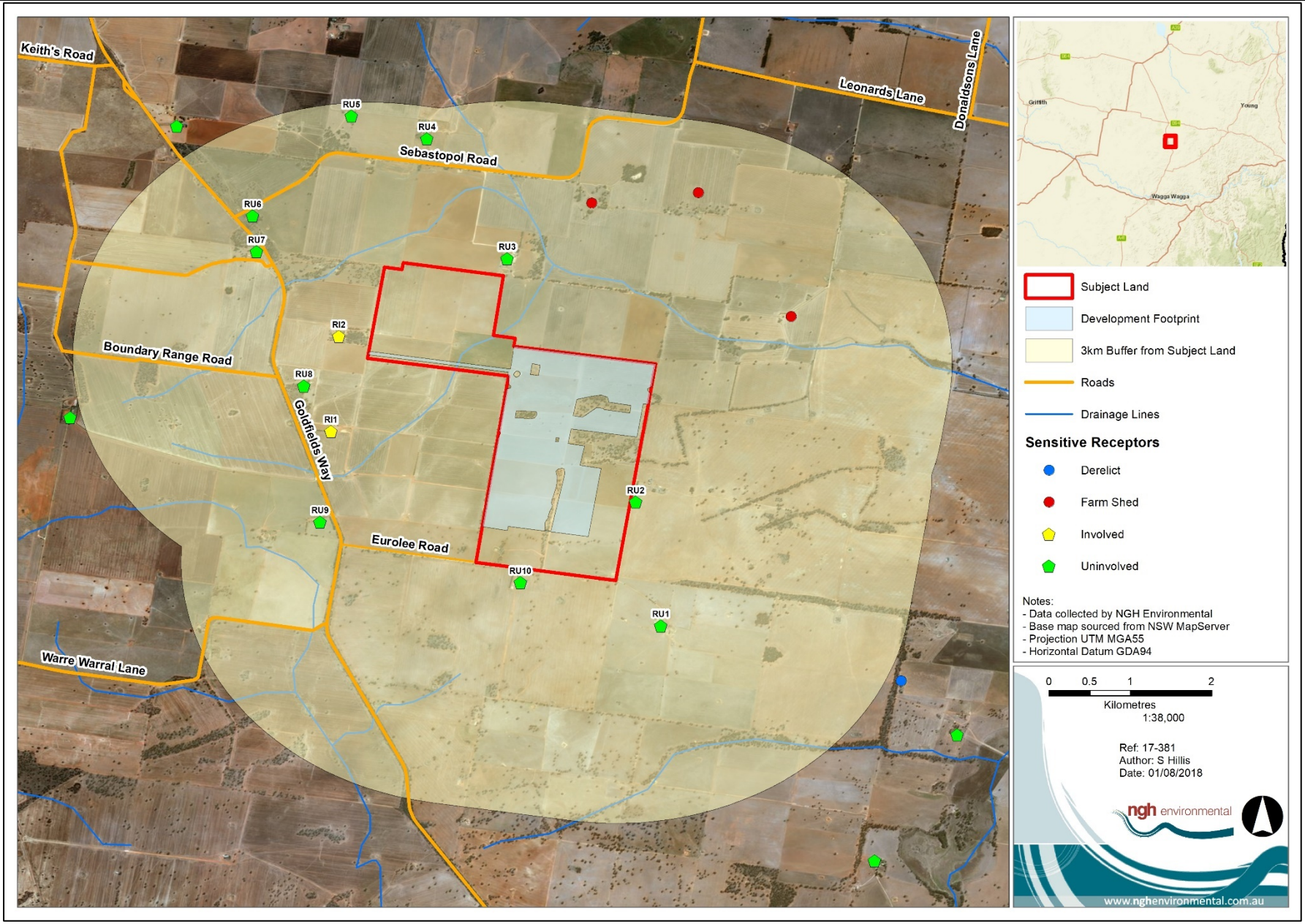

Figure 3-1 Nearest sensitive receptors

3.4 COMMUNITY VALUES

3.4.1 General attitudes to solar infrastructure

Research indicates that there is widespread support for solar energy as a source of electricity generation in Australia (ARENA n.d.); 78% of respondents of the social research that the ARENA report is based on are in favour of large scale solar energy facilities and 87% are in favour of domestic installations. The large-scale solar energy sector is still at a relatively early stage of development in Australia. While most members of the community are aware of large scale solar energy, many do not know a great deal about its impacts (ARENA n.d.), including visual impacts.

Three approaches to improving community understanding of the visual impacts of large scale installations include:

- Provision of images (from many angles) of large scale solar facilities, particularly in the early stages of a proposal.
- Understanding the similarities between highly supported domestic scale installations and large-scale facilities.
- Understanding the current function of the land proposed to hold the facility and the additional value the installation allows for.

(Source: extracted from ARENA n.d.).

This report addresses these issues.

3.4.2 Perceptions of the local community, regarding solar farm visual impacts

Community consultation specific to the assessment of visual impacts for the proposal was conducted for near neighbours and the broader community.

Nearest neighbours

During January 2018 ib vogt staff made phone calls to near neighbours to the site (where phone numbers were available) to notify residence of the solar farm proposal and offer to meet and/or answer questions about the solar farm.

On 23 January 2018 ib vogt staff door knocked those nearest neighbours (who were not able to be contacted by phone) to advise of the proposal. A letter was left at the residences with some info about the proposal and ib vogt staff contact details.

In early February 2018 ib vogt mailed out letters to addresses in the Sebastopol and northern Erin Vale localities to notify residence of the solar farm proposal and offer to meet and/or answer questions about the solar farm. The letters included project information, site location map and a community feedback form with reply-paid envelopes to allow neighbours to provide their opinions regarding the solar farm proposal.

A newsletter was also issued to residence within the vicinity of the site in mid-May 2018. The newsletter included updates on the progress of the proposal, environmental assessments and other additional details.

Between January and August 2018 ib vogt staff met with several of the near neighbours to discuss their concerns about impacts of the solar farm. Some residences had concerns about the visual impact of the proposal. As a result, photographs were taken from these neighbours to prepare photomontages to

illustrate the predicted view of the solar farm proposal with proposed vegetative screening. The proposal layout was also reduced after the May community open day which allowed for a setback between the solar farm infrastructure and the nearest residences. Photomontages illustrating the reduced solar array and proposed screening were provided to the near neighbours.

Broader community

A project website was developed to provide information and updates (http://sebastopolsolarfame.com.au). The website went live in February 2018 and is updated regularly. An online feedback form was also made available for submission.

Community Open Days were held on 9 March and 22 May 2018 in Temora. The open days were designed to provide proposal information, answer any community-based questions or concerns and provide updates on the progress of the Development Application and design constraints. Nearest neighbours and surrounding receivers were invited to the open days via phone, email or letter, while the broader community were informed by advertisement in the Temora Independent and the Southern Cross newspapers, in the Temora Shire Council newsletter and on the Temora Shire Council social media page.

Feedback forms

As well as one on one and group presentations, a feedback form was prepared to better understand the community's values and concerns regarding the proposal. Forms were distributed in the Feedback sessions and the website, and landscape and views of the area were identifies as being highly valued by the community. Visual concerns as a result of the solar farm were raised by some residence within the vicinity, although the outlook was generally positive towards the development. The majority of residence agreed that on-site vegetation screening would reduce the overall impact.

3.5 LANDSCAPE CHARACTER UNITS (LCU)

LCUs take into account topography, vegetation, land use, and other distinct landscape features. They are a way to summarise differences in the receiving environment that may affect the visual impact of the proposed solar farm at different locations.

Three LCUs were identified within Sebastopol and surrounding areas:

- Rural (including agricultural lands).
- Residential (viewpoints near rural residence/homes).
- Industrial (major roads, electrical and other built infrastructure).

The scenic quality was rated in each LCU as follows:

- A high scenic quality rating describes areas with outstanding, unusual or diverse features.
- A moderate scenic quality rating applies to areas with the features and variety normally present in the character type.
- A low scenic quality rating is given to areas lacking features and variety.

The three LCUs identified are characterised in Table 3-1 in terms of their scenic quality.

Table 3-1 Key features of LCUs within Sebastopol and surrounds

Rural LCU
Rural and agricultural lands within the study area are used predominantly for agriculture, grazing and rotational cropping of grains, cereals and pulses. The site is relatively flat to undulating. Expansive views within this LCU are generally limited given the undulating relief and screening provided by vegetation. Secondary sealed and unsealed roads such as Eurloee Road and Sebastopol Road are the main vantage points from which to view agricultural areas. From the road corridors, agricultural and grazing land can be viewed openly. Patches of native and planted vegetation screen views of agricultural land from roadways. In addition to sections of road, overhead transmission lines are visible that reinforce rectilinear shapes and are common in rural landscapes. Surrounding blocks are made up of primary production, with residences within this landscape being broadly distributed. Residence are commonly associated with some additional vegetation plantings. Other infrastructure includes agricultural sheds, buildings and low open fences. **Scenic quality is moderate. Built elements are production related and include linear fences, powerlines, roads, agricultural buildings and rural homes. Forms are typically uniform, of undulating elevation and linear. This LCU is common and the dominant LCU in the study area. The proposed solar farm is located within this LCU.**
Residential LCU
Residential areas of Sebastopol and surrounds include viewpoints from the road near resident's homes. Much like the Rural LCU, the area is relatively flat to undulating with expansive views generally limited given the undulating relief and screening provided by vegetation. Residence are broadly and unevenly distributed over the landscape, with properties commonly associated with additional vegetation planting and screening. Residence are namely located on the Major Goldfields Way, and secondary sealed and unsealed roads such as Eurolee Road, Sebastopol Road and Combanning Road. **Scenic quality is considered moderate. These areas have variety in colour and form normal in this character type. Elements include linear fences, powerlines, roads, agricultural buildings and rural homes. This LCU is common in the study area.**
Industrial LCU
Industrial areas within Sebastopol and surrounds include the major Goldfields Way and powerlines. Common features in the LCU include the two-way sealed road, road reserve, fencing, powerlines and regular small and large vehicles. **Scenic quality is considered low, with features matching the land use. Screening is present for almost the entire length of Goldfields Way, with broken views of surrounding rural land visible through existing native vegetation. The majority of residential homes are also screened from view by vegetation. The undulating landform also breaks up expansive views of surrounding rural and residential land. This LCU is common in the study area, with the development site located approximately 1.4 km off Goldfields Way.**

3.6 VIEWPOINT SENSITIVITY

3.6.1 Identifying viewpoints

The BLM methodology requires identification of representative viewpoints in the study area. These may be travel routes such as roads, waterways and recreational tracks, residential areas, tourist facilities, houses and farmland.

23 representative viewpoints were identified using topographic information and the BLM methodology, and are mapped in Figure 3-2.

3.6.2 Rating proximity and assessing sensitivity of viewpoints

The predicted sensitivity of each viewpoint can be determined considering its proximity to the development site and factors such as use, scenic quality and regional significance.

Criteria for proximity are as follows:

- Foreground 0 – 1 km.
- Middle ground 1 – 3 km.
- Background More than 3 km.

Criteria for scenic quality are as follows:

- High sensitivity:
  - high use routes or areas.
  - routes or areas of national or state significance.
  - areas with high scenic quality.
- Moderate sensitivity:
  - moderate use routes or areas.
  - routes or areas of regional or local significance.
  - areas with moderate scenic quality.
- Low sensitivity:
  - low use routes or areas.
  - routes or areas of low local significance.
  - areas with low scenic quality.

Considering the sensitivity of local viewpoints, the following assessments were made:

- **Rural viewpoints** were assessed as generally having a moderate to low scenic quality given the surrounding agricultural and industrial activities. Rural views are located on moderate to low routes, or areas only accessed by local traffic. As motorists use local roads, views increase as vehicles approach the development site. View durations are generally short as vehicle speeds are up to 100 km/hr, and the expected number of local vehicles on these local roads is considered to be low to moderate. Regional and local significance is low, with scenic quality being moderate.
- **Residential viewpoints** were assessed as generally having a moderate to high sensitivity. If there was a view to the solar farm, the view duration could be expected to be high for a receiver.
- **Industrial viewpoints** were assessed as having low sensitivity and include Goldfields Way and existing powerlines. Any views from these areas would be fleeting due to

vehicle speed, hard to discern and fragmented by existing roadside vegetation. Built structure is more commonly functional than aesthetic in these settings.

Figure 3-2 Location of viewpoints

The sensitivity of each viewpoint is provided in Table 3-2.

Table 3-2 Representative viewpoints and assessed proximity, scenic quality and sensitivity

ID	LCU	Distance to site	Scenic quality	Sensitivity
1	Residential	Background	Moderate	Moderate
2	Residential	Middle ground	Moderate	Moderate
3	Residential	Middle ground	Moderate	Moderate
4	Rural	Middle ground	Moderate	Low
5	Rural	Middle ground	Moderate	Low
6	Rural	Middle ground	Moderate	Low
7	Residential	Middle ground	Moderate	High
8	Rural	Middle ground	Moderate	Low
9	Rural	Middle ground	Moderate	Moderate
10	Rural	Middle ground	Moderate	Low
11	Rural	Background	Moderate	Low
12	Rural	Background	Moderate	Low
13	Rural	Background	Moderate	Low
14	Industrial	Middle ground	Low	Low
15	Industrial	Middle ground	Low	Low
16	Rural	Foreground	Moderate	Moderate
17	Residential	Foreground	Moderate	High
18	Residential	Foreground	Moderate	High
19	Industrial	Foreground	Low	Low
20	Residential	Foreground	Moderate	Moderate
21	Industrial	Foreground	Low	Low
22	Residential	Foreground	Moderate	Moderate
23	Residential	Middle ground	Moderate	Low

4 VISUAL CHARACTERISTICS OF KEY INFRASTRUCTURE COMPONENTS

The key infrastructure components of the proposed Sebastopol Solar Farm, with reference to the stage of the project and the potential visual amenity impacts they may generate, are discussed below and referenced in the visual impact assessment, Section 5.

4.1 INFRASTRUCTURE COMPONENTS

Infrastructure components of the proposed solar farm are detailed in Section 1.1.

As illustrated on the Proposed Infrastructure map in Appendix A, the development footprint that would include the solar arrays covers the majority of the development site. However, the ground disturbance from pile installation would disturb only about 0.2% of the total development footprint. Panels within the solar array area would sit above the ground and ground cover vegetation would be maintained under the panels. The area of the site that would be affected by shading from the solar panels would be approximately 70%. Additional ground disturbance outside the solar arrays would result from construction of the internal access tracks, trenches for cabling and footings for other equipment.

The following construction ancillary facilities would be located within the development site:

- Material laydown areas.
- Temporary construction site offices.
- Temporary car and bus parking areas for construction workers transportation. Once the solar farm has been commissioned a small car park would remain for the minimal staff required and occasional visitors.
- Staff amenities. Once constructed, the solar farm would be monitored and operated remotely and would therefore require a minimum number of maintenance personnel to be onsite.
- Parking for staff and visitors.

These facilities would be designed in line with the relevant Australian standards.

Staff amenities would be designed to accommodate the number of workers at the peak of the construction period and would include:

- Car park.
- Sanitary modules with septic tank.
- Changing rooms.
- Administrative office.
- Undercover storage area.
- Muster point in case of emergency.
- Genset for electrical supply.

4.2 CONSTRUCTION COMPONENTS

Construction impacts would be temporary, confined to approximately 9 months. Visual impacts could be generated during this time by:

- Development of site compound areas, site offices and stock piles located within the site boundaries. Steel sheds can generate reflectivity and glare although would be a similar look

to existing farm sheds. Material stockpiles may detract from visual amenity, particularly if dispersed across broad areas.

- Construction traffic will increase visual impacts and add to dust generation on the entry to Eurolee Road. Onsite parking areas, material laydown, site offices etc. would also be visible from Eurolee Road.
- Areas of bare soil created through grading or trenching cables could contribute to dust and detract from visual amenity until they are rehabilitated. These areas would only be visible to Eurolee Road.

4.3 OPERATIONAL COMPONENTS

Operational impacts centre on the look of the solar farm, once construction is complete:

- The solar array would be up to 4 m high.
- Inverters could measure up to 3.5m high.
- Electricity cables would be installed between the array modules, either underground or mounted to the underside of the array, producing negligible additional visual impact.
- The electrical connection from the site would be via an overhead cable from the proposed on-site substation to the existing 132 kv Transmission line. Visual impact of this would be negligible.
- The delivery station and site offices would add visual impact, mostly to motorists along Eurolee Road.
- Fencing would be up to 2.3m high security fencing along the site boundaries. It is expected to be cyclone fencing with a strand of barbed wire at the top. While higher than the array, the fence would not be solid. Views would be afforded beyond the fence.
- The main access to the site would be off Eurolee Road. This would provide minimal visual impact to local traffic along Eurloee Road.
- An area for parking would be included within the site boundaries.

The potential for glare associated with non-concentrating photovoltaic systems that do not involve mirrors or lenses is relatively limited. PV solar panels are designed to reflect as little sunlight as possible (generally around 2% of the light received; Spaven Consulting 2011), resulting in negligible glare or reflection. The reason for this is that PV panels are designed to absorb as much solar energy as possible in order to generate the maximum amount of electricity or heat. The panels will not generally create noticeable glare compared with an existing roof or building surface (NSW Department of Planning 2010). Seen from above (such as from an aircraft) they appear dark grey and do not cause a glare or reflectivity hazard. Solar photovoltaic farms have been installed on a number of airports around the world.

Other onsite infrastructure that may cause glare or reflections, depending on the sun angle, include:

- Steel array mounting - array mounting would be steel.
- Temporary site offices, sheds, PV boxes or PV skids.
- The onsite delivery station.
- Perimeter fencing.
- Permanent staff amenities.

This infrastructure would be relatively dispersed and unlikely to present a glare or reflectivity hazard to residences, motorists or aircraft.

5 IMPACT ASSESSMENT

5.1 CONSTRUCTION IMPACT ASSESSMENT

Visual impacts during the construction period would be generated by the following construction activities and elements:

- Temporary site office and amenities buildings.
- Earthworks.
- Delivery and stockpiling of materials.
- Stockpiling of excavated soil.
- Construction and installation of proposed solar farm infrastructure.

The use of excavation machinery would contribute to the visual impact of the proposed activity.

Visual receptors for the proposed activity during the construction period would include some residence in the immediate vicinity, road users travelling along Eurolee Road and Sebastopol. Some residence and farm stay/accommodation in the immediate vicinity would have broken views of construction.

Given the relatively short duration of the construction period compared to the lifetime of the proposal, low use of local roads and very few residences with any view of the proposal, it is considered that the potential visual impact during construction would be minimal. A general mitigation measure for the management of the development site during construction has been included in Section 6.

5.2 OPERATIONAL IMPACT ASSESSMENT

5.2.1 Methodology

An operational visual impact assessment has been conducted considering:

- The proposed solar farm components described in Section 1.1.
- The potential for the proposed solar farm to be viewed from representative viewpoints.
- The degree of contrast the proposed solar farm would have within the identified LMZ. LMZs were assigned to viewpoints based on the results of the field work, and the contrast at that viewpoint was evaluated, as described below.
- The potential impact from glare.

5.2.2 Definition of landscape management zones

Visual LMZs were assigned to each representative viewpoint. The zones were derived by combining scenic quality (from the LCUs described in Section 3.5), viewer sensitivity and the distance to the proposed solar farm (from Section 3.6.2). Combined they produce a three-tiered management hierarchy: A – C, as shown in Table 5-1.

Table 5-1 Visual Landscape Management Zone decision matrix

		Proximity / sensitivity						
		Foreground High	**Middle ground High**	**Background High**	**Foreground Moderate**	**Middle ground Moderate**	**Background Moderate**	**Foreground Low**
Scenic quality	**High**	A	A	A	A	B	B	B
	Moderate	A	B	B	B	B	C	C
	Low	B	B	B	B	C	C	C

Each zone has associated objectives to guide management of visual change and to help evaluate proposed project impacts. These are shown in Table 5-2.

Table 5-2 Visual Landscape Management Zone management objectives

Management priority	Management objectives
A	Maximise retention of existing visual amenity. Landscapes are least able to absorb change. Developments may lead to a major change.
B	Maintain existing visual amenity, where possible. Protect dominant visual features. Developments may be allowed to be visually apparent.
C	Less importance for retaining existing visual amenity. Landscapes are able to absorb change. Developments may be allowed to dominate but should reflect existing forms and colours where possible.

5.2.3 Visual impact assessment at representative viewpoints

Evaluation criteria

The ratings for the degree of contrast created by the proposed solar farm at each viewpoint have the following definitions (BLM n.d.):

- High contrast: the proposed activity would be dominant within the landscape and generally not overlooked by the observer; the visual change would not be absorbed.
- Medium contrast: the proposed activity would be moderately dominant and noticed; the visual change would be partially absorbed.
- Low contrast: the proposed activity would be seen but would not attract attention; the visual change would be well absorbed.
- Indistinct: contrast would not be seen or would not attract attention; the visual change would be imperceptible.

To determine if the objectives for the VLM zone are met, the contrast rating for the viewpoint is compared with the relevant management objectives to give a visual impact level. The visual impact level is consequently defined as:

- High impact: contrast is greater than what is acceptable.
- Medium impact: contrast is acceptable.
- Low impact: visual contrast is little or not perceived and is acceptable.

For high impact viewpoints, mitigation must be considered.

Evaluation Results

Table 5-3 evaluates the expected level of visual impact from 9 of the 23-representative viewpoints (due to closeness and similarity between viewpoints). Note, no high impact viewpoints were identified. A summary of the operational visual impact assessment is presented in Section 5.2.5.

5.2.4 Photomontages

Photomontages of the project shown within the existing context were prepared by Moir Landscape Architects to assist in the impact assessment of the proposed Solar Farm. Three viewpoints were selected for the production of photomontages as they were determined to have the greatest potential for visual impact and best represent a range of distances and locations with differing views. Photomontages are based on a worst-case scenario of the project without the inclusion of proposed mitigation measures. Zoomed and cropped photomontages have been included to provide clarity.

Table 5-3 Visual impact at representative viewpoints with reference to the proposed solar farm at Sebastopol

VIEWPOINT 1		
Summary of Viewpoint		Viewpoint Description / Impact
LCU	Residential	Taken from Goldfields Way facing south-east towards the proposed solar farm. The Viewpoint is representative of a resident's home, located north of the Viewpoint. Dominate features include the tree lined, sealed Goldfields Way, grazing and cropping paddocks, fencing, vegetation and overhead powerlines in the far distance. Proposed infrastructure is unlikely to be discernible by residence or motorists due to distance, vegetative screening and undulating nature of the area. **No mitigation is required**
Scenic Quality	Moderate	
Proximity	Background (>3 km)	
Sensitivity	Moderate	
LMZ Objective	C	
Contrast	Indistinct	
Inherent Visual Impact	LOW	

VIEWPOINT 3		
Summary of Viewpoint		Viewpoint Description / Impact
LCU	Residential	Taken from Sebastopol Road facing south-east towards the proposed solar farm. The Viewpoint is representative of Receiver 6, located on the southern side of Sebastopol Road. Dominate features include the tree lined, unsealed Sebastopol Road, grazing and cropping paddocks, fencing, vegetation and overhead powerlines in the far distance. The land is predominately cleared and flat. Proposed infrastructure may be discernible by residence and motorists. However, views will be fragmented through existing vegetative screening and difficult to discern due to distance. Solar farm infrastructure would not be the dominate feature at this Viewpoint and would not alter the current rural outlook. **No mitigation is required**
Scenic Quality	Moderate	
Proximity	Middle Ground (1-3 km)	
Sensitivity	Moderate	
LMZ Objective	B	
Contrast	Low	
Inherent Visual Impact	LOW	

VIEWPOINT 7		
Summary of Viewpoint		Viewpoint Description / Impact
LCU	Residential	Taken from Sebastopol Road facing south towards the proposed solar farm. The Viewpoint is representative of Receivers 4 and 3, located on both the northern and southern side of Sebastopol Road. Dominate features include the tree lined, unsealed Sebastopol Road, grazing and cropping paddocks, fencing, vegetation and overhead powerlines in the far distance. The land is predominately cleared and flat. Broken views of the proposed infrastructure through vegetative screening is noticeable by residence. However, solar farm infrastructure would not be the dominate feature at this Viewpoint and would not alter the current rural outlook. Views would be fleeting and hard to discern by motorists due to speed of travel and distance. **Refer to Photo Montage 1** (Table 5-4) **No mitigation is required**
Scenic Quality	Moderate	
Proximity	Middle Ground (1-3 km)	
Sensitivity	High	
LMZ Objective	B	
Contrast	Low	
Inherent Visual Impact	LOW	

VIEWPOINT 9		
Summary of Viewpoint		Viewpoint Description / Impact
LCU	Rural	Taken from an elevated point on Sebastopol Road facing south towards the proposed solar farm. Dominate features include the unvegetated, unsealed Sebastopol Road, grazing and cropping paddocks, fencing, vegetation and overhead powerlines in the far distance. The land is predominately cleared and elevated. A full view of the proposed infrastructure through retained on-site vegetative is visible by motorists. Views would be affordable whilst travelling north-south down the hill. The form of the infrastructure, low (<4m) and in rectangular arrays, is not incongruous with the existing low-lying rectangular forms in this agricultural area. **Refer to Photo Montage 2** (Table 5-4) **No mitigation is required**
Scenic Quality	Moderate	
Proximity	Middle Ground (1-3 km)	
Sensitivity	Low	
LMZ Objective	C	
Contrast	Low	
Inherent Visual Impact	LOW	

VIEWPOINT 12		
Summary of Viewpoint		Viewpoint Description / Impact
LCU	Rural	Taken from Combanning Road facing west towards the proposal area. Dominate features include the sealed Combanning Road with roadside vegetation, grazing and cropping paddocks, fencing, vegetation and overhead powerlines in the far distance. The land is predominately cleared and flat. Proposed infrastructure is unlikely to be discernible by residence or motorists due to distance, vegetative screening and speed of travel. **No mitigation is required**
Scenic Quality	Moderate	
Proximity	Background (>3 km)	
Sensitivity	Low	
LMZ Objective	C	
Contrast	Indistinct	
Inherent Visual Impact	LOW	

VIEWPOINT 15		
Summary of Viewpoint		Viewpoint Description / Impact
LCU	Industrial	Taken from Goldfields Way facing north-east towards the proposal area. Dominate features include the sealed Goldfields Way with roadside vegetation, grazing and cropping paddocks, fencing, vegetation and road signage. The land is predominately cleared and slightly undulating. Proposed infrastructure is unlikely to be discernible by residence or motorists due to distance, vegetative screening and speed of travel. **No mitigation is required**
Scenic Quality	Low	
Proximity	Middle Ground (1-3 km)	
Sensitivity	Low	
LMZ Objective	C	
Contrast	Indistinct	
Inherent Visual Impact	LOW	

VIEWPOINT 17		
Summary of Viewpoint		Viewpoint Description / Impact
LCU	Residential	Taken from Eurolee Road facing north towards the proposal area. The viewpoint is directly adjacent the proposal area, and representative of views from motorist on Eurolee Road, Receiver 10 and form similar views for Receiver 2. Receivers 10 and 2 are made up of a farm stay / staff accommodation and is not permanently occupied. Dominate features include flat cropping paddocks, fencing, isolated paddock trees and stands of vegetation, and the unsealed Eurolee Road. Infrastructure would dominate the views to the north. The form of the infrastructure, low (<4m) and in rectangular arrays, is not incongruous with the existing low-lying rectangular forms in this agricultural area. The proposed colour of the infrastructure is also not inconsistent with the existing infrastructure and bare paddocks in this agricultural area. Eurolee Road is also a local road of very low use. **Refer to Photo Montage 3** (Table 5-4) **Mitigation recommended** On-site screening along the southern and eastern boundary of the development footprint in the vicinity of Receiver 10 and 2 is recommended to break up views of the proposed infrastructure in consultation with the landowner. Materials and colour of on-site infrastructure used will be of similar colour and form of existing infrastructure that will blend with the landscape.
Scenic Quality	Moderate	
Proximity	Foreground (<1 km)	
Sensitivity	Moderate	
LMZ Objective	B	
Contrast	High	
Inherent Visual Impact	MEDIUM	

VIEWPOINT 19		
Summary of Viewpoint		Viewpoint Description / Impact
LCU	Industrial	Taken from Goldfields Way facing north-east towards the north-west portion of the proposal area. Dominate features include the sealed Goldfields Way with roadside vegetation, grazing and cropping paddocks, fencing, vegetation and road signage. The land is predominately cleared and slightly undulating. Proposed infrastructure is unlikely to be discernible by residence or motorists due to distance, the undulating nature of the area, vegetative screening and speed of travel. **No mitigation is required**
Scenic Quality	Low	
Proximity	Foreground (<1 km)	
Sensitivity	Low	
LMZ Objective	C	
Contrast	Low	
Inherent Visual Impact	LOW	

VIEWPOINT 22		
Summary of Viewpoint		Viewpoint Description / Impact
LCU	Residential	Taken from the intersection of Goldfields Way and Boundary Range Road facing east towards the proposal area. Dominate features include the sealed Goldfields Way with roadside vegetation, grazing and cropping paddocks, fencing, vegetation and road signage. The land is predominately cleared and flat. The Viewpoint is representative of potential views from Receiver 8. Proposed infrastructure is unlikely to be discernible by motorists due to distance, the undulating nature of the area, vegetative screening and speed of travel. Broken views of the proposed infrastructure through vegetative screening may be noticeable by residence. However, solar farm infrastructure would not be the dominate feature at this Viewpoint, would be hard to discern and would not alter the current rural outlook. **No mitigation is required**
Scenic Quality	Moderate	
Proximity	Foreground (<1 km)	
Sensitivity	Moderate	
LMZ Objective	B	
Contrast	Low	
Inherent Visual Impact	LOW	

Table 5-4 Photomontages of representative viewpoints

PHOTOMONTAGE 1 (VIEWPOINT 7)

PHOTOMONTAGE 2 (VIEWPOINT 9)

PHOTOMONTAGE 3 (VIEWPOINT 17)

5.2.5 Results summary

High Impact – not applicable

No viewpoints were assessed to have a high impact.

Medium impact – mitigation could be considered

Medium impacts are seen for three viewpoints. Screening as a mitigation strategy should be considered for these viewpoints.

Viewpoints 16, 17 (Table 5-4) and 18 are adjacent to the southern boundary of the proposal site along Eurolee Road which is a road is of low use, predominately for local traffic. Minor vegetation screening exists in the form of roadside vegetation, which provides minimal screening of the development site. Dominant views will be that of the solar farm and associated infrastructure. The form of the infrastructure, low (<4m) and in rectangular arrays, is not incongruous with the existing low-lying rectangular forms in this agricultural area. The solar farm will, however, be highly visible to motorists and receivers.

Medium impacts are expected for receivers 10 and 2, represented by viewpoint 17. These receivers have been assessed has having a medium impact due to occurring in a low use area and are not occupied on a permanent basis (being farm stays and staff accommodation). Expected views will be long-term, however there is approximately 500 m between Eurolee Road and the development footprint to the south, and 350 m between the private lane/site boundary to the development footprint to the east. On-site vegetative screening as a mitigation strategy has be considered in consultation with the landowner and is included in the Landscaping Plan in Appendix B.

Low impact – no mitigation

Low impacts are seen for roads and residences, where views of the solar farm infrastructure would be difficult to perceive or indistinct. Low impacts are expected for the majority of the study area and representative viewpoints due to existing vegetative screening, retained on-site vegetation and the overall undulating nature of the area. No mitigation is required for these locations.

5.3 CUMULATIVE IMPACTS

Adverse cumulative impacts occur when the infrastructure or activities at the solar farm site exacerbate the negative impacts of other infrastructure or activities occurring nearby.

5.3.1 Construction

During construction, the additional traffic and dust generation impacts are probably the greatest potential for cumulative visual impacts. The visual impact of increased traffic movements to the site would be predominantly limited to construction. It is understood a Traffic Management Plan will be developed to minimise vehicle movements as much as practical for construction.

5.3.2 Operation

The operational view of the solar farm may generate a cumulative impact, being in direct contract to the previous agricultural views. The array site requires security fencing and steel dominated infrastructure.

During operation, excepting unusual maintenance operations such as inverter or transformer replacement, a small maintenance team using standard vehicles are all that will be required. Cumulative visual traffic impacts are considered negligible.

Generally, adverse cumulative visual impacts are anticipated to be manageable due to the existing and retained vegetative screening and undulating nature of the site that blocks out most views almost entirely. Specifically, screening to soften cumulative impacts near viewpoints 10 and 2 has been recommended.

6 MITIGATION STRATEGY

6.1 SCREENING

6.1.1 Screen location

No viewpoints were assessed as high impact locations. However, to minimise impacts at Receivers 10 and 2, screening vegetation would be considered in accordance with the draft planting layout provided in Appendix B to break up views. Appendix D illustrates potential views with proposed vegetative screening from Viewpoint 17.

The final screening plan should be developed in consultation with the affected landowner.

6.1.2 Screen requirements

- Plantings would be more than one row deep and where practical, planted on the outside of the permitter fence, to break up views of infrastructure including the fencing. Screening within the vicinity of Receivers 10 and 2 will be at least 3 rows deep to allow for maximum screening.
- The plant species to be used in the screen are recommended to be native, derived from the naturally occurring vegetation community in this area. They should be fast growing, with spreading habitat and having a mature height of 3-4 m. Species selection could be undertaken in consultation with affected near neighbours and a botanist, horticulturalist or landscape architect. Species most suitable for planting based on existing plant community types in the area include:
    - White Box (*Eucalyptus albens*) -dominant.
    - Yellow box (*Eucalyptus melliodora*) -occasional.
    - Grey box (*Eucalyptus microcarpa)*- occasional.
    - Western Silver wattle (*Acacia decora*).
    - Box leaf wattle (*Acacia buxifolia*).
    - Hickory Wattle (*Acacia implexa*).
    - Wedge leaf Hop-bush (*Dodonea viscoa*).
- The timing is recommended to be within 2 months of completion of construction so that actual impacts of infrastructure are mitigated. The timing of planting should also be chosen to ensure the best chance of survival.
- The screen would be maintained for the operational life of the solar farm. Dead plants would be replaced. Pruning and weeding would be undertaken as required to maintain the screen's visual amenity and effectiveness in breaking up views.

It is noted that the aim of plant screens is to break up the view and not eliminate it entirely. Partial views will occur, particularly while vegetation is developing to maturity.

6.2 GENERAL MEASURES

The following measures are recommended to reduce the general visual impact of the development for all other receivers:

6.2.1 Design

The materials and colour of onsite infrastructure will, where practical, be non-reflective and in keeping with the materials and colouring of existing infrastructure or of a colour that will blend with the landscape. Where practical:

- Buildings will be non-reflective and in eucalypt green, beige or muted brown.
- Pole mounts will be non-reflective.
- Security fencing posts and wire will be non-reflective.
- Avoidance of unnecessary lighting, signage and logos.
- Retain and protect existing boundary landscaping.

6.2.2 Construction

- During construction, dust would be controlled in response to visual cues.
- Areas of soil disturbed by the project would be rehabilitated progressively or immediately post-construction, reducing views of bare soil.
- Night lighting would be minimised to the maximum extent possible (i.e. manually operated safety lighting at main component locations). It would be directed away from roads and residence so as not to cause light spill that may be hazardous to drivers.

7 CONCLUSION

This report has been prepared to assess the potential visual impacts of the proposed Sebastopol Solar Farm south of Temora. A systematic evaluation has been undertaken to address subjectivity as much as possible. The report was informed by background investigations including consultation, mapping and modelling, field survey including reconnaissance, ground truthing, photography and photomontages.

The proposed solar farm would be located in an agricultural area of generally moderate scenic quality. Visual characteristics are important to the members of the local community. No viewpoints were considered to be highly impacted by the infrastructure. A medium impact was determined for three representative viewpoints on Eurolee Road. Onsite vegetation screening is suggested as a feasible way to break up views of the proposed infrastructure from key locations, also addressing cumulative impacts. A draft landscape plan is provided based on this assessment.

General measures to reduce impacts for all receivers have also been recommended. These centre on use of design elements to reduce visual contrast, mitigation of construction impacts such as dust and traffic that may reduce visual amenity, and mitigation of operational impacts such as maintaining ground cover beneath the panels to break up side-on and back views of infrastructure and soften the appearance of the facility.

Large scale solar farms are still relatively new in Australia. While they enjoy support from many in the community, provision of information on expected visual impacts and involvement in mitigating impacts (for affected receivers) is considered very important to obtaining social licence to operate. With the involvement of the affected landowners in the mitigation strategy set out in Section 6, the visual impacts of the proposal are considered acceptable and manageable.

8 REFERENCES

Australian Bureau of Statistics (ABS) (2018a). *2016 Census Quick Stats – Temora LGA*. Accessed 10/05/2018 http://www.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/LGA17350

Australian Bureau of Statistics (ABS) (2018b). *2016 Census Quick Stats – Junee LGA*. Accessed 10/05/2018 http://www.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/SSC12046

Australian Renewable Energy Agency (ARENA) (n.d.). *Establishing the social licence to operate large scale facilities in Australia; insights from social research for industry*.

BLM (n.d.). *BLM Visual Resource Management System. Available online from the Bureau of Land Management*, US Department of the Interior. (www.blm.gov)

Country Change (2018). *Country Change, Temora.* Accessed 10/05/2018 https://www.countrychange.com.au/towns/temora/

Junee (2018). *Junee Shire Council – Webpage.* Accessed 10/05/2018 http://www.junee.nsw.gov.au/

NSW Department of Planning (2010). *Discussion Paper On Planning For Renewable Energy Generation - Solar Energy*, prepared April, 2010.

Spaven Consulting (2011). *Solar Photovoltaic Energy Facilities: Assessment of potential for impact on aviation*. Report prepared January 2011, for RPS Planning and Development

Temora (2018). *Temora Shire Council – Webpage*. Accessed 10/05/2018 http://www.temora.nsw.gov.au/

Traveller (2008). *Traveller – Junee Fast Facts.* Accessed 10/05/2018 http://www.traveller.com.au/junee--fast-facts-5yrl

APPENDIX A PROPOSED INFRASTRUCTURE LAYOUT

APPENDIX B LANDSCAPING PLAN

Subject Land

Development Footprint

Vegetative Screening

Existing Vegetative Screening

Proposed_Transmission

Existing Transmission Lines

Roads

Drainage Lines

Sensitive Receptors

Derelict

Farm Shed

Involved

Uninvolved

Notes:
- Data collected by NGH Environmental
- Base map sourced from NSW MapServer
- Projection UTM MGA55
- Horizontal Datum GDA94

0 0.25 0.5 1
Kilometres
1:15,000

Ref: 17-381
Author: S Hillis
Date:12/07/2018

ngh environmental

www.nghenvironmental.com.au

APPENDIX C COMMUNITY CONSULTATION FEEDBACK FORM

COMMUNITY FEEDBACK FORM

SEBASTOPOL SOLAR FARM

Your feedback is important to develop a solar farm project that best suits the local area and community. Your feedback will ensure local concerns are understood by the developers and the environmental assessment team.

For further information about the project, please see the project website at:
www.sebastopolsolarfarm.com.au

Your name: (this will not be printed or recorded anywhere but is to ensure that we don't double count forms)

……

Tick which box best describes where you live:

- ☐ Less than 2 kilometres from the proposed solar plant
- ☐ 2-5 kilometres from the proposed solar plant
- ☐ More than 5 kilometres from the proposed solar plant
- ☐ Not a member of the local community

Tell us what you value about the local area:

What do you value most about the local area? Circle one or more.

a) Landscape and views
b) Community / family ties
c) Historic values
d) Work opportunities
e) Recreation opportunities, including sporting, nature based etc.
f) Natural values
g) Other

Provide more detail about your answer:

……
……
……
……
……

What views or landscape characteristics in the region and local area are important to you? Provide more detail about your answer:

……
……
……
……
……

What do you like most about solar farms, generally?

a) Renewable energy generation
b) Local economic opportunities – jobs, tourism, economic stimulus
c) Diversification of land use / income streams
d) Other

Discuss:……
……
……
……
……

What concerns do you have about solar farms, generally? Circle one or more.

a) Community impacts
b) Visual impact
c) Noise, during construction or operation
d) Traffic, during construction or operation
e) Effects on land use or land values
f) Effects on recreation opportunities
g) Effects on natural areas and habitats
h) Other

What specific concerns do you have about the solar farm proposed at Sebastopol?

……
……
……
……
……

Reflecting local values and character

We would like the project to fit in with the local values and character of Sebastopol. Can you suggest ways that we might achieve this?

……
……
……
……
……

APPENDIX D MONTAGE WITH PROPOSED VEGETATIVE SCREENING

EXISTING

PROPOSED

PROPOSED WITH SCREENING