



Oxley Solar Farm

OXLEY SOLAR FARM: SSD-10346

RESPONSE TO INDEPENDENT PLANNING COMMISSION:

“QUESTIONS ON NOTICE AND REQUEST FOR CLARIFICATION”

OF 10 OCTOBER 2023

1 DECOMMISSIONING AND REHABILITATION

- ***Noting the commitment to remove underground infrastructure to 500mm below ground level as part of the rehabilitation of the site, please clarify the type and nature of the infrastructure that will remain beyond the 500mm mark including:***
 - ***What is the nature and quantity of the infrastructure that will remain in the ground post rehabilitation?***
 - ***What is the justification for leaving this infrastructure in the ground and why can't it be removed?***

To clarify comments made about foundations and leaving piles in the ground, we can clarify that while there are different methods to secure the panels, the Project plans for the solar arrays being installed on steel piles that are driven or screwed into the ground at a depth of approximately 2 - 3m. Therefore no foundations would be required for this type of construction. The solar arrays would be removed and the steel piles on which they are supported, would be removed. All buildings would be removed, including the PCUs together with the associated footings. This is stated in the updated Project description included in the Amendment report.

The only infrastructure which may remain in place includes:

- The Transgrid substation, an area of above ground structures as well as concrete foundations and gravel surrounded by a security fence. This asset would remain until such time as or if Transgrid elects to remove it.
- Cabling below 500mm. Underground cabling would be required for:
 - Connection of solar panels via a DC cable to a PCU
 - Connection of approximately 5 – 10 PCUs into a grouping
 - Connection of PCU grouping to the 33kV switchboard via a single 33kV feeder cable
 - Provision of auxiliary power, data services and communication facilities

The depth of the cabling is anticipated to be 900mm deep. The largest component of this is the single 33kv cables which are currently estimated as approximately 30km in total length.

The decision about whether or not to remove this infrastructure as part of decommissioning would be made in consultation with the landowner and would include consideration of:

- Soil disturbance required to remove it and the impact on the landowners activities at each specific location.
- The value of the infrastructure in terms of recycling / reuse.

Given that decommission would not occur for some 30 years, the intention is to provide the Project as much flexibility as possible to make the best decision at that point in time.

2 ACCOMMODATION AND WORKFORCE

Recommended condition B37 requires the Applicant to prepare an Accommodation and Employment Strategy for the development in consultation with Council commencing construction. Can you provide further information regarding employees would be accommodated during the construction period, particularly the low housing vacancy rates in Armidale and the surrounding region?

ARMIDALE REGION

ACCOMMODATION RESEARCH SEPTEMBER 2023

The conclusion of the research below is:

“.....there is likely to be sufficient accommodation for the workforce at all times.”

a) Short-term accommodation

Local short-term accommodation providers (hotels/motels) were contacted to obtain occupancy data. This enabled an average occupancy rate for Uralla and Armidale LGAs to be calculated, which ranged between 60-90%, fluctuating depending on day of week. Updated occupancy rates for Tamworth was not able to be obtained, however the previous study suggested that rates were generally consistent around 50%. It was also identified that during peak periods, most accommodation rates would increase to 100%.

Peak occupancy periods typically relate to Queensland and NSW school holidays, UNE graduation periods and local and regional events such as sports finals, the Big Chill Festival, and the Tamworth Country Music Festival. Table 5.1 presents the major festivals and annual events in the region in 2023 and 2024. During these periods, the region’s supply of temporary short-term accommodation is almost completely utilised. As such, consideration of possible mitigative measures to reduce the Project’s impacts and utilisation of local accommodation during these periods may be required to reduce impacts to the local community.

Table 5.1 - Major festivals and annual events

Location	Event	Indicative Start Date	Indicative End Date
Armidale	Big Chill Festival	18-May-24	19-May-2024
Armidale	Autumn Festival	6-Apr-2024	6-Apr-24
Armidale	TroutFest	7-Oct-24	9-Oct-24
Armidale	Armidale & New England Show	3-Mar-2023	4-Mar-2023
Armidale	UNE Graduations	28-Apr-23	29-Apr-2023
Armidale	UNE Graduations	25-Aug-23	26-Aug-23
Armidale	UNE Graduations	7-Dec-23	9-Dec-23
Tamworth	National Thunder Motorcycle Rally	TBC - 2024	TBC - 2024
Tamworth	Fiesta La Peel	14-Oct-23	21-Oct-23
Tamworth	Country Music Festival	13-Jan-23	22-Jan-23
Tamworth	NCHA Futurity	Jun-23	Jun-23
Uralla	Thunderbolt Festival	28-Oct-23	28-Oct-23

Uralla	Uralla Show	3-Feb-24	3-Feb-24
Uralla	Seasons of New England	25-Mar-23	25-Mar-23
Uralla	Uralla Lantern Parade	26-Mar-23	26-Mar-23

Tables 5.2, 5.3, 5.4 and 5.5 provide the approximate number of rooms available within Walcha, Uralla, Armidale and Tamworth respectively. The room numbers do not consider caravans (powered/unpowered sites) or camp sites. Periodic consultation occurs with key accommodation providers being used by contractor and employees to confirm availability during construction.

Table 5.2 - Accommodation providers in Walcha

Walcha accommodation provider	Approximate capacity
Walcha Caravan Park	14 cabins
Apsley Arms Hotel	7 rooms
Commercial Hotel	6 rooms
Walcha Road Hotel	4 cabins
Walcha Royal Cafe & Accommodation	9 rooms
New England Hotel Motel	10 rooms
Walcha Motel	19 rooms
Cairnie Country Cottage	1 room
Plumtree Cottage	4 rooms
Awesome Separate Cottage (Entire cottage hosted by Louise)	3 rooms
Country Cottage (Farm stay hosted by Jai)	2 rooms
Historic Homestead (Farm stay hosted by Vinnie)	1 room
Total rooms available in Walcha	80 rooms

Table 5.3 - Accommodation providers in Uralla

Uralla accommodation provider	Approximate capacity
Altona Motel	16 rooms
Aurelia's Farm	2 rooms
Bushranger Motor Inn	17 rooms
Country Road Caravan Park	8 cabins
Dingle B&B	3 rooms
Elmswood B&B	1 room
Grace Cottages	2 cottages
Thunderbolt Inn	7 rooms
Top Pub	15 rooms
Wayward Jerseys Farmstay	3 rooms
Woodhaven Cottage B&B	1 room
Camellia Cottage Kentucky B&B	1 room
Lochiel Cottage	3 rooms
Retreat Shearers Quarters	3 rooms
Myanbah Cottages	3 rooms
The Bower Uralla	1 room
King's Cottage Uralla	2 rooms
Hillview AirBnB	3 rooms
Barking Dog Gallery Bedsit	1 room
The Willmont	1 room
Art Studio (home hosted by Sophie)	3 bedroom
Eve Residence	3 bedroom
The Pomegranate studio	1 room
Unique solar house (guest suite hosted by Althea)	1 room
Rental unit hosted by Phill	3 rooms
Rental unit hosted by Phill	2 rooms
The Gatehouse Uralla	3 rooms
Apartment on Salisbury Street	3 rooms
Clover Cottage Uralla	2 rooms
Orto Uralla Shed Stay	1 room
Total rooms available in Uralla	115 rooms

Table 5.4 - Accommodation providers in Armidale

Armidale accommodation provider	Approximate capacity
UNE Residential System – short-term accommodation	100 rooms
Country Comfort Armidale	42 rooms
Lindsay House Country Hotel	7 rooms
City Centre Motor Inn Armidale	40 rooms
Petersons Armidale Winery & Guesthouse	7 rooms
Moore Park Apartments	8 rooms
Hideaway Motor Inn Armidale	22 rooms
Alluna Motel	20 rooms
Abbotsleigh Motor Inn	32 rooms
Rydges Armidale	56 rooms
Moore Park Inn	20 rooms
Armidale Pines Motel	19 rooms
Deer Park Motor Inn	24 rooms
Armidale Motel	21 rooms
Elite Motor Inn	14 rooms
Estelle Kramer Motor Inn	16 rooms
Sandstock Motor Inn Armidale	12 rooms
Club Motel	18 rooms
Cedar Lodge Motel	2 suites
New England Motor Inn	10 rooms
Acacia Motor Inn Armidale	15 rooms
Cotswold Gardens	24 rooms
Armidale Tourist Park	40 cabins
White Lanterns Motel	13 rooms
Westwood Motor Inn	17 rooms
Westside Studio Apartments	9 rooms
Loloma Bed and Breakfast	2 rooms
Armidale Rose Villa Motel	10 rooms
Guyra Summit Caravan Park	7 rooms
Top of the Range Retreat	3 rooms
Central South East Unit	2 rooms

Armidale accommodation provider**Approximate capacity**

Hedgerow Farm	4 rooms
Country garden cottage	1 room
Poppys Cottage B&B	2 rooms
Armidale Wejalee B&B	1 room
The Homestead at Murrungundy	1 room
Cedar Cabin	1 room
Ridgeview cottage	2 rooms
Hidden Pines Guest House	1 room
North Hill Suites	3 rooms
'Time out on Taylor' Cottage	2 rooms
Costa Park Cottage Ena	3 rooms
Tralee Cottage	3 rooms
The Coop	2 rooms
Frida's Place	1 room
Portobello	4 rooms
The Creekland Studio	1 room
Creekland Cottage	2 rooms
The Reformatory	3 rooms
Brewery guest house	3 rooms
Billie's Cottage	3 rooms
Butler Lane Cottage	3 rooms
Hillgrove Cottage	1 room
Barney - Bungalow in Armidale	3 rooms
The Bower Armidale	3 rooms
Bright 3-bedroom apartment	3 rooms
Laurel House	3 rooms
Quinn's Cottage	3 rooms
Cumquat Cottage	2 rooms
New King Suite	1 room
Central Park Boutique Apartment	2 rooms
Rusden Den	2 rooms
Guesthouse at Stone Water Rill	1 room
Kyhillah Cottage	2 rooms

Armidale accommodation provider	Approximate capacity
Garden-nestled Granny Flat	1 room
Twodogfolly Cottage and Studio	2 rooms
Tallowood Apartment	2 rooms
Story of transformation (home hosted by Stan)	3 rooms
Home hosted by Ju	1 room
Belmont New England	5 rooms
Entire home hosted by Kim	3 rooms
The Armidale House	3 rooms
Marsh House	3 rooms
Belmore Cottage	2 rooms
Bakers Cottage	1 room
Armidale Cottage	6 rooms
The haven	2 rooms
HomeBound	2 rooms
Home on Rusden	3 rooms
Kalimna	3 rooms
The Beardman Armidale	3 rooms
Yellow Door - City centre hideaway	4 rooms
Lumiere	2 rooms
Entire home hosted by Kari	3 rooms
House on the Hill	4 rooms
Total rooms available in Armidale	762 rooms

Table 5.5 - Accommodation providers in Tamworth

Tamworth accommodation provider	Approximate capacity
Best Western Sanctuary Inn	60 rooms 909
Quest Tamworth	40 rooms
Quality Hotel Powerhouse	81 rooms
City Sider Motor Inn	38 rooms
CH Boutique Hotel	62 rooms
The Tamworth Hotel	12 rooms
Aaron Cottage	3 rooms
Almond Inn Motel	27 rooms
The Duck Inn Apartments	6 rooms
Kootingal Land view Motel	12 rooms
Tamworth City Motel	31 rooms
Motel Grande Tamworth	11 rooms
Motel 359	55 rooms
Golden Grain Motor Inn	13 rooms
Country Capital Motel	31 rooms
The Roseville Apartments	25 rooms
Abraham Lincoln Motel	15 rooms
Ibis Styles Tamworth	111 rooms
Best Western Motor Inn	33 rooms
Tamworth Lodge Motel	17 rooms
Sundance Park Motel	25 rooms
Amberoo Apartments	12rooms
Econo Lodge	60 rooms
Tamworth Central Motel	5 rooms
Mercure	52 rooms
Town & Country Motor Inn	18 rooms
Best Western Plus All Settlers Motor Inn	30 rooms
The Stagecoach Motor Inn	24 rooms
Roydons Motor Inn	12 rooms 259
Colonial Inn	33 rooms
Edward Parry Motel & Apartments	15 rooms
McNevin's Tamworth Motel	22 rooms
City Gate Motel	11 rooms
Tamwell Motel & Coffee Lounges	16 rooms
Golden Guitar Motor Inn	30 rooms

Tamworth accommodation provider**Approximate capacity**

Cadman Motor Inn & Apartments	20 rooms
Golf Links Motel	21 rooms
Motabelle Holiday Units	8 rooms
Ashby House Motor Inn	21 rooms
The Retreat at Frog Moore Park	5 rooms
Galloway Getaway	4 rooms
Tamworth Country Escape	5 bedrooms
Cottage with views	2 rooms
Coastal Hamptons in the Country	5 rooms
Mountain View Cottage	2 rooms
Kumbogie Cabin	1 room
Chimes on Church	4 rooms
Denne Street Bungalow	3 rooms
The Heights unit	2 rooms
Grans Lodge	1 room
Carthage Cottage	3 rooms
The Farm Shed	2 rooms
Rural Paradise – Cottage in Timbumburi	2 rooms
Marayin Hut. Serene Log Cabin	3 rooms
The 1888 Cottage	2 rooms
Kurrajong Lodge	4 rooms
Griffin Cottage	3 rooms 65
Entire home hosted by Mark	4 rooms
The Barn	1 room
Tranquility in Tamworth	3 rooms
Studio Daruka	1 room
Cute Cottage on Mathews	3 rooms
Runway – Home in Westdale	2 rooms
Short Stays on Ebs - Cottage in West	4 rooms
Dew Drop Inn	1 room
Zest – Home in West Tamworth	2 rooms
Griffin House Tamrowth	1 room
Villa in Calala – Tamworth’s Hidden Gem	2 rooms
Tranquil Retreat – East Tamworth Home	4 rooms
Peaceful Cabin – 164 Royal Oaks	1 room
King’s Park	3 rooms

Tamworth accommodation provider**Approximate capacity**

The Pool House	1 room
Home in Hillvue	3 rooms
Arch Park – Cottage in Taminda	1 room
Location with luxury – Guesthouse in Hillvue	1 room
Annleigh	2 rooms
The Train Station	2 rooms
Home in West Tamworth – Home away from home	3 rooms
Views on Crown	3 rooms
Hillvue Hideaway	1 room
Country Sunsets in East Tamworth – Rental Unit	2 rooms
Bounty on Bligh	1 room
Home in Oxley Vale	3 rooms
Family Retreat East Tamworth	4 rooms
Katie's Place	3 rooms
Jacks on Rawson	3 rooms 76
Hillvue Lodge	6 rooms
Tamworth Griffin House	1 room
A modern country oasis – Home in Calala	3 rooms
The Gallery - Art Inspired Studio	1 room
Matilda Retreat	4 rooms
55 A Retreat East Tamworth	1 room
Studio 367	1 room
Coco's Cottage	2 rooms
Spacious Retreat – Home in East Tamworth	5 rooms
Studio on Denne	1 room
Ellessa – Home in South Tamworth	3 rooms
Stargazer Retreat	4 rooms
The Retreat – Townhouse in Tamworth	3 rooms
Johnston and Friends	3 rooms
123 Fitzroy	4 rooms
Grey House Tamworth	4 rooms
Little Chalkie's Guest Suite	1 room
Cadman Apartments	2 rooms
East Tamworth Charm	4 rooms
Leafy Lodge	4 rooms
Palo Retreat	1 room

Tamworth accommodation provider	Approximate capacity
Annleigh Unit	3 rooms
Share Unit, backpacker room	2 rooms
Ella's Bed and Breakfast	3 rooms
Country Delighte Tamworth	2 rooms
Antique retreat on Janison	3 rooms
Quintet 1-155	2 rooms
Total rooms	1309

b) Rental accommodation

The proportion of occupied private dwellings generally reflects the non-metropolitan state average in most of the local areas, but mostly sit below the NSW overall occupation levels. There is a general prevalence of separate houses, as opposed to semi-detached or apartment dwellings. Uralla Shire LGA has a slightly higher rate of separate house dwellings in comparison to Tamworth and Armidale LGAs, mostly due to these areas being established as regional city areas, with greater populations and more diverse dwelling types.

Median rent prices for a house in Armidale is \$440 per week and a unit is \$300 per week. Within the month of the investigation, 166 houses and 65 units were available in Armidale (realestate.com.au, 2023). Median rent prices for a house in Uralla is \$450 per week and for a unit is \$345 per week, with 18 houses and 5 units available within the investigation month (realestate.com.au, 2023).

Vacancy rates for the Armidale and Uralla rental markets have been between 1-3% in 2023 according to the local real estate reports. SQM Research for property data indicates an increasing trend in Armidale for 2023, with January's vacancy rates at 1.7% and the steady increase throughout the year resulting in a 2.8% rate for August (SQM Research, 2023). Vacancy rates are nationally at 1.2% as of August, which suggests that Armidale has a higher vacancy rate compared to the national average (SQM Research, 2023). Property data at SQM Research suggests that as of August 2023, the vacancy rate was 4.4% in Uralla (SQM Research, 2023).

A review of long-term rental housing available in the main towns and communities within the study area was undertaken in 2023 using various websites. Table 5.6 reviews the long-term housing availability. There was a higher proportion of dwellings being purchased and a lower proportion being rented in the Uralla Shire LGA in comparison to Tamworth and Armidale LGAs.

Table 5.6 - Long-term rental housing availability

Location	House and unit size				Approximate total number of properties available for rent
	1-BR	2-BR	3-BR	4+-BR	
Uralla	2	3	13	5	23
Walcha		2	1		3

Armidale	23	18	58	31	130
Tamworth	9	43	71	45	168
Total	34	66	143	81	324

Source: www.realestate.com.au; domain.com.au; rental.com.au

As identified in Table 5.6, in 2023 there were 66 properties available across the region with two-bedroom rentals and 224 properties available with three and four or more bedrooms for rent, with a total of 324 rental properties available.

A review of the local property and real estate websites identified publicly advertised rental properties. Most of the properties on the rental market are for family use as they offer more than one bedroom or can be used as shared housing. The majority of the rental properties identified as part of this review are three to four-bedroom houses within the Armidale LGA.

There are minimal one-bedroom units available for rent in Walcha and Uralla. One-bedroom rental properties are also not publicly available in a number of surrounding townships and rural localities, including Arding and Invergowrie.

Based on this review, it appears that there are rental properties available for rent during the construction phase. However, these options are mainly for family-based, larger household or shared housing configurations. There are limited opportunities for one-bedroom units in proximity to the Project. Given that the construction period is estimated to take approximately 24 months, it has been assumed that some of the workers are likely to relocate their families to the local area. It has also been assumed that those relocating with their families would demonstrate similar household characteristics (e.g. household size) to those of NSW (averaged).

c) Prioritising local accommodation

Utilising existing accommodation in Uralla and Armidale is the most favourable option for several reasons:

- it minimises daily travel time to the site for workers. Travel times by car from Uralla are as follows:
 - Uralla to Armidale: 15-20 minutes (25 km)
 - Uralla to Walcha: 25-30 minutes (40 km); and
 - Uralla to Tamworth: 60 minutes (90 km)
- it maximises accessibility to local business services in Uralla that may be used by the workforce (e.g. cafes, restaurants, supermarkets, service stations and retail services); and
- it maximises economic benefits for the local economies.

The priorities for using local accommodation for the construction workforce, in order of preference, is detailed in Table 5.7.

Table 5.7 - Accommodation priorities

Priority	Accommodation type	Approximate total	Availability *
1	Short term local temporary accommodation (rooms) such as	877	263

	motels, hotels, caravan parks and B&Bs in Uralla and Armidale		
2	Rental accommodation in Uralla and Armidale (houses and units)	153	153
3	Short term local temporary accommodation such as motels, hotels, caravan parks and B&Bs in Tamworth & Walcha	1389	678
4	Rental accommodation in Tamworth & Walcha (houses and units)	171	171
	Total (approximate)	2,590	1,266

* Room availability based on an occupancy rate of 70 % for Walcha, Uralla and Armidale, and 50 % for Tamworth. (Section 5.1)

As identified in Table 5.7, based on an occupancy rate of 70% for Uralla, Walcha and Armidale, and 50% for Tamworth for short-term accommodation outside of peak periods, the total number of rooms within a 40 km radius from the Project is estimated at 416. Within a 100 km radius, this estimate increases to approximately 1266.

Combining the priority to maximise local employment with the expectation that approximately 50% of the peak construction workforce of 300 workers will originate from the Uralla, Armidale and Tamworth LGAs, the total number of rooms required at the peak of construction would be approximately 150. With approximately 416 rooms available in the Uralla and Armidale LGAs at normal occupancy rates, **there is likely to be sufficient accommodation for the workforce at all times.**

It is not expected that major events in Tamworth will have any effect on the availability of accommodation in Uralla, Armidale or Walcha.

As detailed in Section b) , based on currently available information, it is assumed that the other State significant developments in the area that are either approved or proposed would have an impact on the local and regional availability of short-term or rental accommodation if construction was to occur at similar time to NES2. However, as there are no projects proposed to commence construction in the near term, the cumulative effect on accommodation will form part of the regular monitoring for the Accommodation & Employment Strategy.

3 BUSHFIRE

Please provide further details regarding the ability to establish the Project's asset protection zone (APZ) within the development footprint taking into consideration the need for defensible space and the need to establish vegetation screening along boundaries?

Mitigation measure BF4 states: "An APZ of minimum 10m would be maintained between all vegetation and solar farm infrastructure within the Development Footprint. The APZ around the perimeter of the site would incorporate a 4m wide gravel access track. Average grass height within the APZ would be maintained at or below 5 centimetres on average throughout the August-March fire season. Average grass height outside the APZ, including beneath the solar array, would be maintained at or below 10 centimetres throughout the fire season." This APZ is of sufficient width to permit unobstructed vehicle access around the perimeter of the Development footprint. The Development footprint provides for a minimum 10m buffer from all above ground infrastructure. Perimeter tracks around infrastructure may form part of the APZ consisting of trafficable all weather roads.

Vegetation screening would be undertaken outside of the Development footprint and along the edge of the perimeter fence. This is shown in Figure 10 of the Addendum VIA below. Final planting spacing from the fenceline would be determined in the Landscape Management Plan,

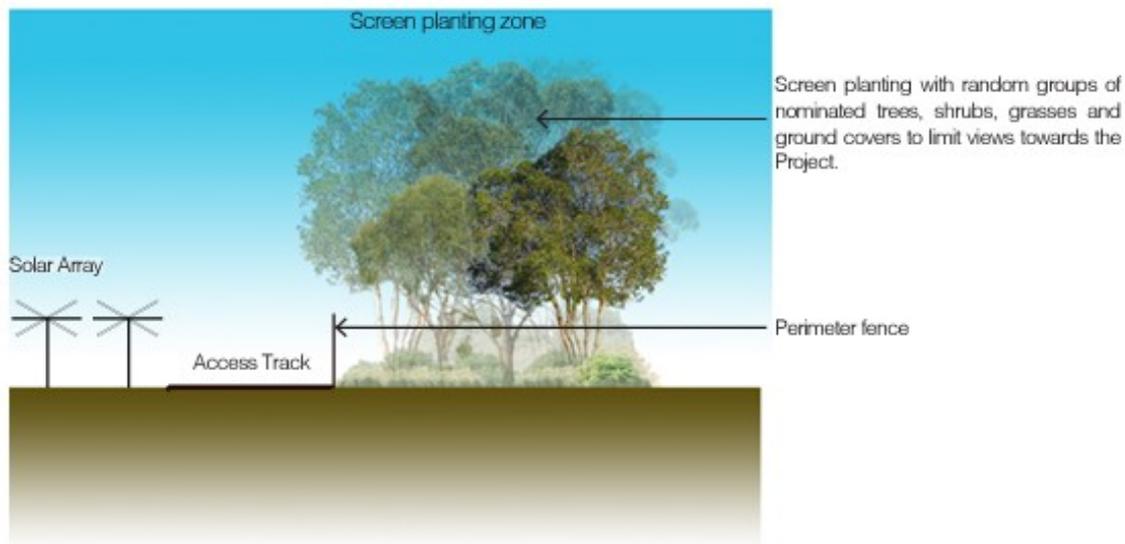


Figure 10 Section through typical On-Site Screen Planting

4 TRAFFIC AND TRANSPORT (ROAD UPGRADES)

• ***Please confirm whether:***

- ***the BDAR has considered all vegetation removal within the full dimensions required to deliver the proposed road upgrades (including potential edge effects); and***
- ***all relevant road upgrades will be undertaken within existing road reserves.***

The BDAR accounts for the full dimensions of required road upgrades. It does this by assuming 100% of the development footprint will be cleared, rather than using the indicative infrastructure layout / road design available at this stage. Generous delineation of this footprint at this stage allows flexibility during the final design stages of the project. The final disturbance would be smaller than the development footprint, subject to detailed design with appointed contractors.

By consenting the development footprint, the consent ensures:

- The final design stage has certainty over areas that can be used
- No impacts outside of this area are allowed
- All impacts have been assessed in a precautionary manner

The full set of road upgrades is shown as Appendix 5 of the recommended consent. Four items generate clearing. The finished width is stated in the table below. To account for construction impacts and allow flexibility in the detailed design, the development footprint accounts for these for areas as follows:

1 and 2: Armidale Regional Landfill access road and intersection: A maximum 29m wide corridor is allowed for as well as the intersection.

3 and 4: Gara Road and causeway: A maximum 40m wide corridor for the road and a maximum 49m wide corridor for the crossing.

The close up below shows the Armidale Regional Landfill access intersection allowance within the Development footprint.



5. VISUAL IMPACTS (GLINT AND GLARE)

• Noting that the final design of the solar panels is yet to be confirmed (i.e. fixed, tracked, or a combination of both), please confirm whether the Landscape and Visual Impact Assessment has considered the 'worst case' impact scenario for each possible design outcome (i.e. panels at max height, tilt etc). Please clarify whether the conclusions of the LVIA would change based on the final design of the solar panels?

Glare can be broadly classified into three categories:

1. Green glare: low potential for temporary after-image
2. Yellow glare: potential for temporary after-image
3. Red glare: retinal burn, not expected for PV.

Mitigation is considered for yellow and red glare.

The assessment does not consider weather conditions, separation between PV modules and existing surrounding vegetation (if present) between the Project and a sensitive receiver; all factors which may reduce glare. It does not consider a realistic backtracking function but tries to model a worst-case scenario.

The assessment models single axis tracking PV panels capable of rotating to a maximum of 60°; the trackers are oriented north south with a maximum pitch distance of 8 metres.

Single-axis trackers follow the movement of the sun as it moves east to west throughout the day. Yields are maximized (and reflection is minimised) when panels are directly facing the sun. When the sun is not in the tracking range, the model assumes that the panels instantaneously revert to their resting angle of 0° (flat). This is a conservative simulation as at sunset and sunrise, when the sun is at a lower angle relative to the array, glare impacts will be more noticeable.

Single-axis tracking of solar panels can create a worse glare scenario compared to fixed-axis panels because the moving panels change their angle throughout the day to follow the sun's path. This movement can increase the likelihood of sunlight reflecting directly into the line of sight of observers, causing more frequent and unpredictable glare compared to fixed panels that maintain a consistent orientation.

It is important to note that glare modelling is solely based on topography and does not consider intervening elements such as vegetation or built form. It is reiterated that the modeling uses worst case to pinpoint those areas most exposed to glare and the upper limit outcomes that could occur; this assists to avoid significant impacts and to design mitigation treatments that will reduce impacts.

The Technical Supplement August 2022 states:

Vegetation screening, or the planting of trees and shrubs, to visually screen solar energy projects or other potential visual impacts (such as glint and glare) from view may be a useful mitigation option for selected viewpoints. On-site screening, such as perimeter planting, should be considered in the first instance. If this is unlikely to be effective, operational methods for controlling the array panel during periods where glare is a potential impact is likely to be the most effective method of mitigation.

As such, altering tracking patterns could also be considered to mitigate the potential glare identified through the assessment until the proposed screening is established. Altering tracking patterns will involve control algorithms designed into the operation of the panels which consider glare and adjust panel positions accordingly. This could be implemented in response to specific concerns.

6. VISUAL, LANDSCAPING AND SCREENING

- **Please provide further information regarding:**
 - **the location of the proposed screening, including clarification as to whether the landscaping proposed is wholly within the Project site – and if any is proposed off-site;**
 - **details of the landscape screening including depth of plantings, species, length of time to grow, strategies and actions in the event of failure, maintenance requirements, how much water is required, strategies and actions in the event of drought; and**
 - **the interaction between the landscape screening and the APZ as noted in 3 above.** [This has been addressed in Question 3].

While the detailed Landscape Management Plan has not yet been prepared, mitigation measure V3 commits to the following planting:

- A wide band of native plantings of trees up to 5-10m in height for the southern boundary of the Proposal site to address potential visual impacts from the Oxley Wild Rivers National Park. These can be positioned in three (3) rows (or approximately 6 - 9m wide) between the property boundary and security fence. The tree canopy should not intrude into the zone that exists between the edge of the security fence and the solar panels (refer to figure 7-10 of the EIS). **This is onsite planting.**
- Screen planting along Silverton Road to assist in screening views from R5 and reducing the visual impact from Silverton Road. **This is onsite planting.**

Note: Vegetation screening was heavily modified from figure 7-10 of the EIS to the updated Figure 8 of the Addendum VIA (shown below). This was based on significant reduction to the panel areas. The Figure 8 onsite screening is now considered adequate to minimise all views of the Project from all receivers acceptably.

Offsite planting:

However, if landowners are interested in offsite screening (on their properties) to achieve faster or more effective results, this option remains, as stated in the EIS. The Project still commits to:

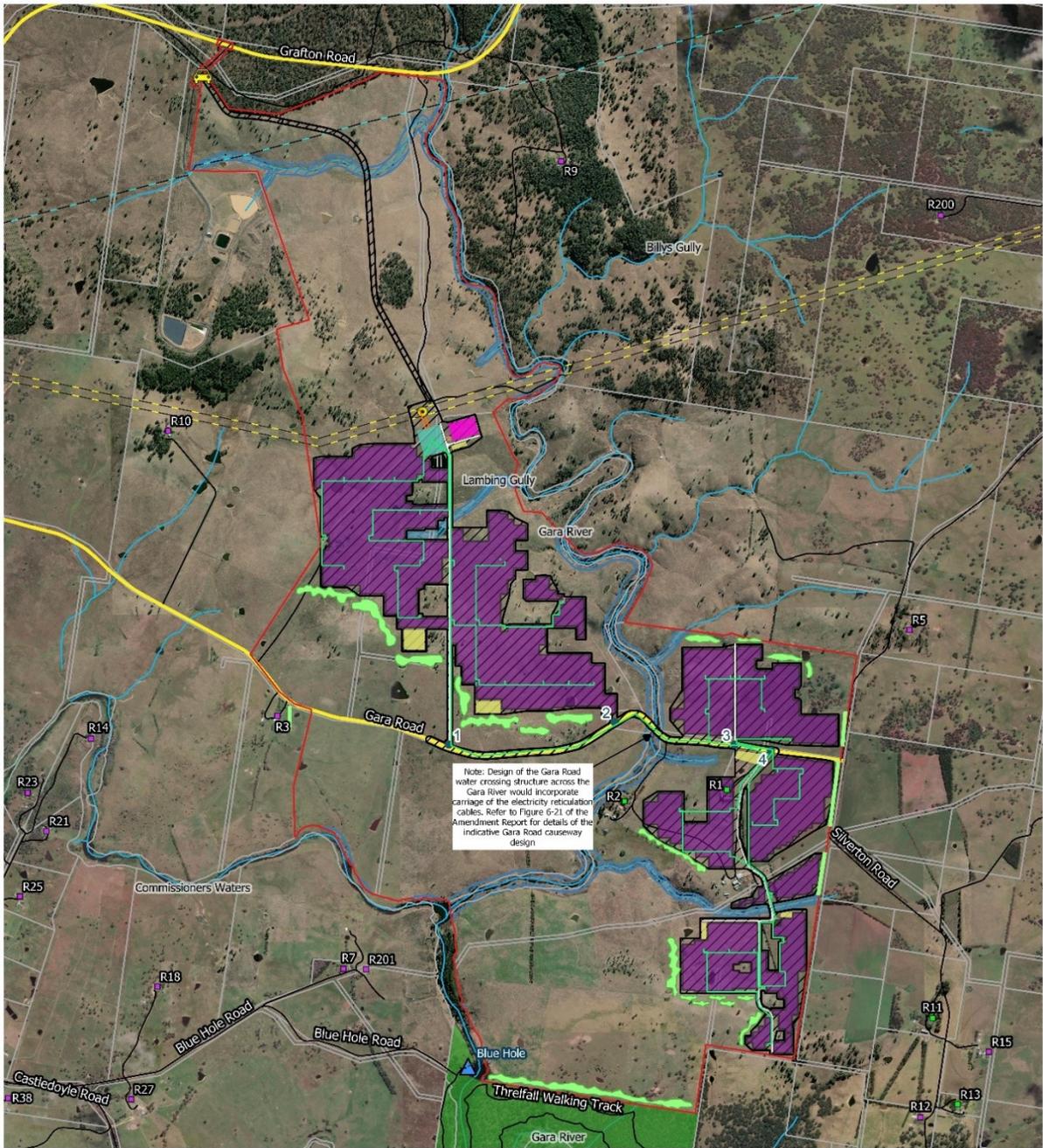
- Consultation with landowners identified in Table 7-8 of the EIS within 1.5km of the Proposal site to undertake screen planting near dwelling as required. Screen planting is to be undertaken in consultation with landowners to ensure desirable views are not diminished.

We note this would now include the following landowners: R3, R7, R10, R21, R201.

Watering requirements

The Project estimates 96 megalitres (ML) of water will be required across the construction period and up to 1 ML of water per year during operation. Consultation with DPE Water concluded the agency was satisfied that sufficient water entitlement and access to viable water supplies is available. However, in the event of drought there could be impacts to planted vegetation. There is no specific contingency plan for this as water would need to be prioritised elsewhere in the region during these times. Factors that assist mitigate against not having sufficient water for plantings include:

- Use of locally appropriate species
- Proper establishment, monitoring and maintenance (to reduce weed competition)



Development Footprint

Legend

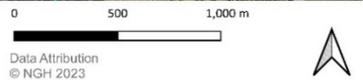
- Project Boundary
- Development Footprint
- Roads
- Key roads
- National Park
- Travelling Stock Reserves
- ▲ Blue Hole Picnic Area

Infrastructure layout

- Array area
- BATTERY STORAGE
- CONTROL ROOM
- PV-PCU
- Shed
- Site road
- Laydown areas
- Solar array
- Substation
- Internal electricity reticulation cables (underground in trench within development footprint including Gara Road)
- Transmission line electrical connection (overhead)
- Transmission connection point

Electricity transmission lines

- 132kV
- 66kV
- Associated residences
- Non-associated residences
- Vegetation screening
- Site access
- Gara Road access points
- Waterway buffers
- Waterway >1st order (strahler)



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Ref: 21-393 Submissions and Amendment workspace
 20220523 | Development Footprint
 Author: kyle.m
 Date created: 18.09.2023
 Datum: GDA94 / MGA zone 56



NGH

The figure below shows an indicative screening row.

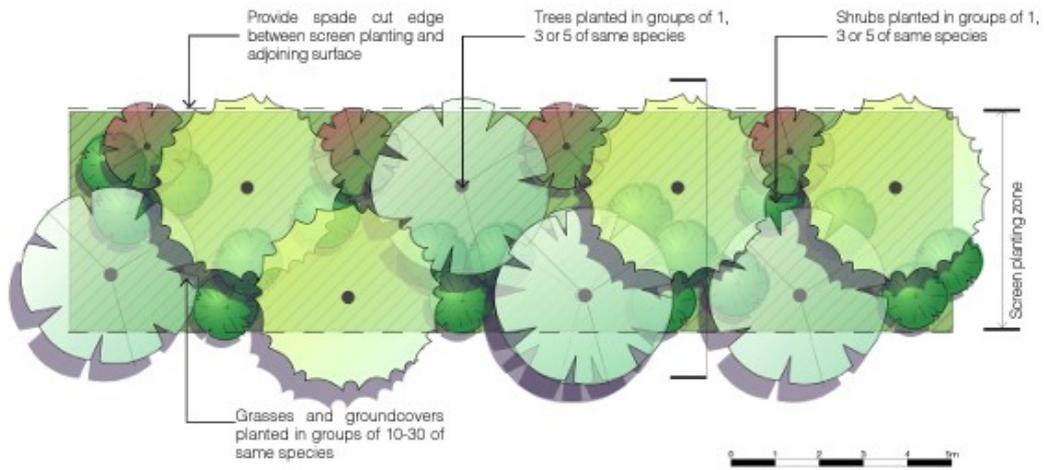


Figure 9 Typical On-Site Screen Planting

7. BESS (Battery)

Please confirm the colour of the BESS structure, and if darker and/or more suitable colours for a rural landscape are possible. Is landscape treatment proposed to minimise any visual impacts associated within the BESS?

Oxley Solar has been advised that the preferred colour is white as this is related to best practice temperature management inside the BESS structure.

However we will investigate the feasibility of colour options with the supplier once they have been identified.

In addition we will also investigate landscape treatments that may be acceptable and are able to assist in minimising any visual impact.

8. WILDLIFE CORRIDORS

• Please provide further information regarding your commitment to establish a wildlife corridor through the project site, in particular how and where this might be established, maintained, and enhanced over the life of the project.

As with all management plans, the detail will be developed in the final design stage of the project and submitted with the final designs to DPE.

For this plan, the project commits to improve connectivity in specific areas of the site and to maintain this improvement for the life of the project. This was an idea raised by Armidale Tree Group (ATG) in consultation with the Applicant. It is in addition to mitigation and offsets required by the Biodiversity Assessment Method. It is not designed to facilitate the movement or provide habitat to any particular species, rather it will restore degraded riparian habitat and buffer the National Park, using plant species appropriate to the area. It is intended to have beneficial soil and water quality effects as well, by addressing areas adjacent to the Gara River, providing bank protection in floods and protection from over grazing in droughts.

The biodiversity team incorporated the idea within the BDAR to provide some further guidance on how it would be developed, set out below. It is a commitment for construction and operational phases of the Project; for the life of the Project. The solar farm operator is responsible for implementing it.

Areas yet to be defined but must include the Gara River riparian corridor and the boundary to the Oxley Wild Rivers National Park. The plan must target areas including:

- The Gara River riparian corridor:
 - Enhance tree cover and then shrub cover successionaly to enhance bank stabilisation. Supplementing ground cover would be considered
 - Use species appropriate to the location of planting (Plant Community Type 84 close to the banks, PCT 510 at distance).
- The boundary to the Oxley Wild Rivers National Park:
 - Enhance tree cover to improve the buffer between the park and adjacent land uses on the project site.
 - Use species appropriate to the location of planting (PCT 567 and PCT 510).
- Detail appropriate:
 - Land use restrictions, such as restricting or removing grazing and appropriate fencing.
 - Width of planting (to be effective as a vegetated buffer, facilitating wildlife movement and providing a buffer to protect the waterway and national park).
 - Density of plantings.
 - Method of planting, appropriate to the community and function of the planting.
 - Timing of planting, considering appropriate seasonal windows to maximise success.
 - Maintenance and monitoring requirements including monthly monitoring for the first 12 months and replacement of mortalities for the first 5 years.
- Be adaptive, in response to monitoring, to improve the outcomes for the life of the project.
- Commence implementation concurrent with construction, to continue for the life of the project.