ACRONYMS AND ABBREVIATIONS

AHIMS	Aboriginal Heritage Management Information System
CEMP	Construction Environmental Management Plan
CoA	Condition of Approval
Council	Murrumbidgee Shire Council
DP&E	(NSW) Department of Planning and Environment
EA	Coleambally Solar Farm Environmental Impact Statement 2017
EEC	Endangered Ecological Community
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPBC Act	*Environmental Protection and Biodiversity Conservation Act 1999* (Cwth)
EPL	Environmental Protection Licence
ESR	Environmental Site Representative
EWMS	Environmental Work Method Statements
FM Act	*Fisheries Management Act 1994*
HSE Coordinator	Health Safety and Environment Coordinator
LP	*Coleambally Solar Farm Landscape Plan*
NOW	NSW Office of Water
OEH	Office of Environment and Heritage
PESCP	Progressive Erosion and Sediment Control Plan
PE	Project Engineer
PM	Project Manager
Project, the	*Coleambally Solar Farm*
Project site	Lots 78, 81, 82, 83, part of Lot 100 and 101 of DP 750896,
SoC	Revised Statement of Commitments included in the Submissions Report
RMS	NSW Roads and Maritime Services

1 INTRODUCTION

1.1 CONTEXT

This Landscaping Plan (LP) forms part of the Construction Environmental Management Plan (CEMP), for Coleambally Solar Farm (the Project). This LP has been prepared to address the requirements of the mitigation and management measures listed in the *Coleambally Solar Farm Environmental Impact Statement* (EIS) and the Conditions of Approval (CoA) from the NSW Department of Planning and Environment (DP&E). Additionally, it considers legislation and guidelines applicable to landscaping.

1.2 SCOPE

A Visual Impact Assessment (VIA) was prepared for the *Coleambally Solar Farm* and addressed impacts of the Project on visual amenity. A summary of the key findings of the VIA was included in the EIS. The EIS included the proposed implementation of mitigation measures to minimise these impacts. This LP has been developed to reduce the impacts described in the EIS.

Bouygues Construction Australia Pty Ltd (Bouygues), a subsidiary of Bouygues Construction, has been awarded the contract to construct the Project. This LP describes the landscape management measures Bouygues will implement to during the construction work.

1.3 ENVIRONMENTAL MANAGEMENT SYSTEMS OVERVIEW

The overall Environmental Management System for construction of the Project is described in the EMS and CEMP. This CBMP is part of the environmental management framework for the Project. Mitigation and management measures identified in this CBMP will be incorporated into site specific Environmental Work Method Statements (EWMS) (or Safe Work Method Statements) and Activity Procedures, with reference to relevant guidelines such as NSW Roads and Maritime Service's (2011) *Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects*.

Used together, the EMS, CEMP, CBMP, strategies, procedures and EWMS form management guides that clearly identify required environmental management actions for reference by personnel and contractors.

The review and document control processes for this CBMP are described in the CEMP.

2 PURPOSE AND OBJECTIVES

2.1 PURPOSE

The purpose of this Plan is to describe how the Bouygues Construction Australia Pty Ltd proposes to manage Landscaping of the Project. The plan also describes how landscaping will be monitored and maintained during operation.

2.2 OBJECTIVES

The key objective of the LP is to ensure that landscaping is planned and completed as required by the planning approval.

To achieve this objective, Bouygues Construction Australia Pty Ltd will:

- Facilitate consultation with RMS, Council and the Office of Environment and Heritage regarding landscaping of the project.
- Ensure appropriate planning, controls and procedures are implemented during construction to facilitate the preparation and completion of landscape area.
- Ensure appropriate measures are implemented to address the CoA.
- Ensure appropriate measures are implemented to comply with all relevant legislation and other requirements as described in Section 3.1 of this Plan.
- Include a monitoring program to report on the effectiveness of measures.

2.3 TARGETS

The following targets have been established for the management of landscaping during construction of the Project:

- Ensure full compliance with the relevant legislative requirements.
- Ensure full compliance with the relevant requirements of the EIS and CoA.
- Provide a mature vegetation buffer that will effectively screen views of the solar panels and ancillary infrastructure on site from surrounding residences within 3 years of the commencement of construction.
- Rehabilitate all disturbed areas not required for the operation of the solar farm
- Vegetation will be planted within an approximately six-metre-wide buffer zone around the perimeter of the site.
- Vegetation (i.e. trees and shrubs) will be planted in two staggered rows.
- Screening vegetation will be maintained for the life of the solar farm.
- Revegetation of disturbed areas will have 70% ground cover over 90% of disturbed areas.
    - Failed vegetation patches will be revegetated.
    - Weed populations greater than 10% of revegetation will be controlled.
    - At least 80% survival of trees and shrubs will be achieved in 12 months.
    - Native species will be used in areas of native vegetation removal.
- Ensure landscaping is established and maintained during construction and operation to achieve the requirements of the Plan.
- Ensure fencing is used to manage stock as required to protect landscaping.

3 ENVIRONMENTAL REQUIREMENTS

3.1 RELEVANT LEGISLATION AND GUIDELINES

3.1.1 Legislation

Legislation relevant to landscape management includes:

- *NSW Environmental Planning and Assessment Act 1979* (EP&A Act)
- *NSW National Parks and Wildlife Act 1974* (NPW Act)
- *NSW Pesticides Regulation 1995*

Relevant provisions of the legislation are explained in the register of legal requirements in the CEMP.

3.1.2 Guidelines and standards

The main guidelines, specifications and policy documents relevant to this Plan include:

- *AS 4419-2003 Soils for landscaping and garden use*
- *AS 2303:2015 Tree stock for landscape use*
- *CoP: Safe Use & Storage of Chemicals (Including Pesticides / Herbicides) in Agriculture WorkCover 2006.*
- *CoP: Safe Use of Pesticides, Including Herbicides in Non-agricultural Workplaces WorkCover 2006.*

3.2 CONDITIONS OF APPROVAL (COA)

The CoA issued by DP&E on the 13th October 2017 for landscaping are provided below (Table 3-1). EIS mitigation measures and commitments of the Project are outlined in Appendix B of this LP.

Table 3-1 Location of information in this Plan addressing the CoA'S.

Conditions of Approval	Location
(8) The Applicant must establish and maintain a mature vegetation buffer around the site at the locations outlined in the figure in Appendix 1, and supplementary visual impact mitigation measures at Lot 112 DP 750896, to the satisfaction of the Secretary. These measures must: a) be planted prior to the commencement of operations; b) consist of vegetation species that make up the Black Box Woodland EEC and Weeping Myall Woodland EEC for the vegetation buffer; c) be effective at screening views of the solar panels and ancillary infrastructure on site from surrounding residences within 3 years of the commencement of construction; and d) be properly maintained and kept free of weeds.	Section 6
(9) Prior to the commencement of construction, the Applicant must prepare a detailed Landscaping Plan for the site in consultation with RMS, OEH, Council and the owner of Lot 112 DP 750896, to the satisfaction of the Secretary. The plan must: e) include the description of measures that would be implemented to ensure that the vegetated buffer achieves the objectives of condition 8 (b)-(g) of this consent; f) include a program to monitor and report on the effectiveness of these measures; and g) include details of who would be responsible for monitoring, reviewing and implementing the plan, and timeframes for completion of actions. **Following approval, the Applicant must implement the plan.**	Section 7

4 CONSULTATION

Consultation relevant to the LP has been summarised in the table below. The comments have been considered and addressed within this plan (Appendix E).

Table 4-1 Consultation

Agency	Consultation
Roads and maritime Services (RMS)	RMS were invited to provide comment on the draft version of the LP. Comments are provided in Appendix E.
Office of Environment and Heritage (OEH)	OEH were invited to provide comment on the draft version of the LP. Comments are provided in Appendix E.
Council	Murrumbidgee Council were invited to provide comment on the draft version of the LP. Comments are provided in Appendix E.
NSW Department of Planning and Environment (DPE)	This plan has been submitted to DPE for approval prior to commencement of construction.
Landholder at Lot 112 750896	A phone call was made with the landowner on the 17th October 2017 to provide input into the design of the landscaping. Details from the conversation are provided in Appendix E.

5 EXISTING ENVIRONMENT

The key findings from the VIA prepared by NGH Environmental (2017b) in relation to the landscaping of the project are summarised below.

5.1 THE SITE

The Coleambally Solar Farm comprises about 570ha of freehold land, identified as Lots 78, 81, 82, 83 part of Lot 100 and 101 of DP 750896, and Lot DP 1055725. An irrigation channel (Tubbo Channel) identified as Lot 1 DP 821577 borders the north of the Project area. A smaller channel also identified as Lot 1 DP 821577 passes through the southern portion of the Project area. The Kidman Way (B87) is located directly to the south and north east of the Project area where it intersects with Ercildoune Road. Immediately to the north of the Project area is Kook Road.

The majority of the Project area has been cleared of native vegetation, laser levelled and cultivated for irrigated agriculture, which is the dominant land use in the area. A rural industrial complex called The Welsh Rice Sheds is located directly to the north of the Project area. Figure 5-1 to Figure 5-3 depict the cleared and heavily modified agriculture nature of the land.

Figure 5-1 Cultivated paddock and minor irrigation channel in the north of the Project area, accessed from Kook Road looking south.

Figure 5-2 Laser levelled paddock in the north-east of the Project area looking east.

Figure 5-3 Irrigation drainage channel from the central paddock looking north.

There are patches of remnant native vegetation within the Project area. These are located:

1. Along the northeast boundary.

2. Near the proposed access in the north of the Project area.

3. Along the drainage channel in the center of the Project area.

Scattered roadside vegetation extends along the boundary of the Project area along the Kidman Way, Ercildoune Road and Kook Road.

The existing TransGrid substation and site of the substation extension is located on Lot 3 DP 1055725 immediately north of the Project area, across Ercildoune Road (Figure 5-4). The vegetation surrounding the substation has been cleared and is managed using hazard reduction burns.

Figure 5-4 Existing substation accessed from Ercildoune Road.

The nearest sensitive receivers are the six residences located within two kilometres of the Project area (Appendix A). The closest receiver is located about 920 metres away. This receiver will have broken views of the proposed Coleambally Solar Farm through existing vegetation.

The visual character of the village of Coleambally is defined by sealed tree-lined residential streets. The village is well screened from the Kidman Way by woodland. The village entrance includes a recreational area. An industrial area is located east of the village. The surrounding area is dominated by cropped paddocks, pastures, silos, irrigation and other agricultural infrastructure.

5.2 SOILS

Soil profile records located using NSW OEH E-spade indicate a number of soil types including Self mulching grey vertosol, Black Earth, Red Brown Earth, and Calcic Red Chromosol occurring within 1 kilometre of the proposal area. During the field survey, these soils were visible after recent excavation works.

Table 5-1 Soil types within the Project site.

Soil types	Location	Description/Limitations
Transitional Red Brown Earths	This is the dominant soil across the proposal area	Transitional red brown earths are soils between clays and red-brown earths. The topsoils of transitional red brown earths are shallower and of finer texture (higher clay) than those of red brown earths. Waterlogging is more likely in transitional red brown earths because of the shallower topsoil. Transitional red brown earths are usually found near flood plains. The soils have low subsoil permeability with increased waterlogging due to the shallow top soil and clay subsoil. Erodibility is moderate in these soils due to the clay content.
Black Earth (Black vertosol)	Was observed in the north east of the proposal area	Soil material with a clayey field texture (ie. light clay, medium clay, heavy clay) or 35% or more clay, which cracks strongly when dry and has slickensides and/or lenticular peds. The soils have low subsoil permeability with increased waterlogging due to the shallow top soil and clay subsoil. Erodibility is moderate in these soils due to the clay content.
Clays (Self mulching grey vertosol)	Grey soils were observed in patches throughout the proposal area including along the drainage canal associated with the Black Box Woodland.	Clay soils with shrink-swell properties that exhibit strong cracking when dry and at depth have slickensides and/or lenticular structural aggregates. These crumbly soils show virtually no change in texture from the surface downward with approximately 50-60% clay throughout. In some instances, the surface soil may be somewhat crusted but usually the crust is easily broken up. All soil profiles have in common very aggregated and dense subsoil. The soils have low subsoil permeability with increased waterlogging due to the shallow top soil and clay subsoil. Erodibility is moderate in these soils due to the clay content.

It is expected that soils in the proposal area are at a moderate risk of erosion due to previous vegetation clearing and regular earth moving activities. The soil types described have a high clay content and at least a clay subsoil layer resulting in less erosion potential than that of sandy soils. However, they have reduced the permeability often retaining water in the profile for longer periods. With limited topographic relief, runoff containing sediment is considered to be reality manageable and unlikely to cause any impact on natural waterways.

5.3 CONSTRUCTION ACTIVITIES

The Project involves the installation of a solar farm with a capacity up to 150MW. Bouygues Construction Australia will build the 570 ha solar farm, retaining existing viable native vegetation as required.

Key development and infrastructure components include:

- Solar arrays, PV boxes or skids.
- Potential battery storage.
- Delivery station and solar substation.
- Associated above or underground cabling.
- Underground connection to TransGrid substation and extension to substation.
- Ancillary facilities.
- New project area access point from Ercildourne Road and associated road upgrades.
- Construction of bridges access Tubbo irrigation channel and central drainage channel.
- Construction of internal gravel access tracks.
- Possible irrigation drainage channel relocation, subject to final design.
- Subdivision of land.
- Perimeter security fencing.

In total, the construction of the Project will take between 9 to 12 months. The Coleambally Solar Farm is expected to have approximately 30 year operating life at which point the solar farm will either:

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

5.4 IMPACTS

Potential impacts associated with the project are discussed in Section 6 of the EIS and include:

- **Construction decommissioning –** During the construction and decommissioning phases of the project, surrounding properties will have a view of the site and associated activities. Visual impacts will include the following:
    - Presence of temporary site offices
    - Presence and movement of vehicles, plant and equipment around the site
    - Movement of vehicles to the site
    - Generation of dust
- **Operation –** The Project will be visible from surrounding areas including the six nearby residences and road users on Ecildourne Road and the Kidman Way. The Project will change the land use at the site from on that is characterised by agricultural production to solar power generation, and this will change the visual character of the site. The majority of views to the site are partially screened by existing vegetation located along the road reserves or scattered vegetation in paddocks.
- **Glare and reflectivity of solar panels –** The potential for glare associated with non-concentrating photovoltaic systems which do not involve mirrors or lenses is considered to be relatively limited. Photovoltaic solar panels are designed to reflect as little sunlight as possible (generally around two percent of light the light received (Spaven 2011)), resulting

in negligible glare. Based on this, the potential impacts of glare on adjacent land users are considered to be minor.

Aside from the solar panels, infrastructure to be installed as part of the Project that has the potential to result in glare or reflection includes:

- Steel or aluminium array mounting
- Photovoltaic boxes or skids

Glare impacts from this infrastructure is considered to be minimal and will be similar to existing infrastructure on the Project site and adjacent properties. Where possible design of the structure will minimise the likelihood of structures generating glare or reflections.

Visual amenity of the site is described as agricultural. The maintenance of the existing amenity and the minimisation of any glare from the solar farm are seen as keen impacts that the landscaping will address. Ensuring that the landscaping is complimentary to the *Weeping Myall Open Woodland of the Riverina Bioregion and NSW South Western Slopes Bioregion* (PCT 26).

Key impacts of the landscaping itself will be derived from ripping for site preparation, spraying for weed control, fencing for stock exclusion, and planting of tube stock. Those impacts will include:

- Dust from ripping and light vehicle movement
- Spray drift from weed control
- Noise for plant during ripping, fencing and planting.

6 LANDSCAPE MANAGEMENT PROTOCOLS

A list of management protocols to mitigate the visual impacts have been developed for each stage of the project. A number of benchmarks for monitoring have been described through these management measures.

Table 6-1 Management protocols for Coleambally Solar Farm

ID	Stage of project	Activities	Management protocol	Reporting and monitoring requirement	Responsibility
1	**Design**	Minimise the off-site visual impacts of the development including potential for glare from the reflection of panels.	• Establish and maintain a mature vegetation buffer around the site. • All construction plant, equipment, waste and excess materials will be contained within the designated boundaries of the work site and will be removed from the site following the completion of construction. • Ensure the visual appearance of all ancillary infrastructure (including paint colours) blends in as far as possible with the surrounding landscape, where practicable buildings will be coloured eucalypt green, beige or muted brown. • Ensure security fencing posts and wire are non-reflective; green or black rather than grey to reduce the industrial look of the fence. • Not mount any advertising signs or logos on site, except where this is required for safety purposes.	Landscape Plan Approval. Construction compound and access layout. Fencing design.	Neoen Australia Bouygues Construction Pty Ltd
2	**Design**	Minimise the off-site lighting effects of the development.	• Ensure that all external lighting associated with the development: o is installed as low intensity lighting (except where required for safety or emergency purposes); o does not shine above the horizontal; and o complies with Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting, or its latest version.	Lighting Design Report.	Neoen Australia
3	**Design**	Allow room for vegetation screen in detailed design	• Areas A-D will be designated for the landscape screening as set out Appendix A. • Ensure a 10-metre-wide corridor around the perimeter of the site to provide a buffer to prevent solar arrays being built up against the boundary fence. • Ensure vegetation is planted within an approximately 6-metre-wide buffer zone in areas designated for landscape screening in Appendix A. • Specifically, planting in these areas will break up views of infrastructure from viewpoints specified in Appendix A.	Detailed Design Report. Landscape Plan Approval.	Neoen Australia Bouygues Construction Pty Ltd
4	**Pre-operation**	Establish vegetation screen	• Planting will involve: o Tube stock will be germinated from locally collected endemic seed where feasible. o Hardened tube stock will be planted out in to ripped planting beds following weed control. o Tube stock will be planned to be planted in autumn with:	Landscape Plan Approval. Landscaping surveillance.	HSE Coordinator

ID	Stage of project	Activities	Management protocol	Reporting and monitoring requirement	Responsibility
			▪ Water crystals. ▪ Regular weekly watering (where <30mm of rain has occurred in that month) until established. ▪ Mulching will occur around plantings to control weeds and retain soil moisture during establishment. • Plantings will be in two rows, staggered, mixed and offset to produce a heterogeneous mix of plantings and provide an effective visual screen. • Plantings will be fenced off when livestock is intruded to the site to prevent stock grazing on the screen vegetation. • The planting will be undertaken prior to the commencement of operation as soon as possible to maximise growth. It is understood that the planting will not be effective until plants are well established. Some larger sized plants are recommended to be included initially to provide some immediate screening. • Ensure that plantings will effectively screen views of the solar panels and ancillary infrastructure on site from surrounding residences and within 3 years of commencement of construction. • Planting will be additional to the existing vegetation within the curtilage of the site. Remnant vegetation would be maintained as screening where feasible and reasonable. • Spraying and or mulching will be used to control weeds and competition during establishment. • The species for use as a screen planting will be selected based on the information outlined in Section 6.1 below. • The location of the planting areas is identified in Appendix A, and full planting schedule including species is listed in Appendix C.	Works as executed drawings for landscaping. Inspection reports. Weed inspection and spraying report.	
5	**Pre-operation**	Protect plants	• The landscaping area will be protected during operation: o The areas will be avoided by plant and machinery during operation. o Construction of the perimeter fence next to the planting will require awareness and training not to damage plantings.	Landscaping Plan Survey Flag tape or fencing	HSE Coordinator
6	**Pre-operation**	Verify the location of the screen	• Verification of the planting locations will be made immediately after construction to determine the effectiveness of the screen to break up views of the infrastructure. While the plants will be not be effective at this time, the location of the planting will be augmented if required so that the mature screen will break up views from the identified viewpoints. • Additional planting will be undertaken if the location and density of the planting is determined to be inadequate to the objective of this plan.	A post construction audit will be undertaken to assess the effectiveness of the screening.	HSE Coordinator

ID	Stage of project	Activities	Management protocol	Reporting and monitoring requirement	Responsibility
7	**Operation**	Monitor the planting	• The plantings will be monitored for the life of the project to ensure growth sufficient to provide a visual scree. Monitoring requirements for the project are outlined in Section 7.4 of this LP.	A photographic record of the planting will be maintained annually.	HSE Coordinator

6.1 SPECIES

The species for use as screen planting will be endemic to the area to enhance the existing landscape character and be a continuation of the existing native vegetation. CoA 8(b) states that the plantings must consist of vegetation species that make up the Black Box Woodland and Weeping Myall Woodland EEC for the vegetation buffer.

The vegetation communities above were observed in the study area. The corresponding Plant Community Types (PCTs) identified on site include:

- PCT 16 – Black Box grassy open woodland wetland of rarely flooded depressions in south western NSW (Mainly Riverina Bioregion and Murray Darling Depression Bioregion)
- PCT 26 – Weeping Myall open woodland of the Riverina Bioregion and NSW South Western Slopes Bioregion

The species selected for each planting area will align with the naturally occurring vegetation across the project site. Weeping Myall Woodland will be planted in areas A, B, and C due to the proximity to existing Myall Woodland. Black Box Woodland species will be planted in Area D on Lot 112 DP 750896 to screen the nearest non-involved landowner. Consultation with the landowner is summarised in section Appendix E. Representative species for each vegetation community and for use as a visual screen are provided below.

Weeping Myall Woodland Species (planting Area A, B and C):

- Weeping Myall (*Acacia pendula*)
- Umbrella wattle, miljee (*Acacia oswaldii*)
- Old Man Saltbush (*Atriplex nummularia*)
- Emu bush (*Eremophila longifolia*)
- Butterbush (*Pittosporum angustifolium*)

These species were selected based on their growth characteristics, including height, form and rate of growth. These species reflect the species of the *Weeping Myall Woodland EEC*. The tree and shrubs selected will enhance the complexity and diversity of native flora at the site currently dominated by over story species. A full planting schedule for the Coleambally Solar Farm is located in Appendix C of this report.

If species recommended are unavailable from local nurseries the following other shrubs recommended for plantings that are listed in the Myall Woodland EEC include;

- Spring pod Cassia (*Senna artemisioides*)
- Western rosewood (small tree) (*Alectryon oleifolius*)
- Warrior bush (*Apophyllum anomalum*)
- Dillon bush (*Nitraria billardierei*)

Black Box Woodland species (Planting Area D):

- Black Box (Eucalyptus largiflorens)
- Hickory wattle (Acacia implexa)
- Umbrella wattle (Acacia oswaldii)
- Weeping Myall (Acacia pendula)
- Nitre Goosefoot (Chenopodium nitrariaceum)
- Thorny Salt Bush (*Rhagodia spinescens*)

No groundcover planting is proposed. The majority of the Project area is exotic pastures and cropping. The groundcover in the designated planted areas is a mixture of native grasses and weed species. The site is relatively flat and erosion control will involve maintaining the existing ground cover, through minimising disturbance during ripping.

Plantings will be of sufficient maturity, height and width to screen the views of the solar panels and ancillary infrastructure on site from surrounding residences, and minimising the glare from the solar panels on road users within 3 years of the commencement of construction.

6.2 DENSITY AND PLANTING METHODS

- An asset protection zone (APZ) of 10 meters will be created between the planting and panels.
- Tube stock will be germinated form locally collected endemic seed where feasible.
- Hardened tube stock will be planted out in to ripped planting beds following weed control.
- Planting will occur in autumn following sufficient rainfall.
- Trees and shrubs within each row will be spaced at 2 to 3 metres dependent on the species.
- Plantings will be staggered, mixed and offset to produce a heterogeneous mix of plantings.

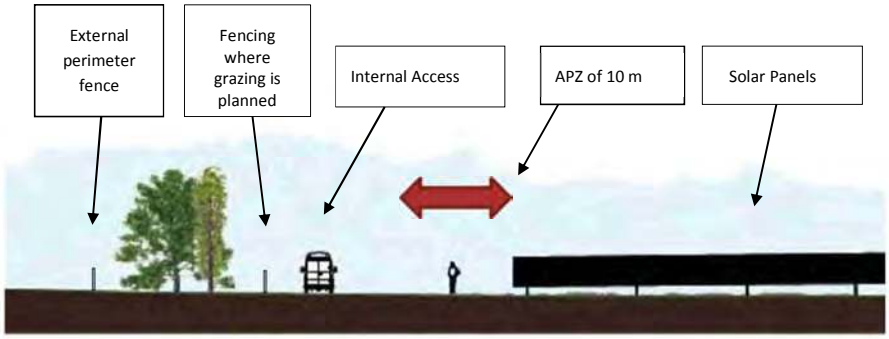


Figure 6-1: Landscape planting sketch

7 COMPLIANCE MANAGEMENT

7.1 ROLES AND RESPONSIBILITIES

The Bouygues Construction Australia Pty Ltd Project Team's organisational structure and overall roles and responsibilities are outlined in the CEMP. Specific responsibilities for the implementation of environmental controls are detailed in Section 7 of this Plan.

7.2 TRAINING

All employees, contractors and utility staff working on site will undergo site induction training relating to landscape management issues. The induction training will address:

- Existence and requirements of this plan and relevant legislation.
- Roles and responsibilities for landscape management.
- Location of identified heritage sites.
- Landscape planting plan, management and protection measures.
- Procedures to be implemented for site preparation, planting and maintenance.
- Procedure to be implemented to control dust during works.
- Procedure to be implemented to minimise spray drift during works.

Training in the form of toolbox talks will also be provided to staff with a role in heritage management. Further details regarding staff induction and training are outlined in the CEMP.

7.3 PLANTING

Tube stock will be panned to be planted in autumn with:

- Water crystals and fertiliser.
- Regularly weekly watering (where <30mm of rain has occurred in that month) until established.
- Rainfall is to monitored daily during the first 12 months of planting. Watering of plants will be required if rainfall is insufficient.
- Tree guards, to provide some protection from wind and wildlife. Protection devices (tree guards and fencing) is to be monitored until plants are deemed to be established and no longer require this protection.
- Stock proof fencing where grazing is expected.
- Fencing is to be monitored weekly during grazing for the first five years.
- Spraying and or mulching will be used to control weeds and competition during establishment.
- Weed inspections are to be completed monthly during establishment and quarterly during the first five years of planting. Control spraying is to be carried out where required.

7.4 MONITORING AND INSPECTION

Trees will be monitored for mortalities monthly during establishment. Mortalities greater than 10% or gaps greater than 5m will be replaced in the first 5 years, to ensure the screen is well established.

Inspections of landscaping activities will occur each day during landscaping works for construction. Inspection of the landscaping during establishment and operation will be in accordance with Table 7-1.

Table 7-1: Monitoring Program for planting condition

Monitor	Establishment (first 12 months after planting)			Three to five years post construction			Five to ten years' post construction			Ten years post construction to decommissioning		
	Timing	Action	Responsibility	Timing	Action	Responsibility	Timing	Action	Responsibility	Timing	Action	Responsibility
Rainfall	Daily	Regular weekly watering (where <30mm of rain has occurred in that month) until established.	SEO/Operator	Monthly	Water when rainfall less than 10mm/month	Operator	Monthly	Water when rainfall less than 10mm/month, **for supplementary plantings only.**	Operator	Monthly	Water when rainfall less than 10mm/month, **for supplementary plantings only.**	Operator
Fences	Weekly during grazing	Repair any damage immediately	SEO/Operator	Weekly during grazing	Repair any damage immediately	Operator or Grazier	Weekly during grazing	Repair any damage immediately	Operator or Grazier	Weekly during grazing	Repair any damage immediately	Operator or Grazier
Weeds	Monthly	Spot pray weeds within 1.5 m of planting	SEO/Operator	Quarterly	Spot pray weeds within 1.5 m of planting	Operator	Quarterly	Spot pray weeds within 1.5 m of planting.	Operator	Quarterly	Spot pray weeds within 1.5 m of planting.	Operator
Planting	Monthly	Supplementary planting to occur in areas where plantings have died (not to occur during summer).	SEO/Operator	Autumn or Winter	Supplementary planting to occur in areas where plantings have failed to screen views (not in summer)	Operator	Autumn or Winter	Supplementary planting to occur in areas where plantings have failed to screen views (not to occur during summer)	Operator	Winter	Supplementary planting to occur in areas where plantings have failed to screen views (not to occur during summer)	Operator
Planting	~~Quarterly~~Monthly	Photos from monitoring points identified in Appendix A will be used to review landscape Plan, including effectiveness of screening and plant height.	SEO/Operator	Quarterly	Photos from monitoring points identified in Appendix A will be used to review landscape Plan, including effectiveness of screening and recording of plant height.	Operator	Annually	Photos from monitoring points identified in Appendix A will be used to review landscape Plan, including effectiveness of screening and recording of plant height.	Operator	Five yearly	Photos from monitoring points identified in Appendix A will be used to review landscape Plan, including effectiveness of screening and recording of plant height.	Operator
Screen Success	Annual Annual	Evaluate solar farm screening of views and glare at sensitive receivers and public road network identified in Appendix A. Photos from monitoring points identified in Appendix A will be used to review landscape Plan. Incorporate ancillary actions and appropriate measure where required, including supplementary	SEO/Operator	Annual Annual	Evaluate solar farm screening of views and glare at sensitive receivers and public road network identified in Appendix A. Photos from monitoring points identified in Appendix A will be used to review landscape Plan. Incorporate ancillary actions and appropriate measure where required,	Operator	Annual Annual	Evaluate solar farm screening of views and glare at sensitive receivers and public road network identified in Appendix A. Photos from monitoring points identified in Appendix A will be used to review landscape Plan. Incorporate ancillary actions and appropriate measure where required, including supplementary	Operator	Annually	Evaluate solar farm screening of views and glare at sensitive receivers and public road network identified in Appendix A. Photos from monitoring points identified in Appendix A will be used to review landscape Plan. Incorporate ancillary actions and appropriate measure where required,	Operator

	Six Monthly	plantings where necessary. Each planting area will be sampled at two random locations and the height and width of plants from each species will be recorded.		Six Monthly	including supplementary plantings where necessary. Each planting area will be sampled at two random locations and the height and width of plants from each species will be recorded.		Six Monthly	plantings where necessary. Each planting area will be sampled at two random locations and the height and width of plants from each species will be recorded.			includin supplem planting necessa

7.5 AUDITING

Audits will be completed to assess the effectiveness of landscaping works and compliance with this plan and other relevant approvals, licenses and guidelines. Audits will be conducted 3 months after the commencement of construction and every six months thereafter until the completion of the construction contract. Defects will be evaluated against the contract, landscaping plans and other contract documents. Non compliances will be managed through the quality management system.

7.6 REPORTING

Reporting requirements and responsibilities are documented in the CEMP.

A brief report will be prepared on the growth rates and performance of the screen Plantings from year 0 until the screening is effective. The report will be prepared by an independent biodiversity or landscaping specialist. The report will be prepared on a six-monthly basis for the first year and then annually thereafter. The report will be used to manage the screen plantings and will be provided to DPE. Where required and extension of the time for the establishment of the screens effectiveness may be sort. The report will include:

- Growth of the plantings and screening outcomes including photos.
- A statement about the performance of the planting.
- An identification of any limiting factor for planting performance.
- Report on any significant perturbation including fire, flooding or pest infestation.
- An evaluation of the past management of the plantings.
- Remedial actions for enhancing plant performance.

A separate assessment of glare would also be prepared three years after the commencement of construction and incorporated with in the report above.

8 REVIEW AND IMPROVEMENT

8.1 CONTINUOUS IMPROVEMENT

Continuous improvement of this Plan will be achieved by the ongoing evaluation of performance against the LP environmental policies, objectives and targets to identify opportunities for improvement.

The continuous improvement process will be designed to:

- Identify areas of opportunity for improvement of environmental management and performance.
- Determine the cause or causes of non-conformances and deficiencies.
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies.
- Verify the effectiveness of the corrective and preventative actions.
- Document any changes in procedures resulting from process improvement.
- Make comparisons with objectives and targets.

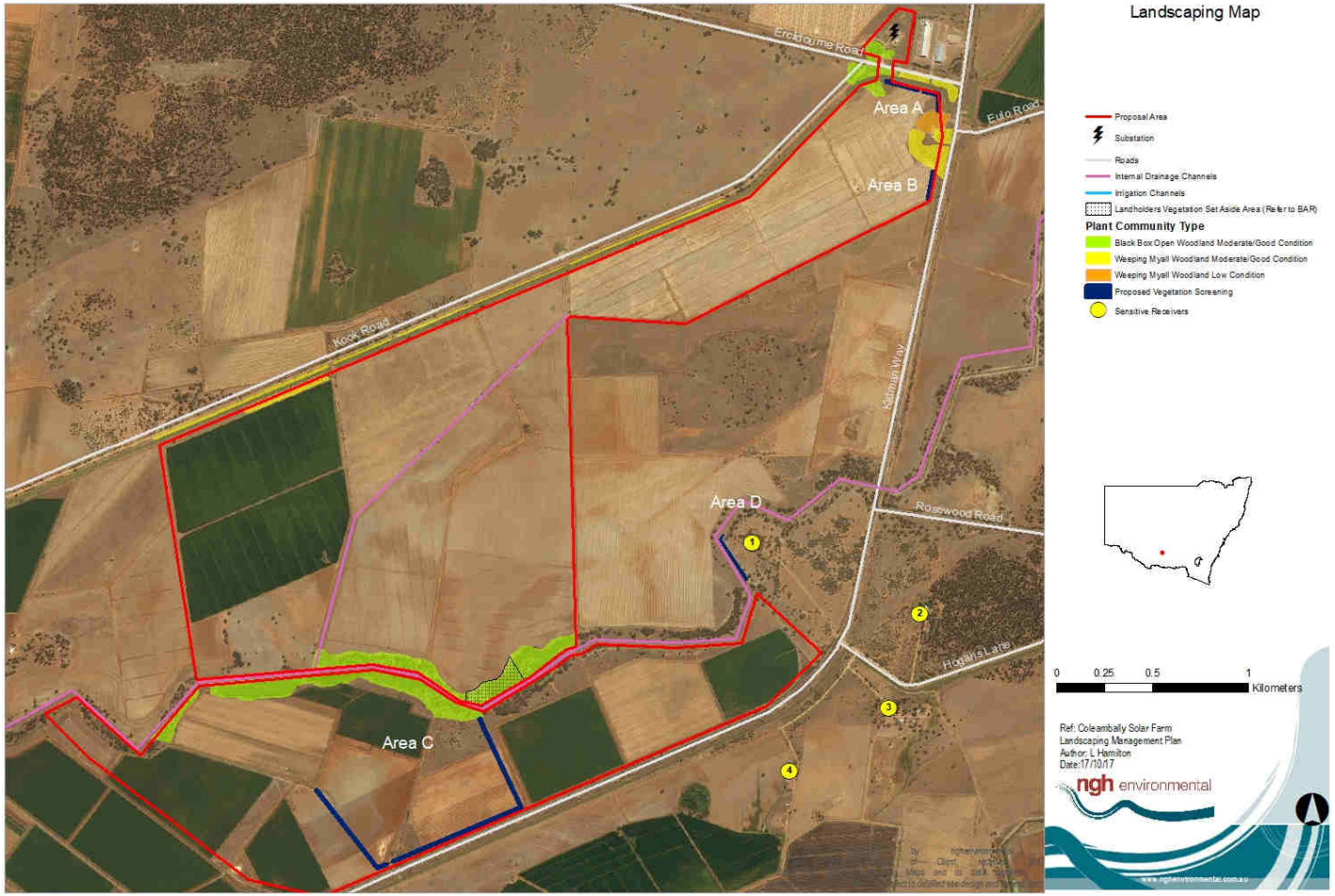
8.2 LP UPDATE AND AMENDMENT

The processes described in the CEMP may result in the need to update or revise this Plan. This will occur as needed.

Only the ESR, or delegate, has the authority to change any of the landscape management documentation.

A copy of the updated plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure – refer to the CEMP.

APPENDIX A LANDSCAPING MAPS



Landscaping Map

Proposal Area
Substation
Roads
Internal Drainage Channels
Irrigation Channels
Landholders Vegetation Set Aside Area (Refer to BAR)

Plant Community Type

Black Box Open Woodland Moderate/Good Condition
Weeping Myall Woodland Moderate/Good Condition
Weeping Myall Woodland Low Condition
Proposed Vegetation Screening
Sensitive Receivers

0 0.25 0.5 1 Kilometers

Ref: Coleambally Solar Farm
Landscaping Management Plan
Author: L Hamilton
Date:17/10/17

ngh environmental

Planting Area D in Lot 112 DP 750896

APPENDIX B PROJECT COMMITMENTS

No.	Project Commitment	Location
BD11	Any onsite plantings (such as to address visual impacts) will be comprised of local indigenous species (such as those of Weeping Myall Woodland) with the object of increasing the structure of existing vegetation. Planting locations would be designed to improve the connectivity between patches in the landscape where consistent with landscaping outcomes and the solar farm operation.	Section 6
TT9	A landscaped buffer (at least 5 metres in width planted with a variety of species endemic to the area and growing to a mature height ranging from 2 metres to at least 5 metres) shall be established and maintained within the subject property along the frontages of the site to the Kidman Way and Ercildoune Road to a standard to minimise distraction of the travelling public.	Section 6
TT10	Glint and glare from the solar panels shall not cause a nuisance, disturbance or hazard to the travelling public on the public road network. In the event of glint or glare from the solar plant being evident from a public road, the proponent shall immediately implement glare mitigation measures such as construction of a barrier (e.g. fence) or other approved device to remove any nuisance, distraction and/or hazard caused as a result of glare from the solar panels.	Sections 5.4 and 7.4

APPENDIX C – PLANTING SCHEDULE

C.1 PLANTING AREA

Area ID	General Location	Length (m)
A	Adjacent Ercildourne Road on the northern boundary of the Project area	380
B	Adjacent the Kidman Way, south of Eulo Road	170
C	Adjacent the Kidman Way, southern boundary of the Project area	1500
D	Planting area of Lot 112 DP 750896	350

C.2 PLANTING SCHEDULE

Code	Botanical Name	Common Name	Mature Height	Mature Width	Spacing	Pot Size	Percent	Plant Numbers
Weeping Myall Woodland species								
1	*Acacia pendula*	Weeping Myall	10m	5m	5m	100mm	40	330
2	*Atriplex nummularia*	Old-man saltbush	3m	3m	3m	100mm	15	205
3	*Acacia oswaldi*	Miljee	6m	3m	2m	100mm	15	205
4	*Eremophila Longifolia*	Emu bush	8m	3m	3m	100mm	15	205
5	*Pittosporum angustifolium*	Butterbush	6m	2m	2m	100mm	15	305
Black Box Woodland species								
6	*Eucalyptus largiflorens*	Black Box	10m	5m	5m	100mm	50	98
7	*Acacia implexa*	Hickory wattle	5m	3m	3m	100mm	10	39
8	*Acacia oswaldii*	Umbrella wattle	5m	3m	3m	100mm	10	35
9	*Acacia pendula*	Weeping Myall	10m	5m	5m	100mm	10	26

10	*Chenopodium nitrariaceum*	Nitre Goosefoot	3m	3m	3m	100mm	10	35
11	*Rhagodia spinescens*	Thorny Salt Bush	2m	2m	3m	100mm	10	48

APPENDIX D – PESTICIDE USE RECORD

1 Date and time	Start Date and Time:	
	Finish Date and Time:	
2 Who applied the pesticide	Full operator name:	
	Operator contact address:	
	Operator contact phone:	
3 Who owns/occupies the land	Full owner/occupier's name:	
	Owner/occupier's contact address:	
	Owner/occupier's contact phone:	
4 Boundaries of treated area and order of treatment	List treated areas and order of treatment, preferably with reference to a map:	
	List order of treatment:	
5 Problem treated	Identify the pest or problem treated (eg controlling of spot weed infestation):	
6 Product used	Record either the full name, or a product code if a list of full product names of pesticides you use is kept at the front of your logbook:	
7 Equipment used	Describe the equipment used (eg boom-spray, hand-held backpack sprayer etc.):	
8 Quantity applied and dilution	Total amount of pesticide product mix used:	
	Write down whether the mix was concentrated product or a diluted mixture (note down rate of dilution):	
9 Area covered by application	Area of application (in square metres or hectares):	
10 Wind speed and direction	Estimate of wind speed and direction (only if the pesticide is applied through the air):	
	Write down any changes in weather during application:	
11 Other weather details	Record any weather details such as temperature, humidity and/or rainfall where the pesticide product label requires you to assess these:	

APPENDIX E SCHEDULE OF WORKS

This schedule of work guides the timing and outcomes of landscaping work. It will be modified based on alterations to project phases and climatic conditions.

#	Project Phase	Landscaping Work	Preferred Season	Performance Target	Measure and Monitor	Variation
1	Internal road construction	Layout and ripping of planting lines	Late Summer, dry to very dry conditions	Rip each planting line to 300mm in depth, shatter soil	Depth /shatter of rip twice daily during ripping.	Nil
2	Post road building	Weed control (herbicide)	Autumn after initial rain/ germination	All of planting area plus 3m Include residual herbicide	Climatic conditions, herbicide(s) rate, area covered	Water rip line prior if no rain
3	Panel/fence erection	Pre-watering of rip lines	Late autumn.	Sub-soil moisture levels sufficient for planting	Watering rate (10L/2m of rip line)	Reduce if heavy rain fall
4	Post Construction	Planting	Late autumn early winter	Planting schedules above	Species location and spacing	Nil
5	Post Construction	Weed control (herbicide) and mulch	Post planting	Spot pray weeds within 1.5 m of planting. Mulch 300mm around plant, and 50mm mulch depth.	As above for herbicide control. Minimum depth mulch 50mm. Minimum width 300mm around plant.	Nil
6	Operation	Summer watering if dry	Summer	Planting receive a minimum 30mm/month of water from rain or watering within first year. A minimum of 10mm/month of water from rain or watering after first year.	Watering rate (10L/2m of rip line)	Addition al watering.
7	Operation	Evaluate mortality, order replacement stock	End of summer	Supplementary required by targets	New plants fill gaps in screening	Other species if suitable
8	Operation	Weed control (herbicide)	Summer and Autumn	Spot pray weeds within 1.5 m of planting.	Climatic conditions, herbicide(s) rate, area covered	New tank mix
9	Operation	Planting	Late autumn early winter	Planting schedules above	Species location and spacing. Effectiveness of visual screen.	Nil

APPENDIX F – CONSULTATION

OEH response to draft plan 10 Nov 2017		
Issue ID	OEH Recommendation	Response
	Table 6-1 stated that 'tube stock will be germinated from locally endemic seed where feasible'. It is not stated who would do this. It is assumed from page 14 that local nurseries would be expected to supply the plants to be used, rather than engaging a local contractor to collect seed. If this is the case, which local nurseries are intended to provide these plants, and evidence of their capacity to do so should be provided. It should also be stated where plants will come from if this is not feasible.	Local nursery 'Coleambally Saltbush Native Nursery' is an example of a local native nursery that could be used for the supply of landscape plantings. Alternatively, 'Riverina Wildflowers' located in Leeton approx. 1hr from Coleambally specialise in native landscaping and could be used for the supply of plantings. Failing this, other native nurseries in the Riverina would be acceptable for planting supply. Tube stock form native local nurseries would be germinated from locally endemic seed where feasible.
	Inconsistencies in supplementary watering amounts between table 6-1 and 7-1. Clarify what is meant by the term establishment.	LP amended to include regular weekly watering (where <30mm of rain has occurred in that month) until established. Section 7.4 amended to include clarification of 'establishment'.
	While it is acknowledged that supplementary watering may be required to ensure successful establishment, reliance on supplementary water should be decreased as the plants grow throughout the first year.	LP amended to include regular weekly watering (where <30mm of rain has occurred in that month) until established. It is assumed that rainfall would be above 30mm per month for approximately 5/6 months per year based on past weather observations at Coleambally Irrigation. After the first year of establishment, supplementary watering will be decreased to only during months with <10mm rainfall.
	Inconsistencies in planting period between page 12 and page 15. Plantings to occur after sufficient rainfall. What is considered 'sufficient rainfall'?	Inconsistencies amended to autumn plantings. Landscaped areas would be planted with water crystals and following sufficient rainfall. Sufficient rainfall is considered to be >10mm in a one day period. This would aid in soil preparation and plant establishment. In the event of low rainfall period, soil would be watered pre planting and plants would be watered following planting.
	The species proposed to be used for the screen plantings are generally appropriate, with the	These species were selected based on their growth characteristics, including height,

	intention to enhance the Weeping Myall Woodland and Black Box woodlands in the area. It is suggested that the plan should clearly state the basis for species selection.	form and rate of growth. The species selected are in line with the Weeping Myall Woodland EEC where feasible. The basis for species selection has been outlined in Section 6.1 of the LP.
	Although Emu Bush (*Eremophila longifolia*) is not associated with Weeping Myall EEC, although its natural distribution includes the study site this species may be included, given the purpose is to provide a visual screen.	Acknowledged.
	For Black Box Woodland plantings, Black Bluebush (*Maireana pyramidata*) is a more western species. Suggest the use of Thorny Salt Bush (*Rhagodia spinescens*) or Ruby Salt Bush (*Enchylaena tementosa*) as suitable local species to use if possible.	The LP has been updated to replace Black Bluebush with Thorny Salt Bush (*Rhagodia spinescens*).
Council response to draft plan 10 Nov 2017		
Issue ID	Council Recommendation	Response
	Council would like Neoen to consider the establishment of a visual barrier between the works and Kidman Way to Mitigate the visual impact of the project.	The landscaping buffer once established is considered to mitigate visual impacts of the project on Kidman Way. Landscaping design includes a visual barrier along the section of Kidman way considered to be visually impacted by the project (see Appendix A). It is considered that the rest of Kidman way will not be visually impacted by the project given the low reflectivity of the solar panels and the distance between the panels and the Kidman Way.
RMS response to draft plan 20 Oct 2017		
	Given the proposed construction program for the Coleambally Solar Farm, construction should be completed towards mid-2018. How will tube stock planted in Spring/Autumn address the potential issues raised in the initial years of the Solar Farm?	The landscaping buffer would be effective within three years of the commencement of construction. Existing remnant vegetation would provide some mitigation of initial impacts prior to the establishment of landscaped areas. Some larger sized plants are recommended to be included initially to provide some immediate screening.
	The report considers that glint glare impacts from solar panel infrastructure is considered to be minimal and similar to that of existing infrastructure on the Project site and adjacent properties. However, consideration needs to be given to the extent of the line of the solar arrays	As mentioned in Section 5.4, impacts resulting from glare are considered unlikely as photovoltaic solar panels are designed to be non-reflective and absorb as much light

	versus the impacts of an isolated structure or shed located in a paddock.	as possible to generate maximum amount of energy or heat. Overall photovoltaic solar panels only reflect approximately 2% of light, regardless of the line of the solar arrays.
	The retention of established remnant vegetation between the solar farm and the Kidman Way should be a priority.	This has been addressed in the Biodiversity Management Plan prepared by NGH Environmental.
Landowners at Lot 112 DP 750896		
	Phone call made 17th October to discuss the detailed design of the landscaping on his property. Points raised in discussion included: Landholder would like the planting to be a continuation of the Black Box Vegetation existing on his property. • Noted that the vegetation is mainly mature vegetation, therefore planting around the old trees would ensure succession. • Livestock are present in the paddock at times so would require fencing of the planted area. • Ensuring the gap to the west is planted as this is the most open area and most visible of the solar farm site. • The landholder expressed his interest in being present and assisting with the planting on his property • He would like to see the planting being achieved properly to make sure it achieves its objectives.	
	A follow up email was sent to the landowner on 17th October 2017 with details of the planting Area D location.	Landowner response 18th October 2017, requesting lengthening the planting area further south to ensure it blends with the existing vegetation. Further extension of the planting area has been adopted. The 50m of planting adopted needs 70 plants including: 28 Black Box, 9 Hickory Wattle, 9 Umbrella Wattle, 6 Weeping Myall, 9 Nitre Goosefoot and 8 Thorny Salt Bush. *See response to DPE comment relating to commitment of additional 50m planting in table below.*

NSW Department of Planning and Environment 21/11/17

Section of LP	DPE Comment	NGH Response	Location of change in LP
General	Provide correspondence with Stakeholders	Correspondence with stakeholders attached.	Appendix G
General	Confirm that a 6m / two row planting will be effective visual screening to address the requirements of Condition 8(c).	A 6m / two row planting was designed in accordance with the mature width and relative spacing of each individual species. Rows would be staggered and offset in order to minimise gaps in visual screening (as per Table 6-1). Table 7-1 has been amended to include supplementary planting where plantings fail to effectively screen views.	Table 6-1 Table 7-1
General	Define how management of ongoing effectiveness after 3 years would be undertaken (eucalypts grow and acacias die), responsibilities, monitoring, supplementary plants of shrubs, etc. would be undertaken during the life of the solar project.	Table 7-1 amended to include monitoring requirements for 6 years post construction to decommissioning. This includes the supplementary planting of shrubs where plant mortality occurs.	Table 7-1
General	Provide a schedule of works that includes the monitoring and evaluation process and consideration of seasonal conditions and project phasing.	Appendix E added. 'Schedule of Works' – considers seasonal conditions, monitoring and project phasing.	Appendix E
Section 2.3	Review and revise the proposed Targets to further align with tube stocking and the proposed 6m / two row planting methodology	Comment disregarded as per phone conversation with DPE Friday 24/11/17. Targets state: • Vegetation will be planted within an approximately six-metre-wide buffer zone around the perimeter of the site. • Vegetation (i.e. trees and shrubs) will be planted in two staggered rows.	N/A
Section 4	Update tense in Table 4-1	Updated.	Table 4-1

Section 7.3 and 7.5	In Regard to Planting Methodology: Given the specific requirement to establish a visual screen in 3 years, consider adopting enhanced restoration practices (ongoing watering, soil testing, site specific fertilisers / micro nutrients and use of organics, etc).	This LP addresses the OEH comment: *While it is acknowledged that supplementary watering may be required to ensure successful establishment, reliance on supplementary water should be decreased as the plants grow throughout the first year.* Table 6-1 amended to include the following: *Mulching will occur around plantings to control weeds and retain soil moisture during establishment.* As stated in Section 7.3: *tube stock will be panned to be planted in autumn with water crystals and fertiliser*. Monitoring and Inspection now includes: *Supplementary planting to occur in areas where plantings have failed to screen views (not to occur during summer)*.	Table 6-1 Table 7-1
Section 7.4	In Regard to Monitoring and Evaluation: o Consider introducing short-term evaluation stages (immediately after planting), linked to monitoring and hold points. o Consider including expected growth rates for 1, 2 and 3 Years to be used as part of evaluation process. o Consider nominating the height of the tree screen required to manage visuals at specific locations including photo monitoring (before, during and after).	Short term evaluation stages as outlined in Table 7-1 – Monitoring and Inspection, including monthly monitoring of plant survival rates, supplementary plantings and weekly watering where necessary. Photo monitoring of plants and visual screen success added to Table 7-1*: Photos from monitoring points identified in Appendix A will be used to review effectiveness of landscape Plan, including effectiveness of screening and recording of plant height.* Photo monitoring is to occur quarterly for the first 3 years, and then yearly for the life of the Project (before, during and after).	Table 7-1
Lot 112 DP 750896	Discussion is required in regard to the additional 50m tree screen with 70 tube-stock.	Resolved. Additional 50m and 70 tube stock have been added to planting schedule and landscaping maps.	Appendix A Appendix C

Department of Environment: Verbal Advice 15/12/17

Section of LP	DPE Comment	NGH Response	Location of change in LP
Monitoring	Further detail needed to include six monthly recordings of plant height and width, including recording.	The following statement has been added to Table 7-1, to occur on a six-monthly basis: *Each planting area will be sampled at two random locations and the height and width of plants from each species will be recorded.*	Table 7-1
Reporting	Suggest including details on six-monthly reporting of growth rates and screening performance of plantings.	The following information has been included to outline reporting: *A brief report will be prepared on the growth rates and performance of the screen Plantings from year 0 until the screening is effective. The report will be prepared by an independent biodiversity or landscaping specialist. The report will be prepared on a six-monthly basis for the first year and then annually thereafter. The report will be used to manage the screen plantings and will be provided to DPE. Where required and extension of the time for the establishment of the screens effectiveness may be sort. The report will include:* • *Growth of the plantings and screening outcomes including photos.* • *A statement about the performance of the planting.* • *An identification of any limiting factor for planting performance.* • *An evaluation of the past management of the plantings.* • *Remedial actions for enhancing plant performance.* *A separate assessment of glare would also be prepared three years after the commencement of construction and incorporated with in the report above.*	Section 7.6

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APPENDIX G CONSULTATION LETTERS

G.1 OEH RESPONSE

ATTACHMENT A – Detailed comments on Coleambally Solar Farm (SSD 8208) - Draft Biodiversity Management Plans and Unexpected Finds Protocol

Draft Landscaping Plan

Subject to some minor details that need clarifying, this plan meets the requirement of Condition of Approval 9 to prepare a detailed Landscaping Plan. There are as follows:

- Table 6-1, page 12 – stated that 'tube stock will be germinated from locally collected endemic seed where feasible'. It is not stated who would do this. It is assumed from page 14 that 'local nurseries' will be expected to supply the plants to be used, rather than engaging a contractor to collect local seed. If this is the case then which local nurseries are intended to provide these plants and evidence of their capacity to do so should be provided. It should also be stated where plants will come from if this is not 'feasible'.
- Table 6-1, page 12 states that 'regular weekly watering' will occur where less than 30mm of rain has occurred in that month 'until established'. Table 7-1 states that plants will be watered when rainfall is less than 20mm/week during establishment.

  While these may not be mutually exclusive, the intervals for measuring rainfall should be consistent in the plan to avoid confusion.

  It is assumed that establishment refers to the first 12 months after planting but this should be clarified in the plan.

  It is stated (Table 6-1, page 12) that 'hardened tube stock' will be used. While it is acknowledged that supplementary watering may be required to ensure successful establishment, it is important that plants are given the opportunity to establish and harden. It is suggested that the reliance on supplementary water should be decreased as the plants grow through the first year, rather than having them receive watering at regular intervals.
- Table 6-1, page 12 states that tube stock will be planted in autumn or spring, whereas on page 15 it is stated that 'planting will occur in autumn following sufficient rainfall'. The planting time should be consistent in the plan. It should also be explained what is considered 'sufficient rainfall' for this site and what the contingency will be if this does not occur.
- The species proposed to be used for the screen plantings are generally appropriate, with the intention to enhance the Weeping Myall and Black Box woodlands that occur in the area.

  It is suggested that the plan should clearly state the basis for the species selection.

  OEH has compared the proposed species against the following:
  - recorded on the proposal site during preparation of the EIS;
  - associated with these PCTs as per the NSW Vegetation Information System;
  - for the Weeping Myall EEC are listed in the NSW Scientific Committee determination; and
  - listed for the Coleambally area in the Native Vegetation Guide for the Riverina (Kent *et al.* 2002).

  Although Emu Bush (*Eremophila longifolia*) is not listed as being associated with the Weeping Myall EEC, we consider that as its natural distribution includes the study site this species may be included, given the purpose of the planting is to provide a visual screen.

  For the Black Box Woodland plantings, Black Bluebush (*Maireana pyramidata*) is a more western species. We suggest the use of Thorny Saltbush (*Rhagodia spinescens*) or Ruby Saltbush (*Enchylaena tomentosa*) as suitable local species to use instead if possible.

We note that consultation has occurred with the landowner of Lot 122 DP 750896 regarding the location of the planting area D on his property.

We also note that Page 14, line 3 refers to 'Black Box Woodland EEC' which although consistent with the wording of the Conditions of Approval is not correct as this is not an Endangered Ecological Community.

G.2 COUNCIL RESPONSE

From: Peter Chudek [mailto:peterc@murrumbidgee.nsw.gov.au]
Sent: Friday, 10 November 2017 1:43 PM
To: McCARTHY, Travis <T.McCarthy@bouygues-construction.com>
Cc: Stephen Goodsall <steveg@murrumbidgee.nsw.gov.au>
Subject: Re: Coleambally Solar Farm Landscaping Plan

Hi Travis
As per our telephone conversation the council would like the proponent to consider establishment of a visual barrier between the works and Kidman Way as to mitigate visual impact of the project
Regards
Peter Chudek

Sent from my iPhone

Peter Chudek

Murrumbidgee COUNCIL
T 1300 MRMBGE (676243)

G.3 RMS RESPONSE

Roads and Maritime Services (RMS) has reviewed the landscape plan prepared by NGH Environmental for the Proposed Coleambally Solar Farm and provide the following comments.

- The intent of the landscape plan is to address the potential for glint/glare from the solar arrays and distraction to motorists on the Kidman Way. The proposed location of the landscape buffer as proposed along the frontage of the site to the Kidman Way as per the plans prepared by NGH would appear to address this once having matured for a number of years.
- The use of tube stock to be planted in either Spring or Autumn to establish the landscape buffer is noted. Given the proposed construction program for the solar farm it is understood that the solar farm is to be completed towards the mid 2018. How will tube stock address the potential issues raised in the initial years of the solar farm?
- RMS notes the statement "Where possible design of the structure will minimise the likelihood of structures generating glare or reflections."
- RMS notes the design principles of the panels to minimise reflectivity and that the report considers that glare impacts from this infrastructure is considered to be minimal and will be similar to existing infrastructure on the Project site and adjacent properties. However consideration needs to be given to the extent of the line of the solar arrays verses the impacts of an isolated structure or shed located in a paddock.
- The retention of established remnant vegetation between the solar farm and the Kidman Way should be a priority.

Based on the above comments Roads and Maritime Services supports the intent of the proposed landscape plan when established but questions its effectiveness in the initial years of the project.

If you have any questions regarding this reply please contact me on the details below

Regards

Maurice Morgan

G.4 LAND OWNER RESPONSE

From: X
Sent: Wednesday, October 18, 2017 7:20 AM
To: Lisa Hamilton <lisa.h@nghenvironmental.com.au>
Subject: RE: Coleambally Solar Farm- Vegetation screen plan

Hi Lisa,

I have received your proposed landscape image.

I agree with the lay out possibly the area could be a little longer on the southern side to bind in with the existing trees.

Thanks,

X

From: Lisa Hamilton [mailto:lisa.h@nghenvironmental.com.au]
Sent: Tuesday, 17 October 2017 5:25 PM
To: X
Cc: GLOSSOP, David; Michial Sutherland; Erwin Budde
Subject: Coleambally Solar Farm- Vegetation screen plan

Hi **X**,

Thank you for discussing the potential landscaping arrangement to be included on your property.

As discussed I have provided you an image of the proposed landscaping area (This area is based off aerial imagery therefore is only an estimate).

This will be included in the landscaping plan which is being prepared for the solar farm.

If you wish to provide comment on the location or any other matter we discussed today please don't hesitate to contact me.

Kind regards,

Lisa Hamilton | Environmental Consultant Graduate

nghenvironmental

www.nghenvironmental.com.au | www.sumosystem.com.au
suite 1, 39 fitzmaurice street (po box 470) | wagga wagga nsw 2650 | australia
T +61 (0)2 6923 1536
We tweet!

To protect the identity of involved landowners, names and contact information have been removed from this document.