

DUNEDOO SOLAR FARM

DETAILED LANDSCAPE PLAN AND SPECIFICATION

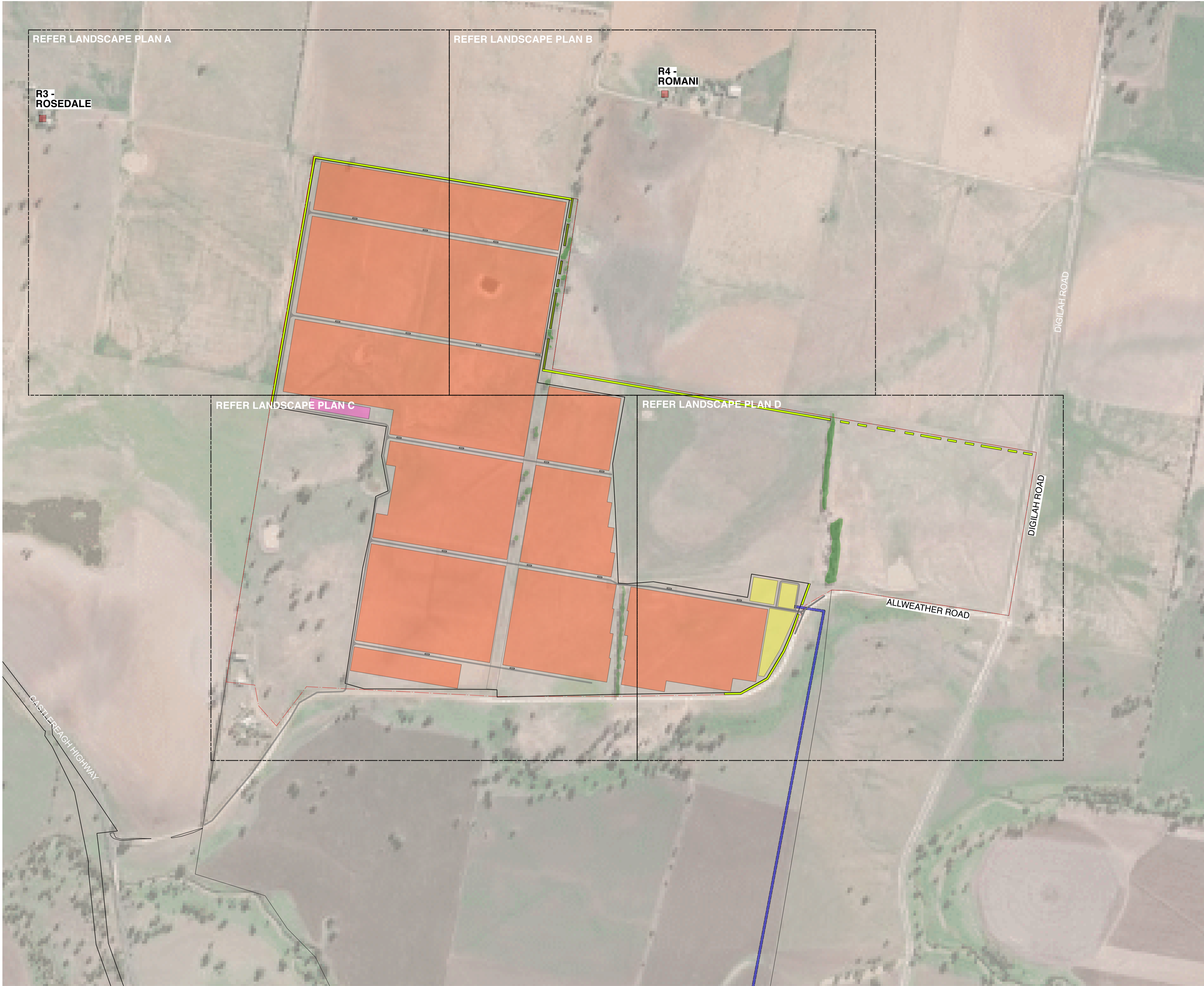
ALLWEATHER ROAD, DUNEDOO NSW 2844.



LOCATION PLAN
NTS (Image: Esri)

Sheet No.	Drawing Title
LA-100	COVER PAGE
LA-101	OVERALL SITE PLAN
LA-102	LANDSCAPE PLAN A
LA-103	LANDSCAPE PLAN B
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LA-106	DETAILS
LA-107	DETAILS AND PLANTING LIST
LA-108	SPECIFICATION
LA-109	SPECIFICATION

Revision	Date
E	16/2/22
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OVERALL SITE LAYOUT
1:5000



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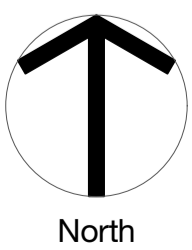
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A	27/1/22	FINAL
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DUNEDOO SOLAR FARM
Allweather Rd, Dunedoo
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OVERALL SITE PLAN

SCALE: 1:5000

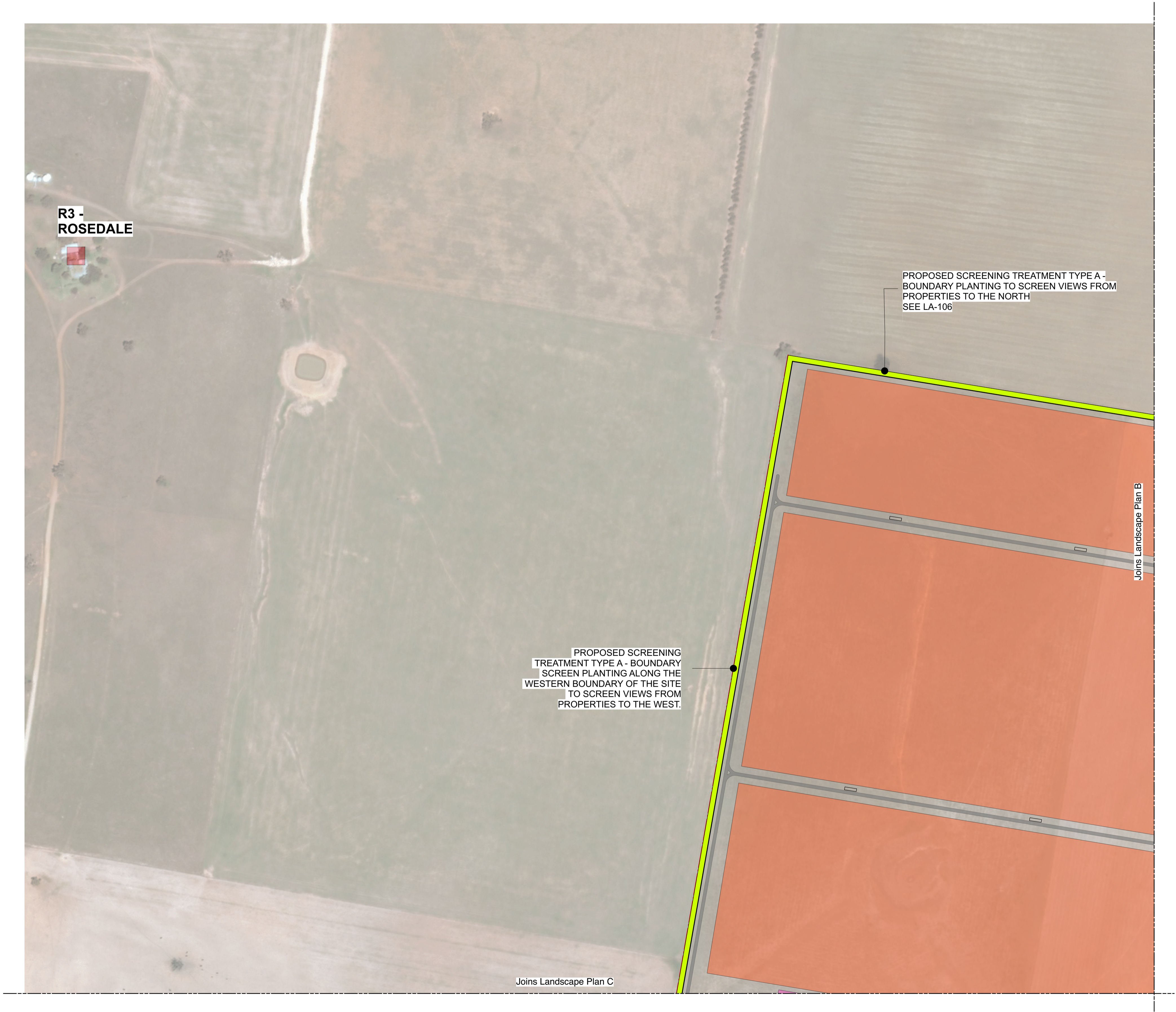
Project No. 1544

ORIGINAL DRAWING AT A1.
Drawn By: MED
Checked By: SR

Approved By: DM

Drawing No. LA-101

Rev E



LEGEND

- Site boundary
- Existing vegetation to be retained and protected
- Proposed screening treatment A - See LA-106
- Proposed screening treatment B - See LA-106
- Proposed solar panel layout
- Proposed internal access road
- Proposed site compounds, batteries and substations
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- Proposed site compound (Construction Phase only)

LANDSCAPE PLAN A
Scale 1:2000 @ A1



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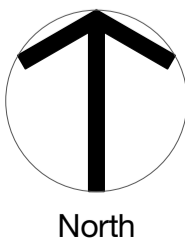
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DUNEDOO SOLAR FARM
Allweather Rd, Dunedoo

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LANDSCAPE PLAN A

SCALE: 1:2000
ORIGINAL DRAWING AT A1.
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Project No.
Drawing No.
LA-102

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LEGEND

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LANDSCAPE PLAN B
Scale 1:2000 @ A1



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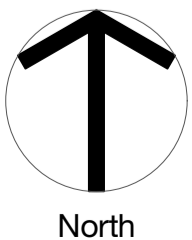
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LANDSCAPE PLAN B

SCALE: 1:2000

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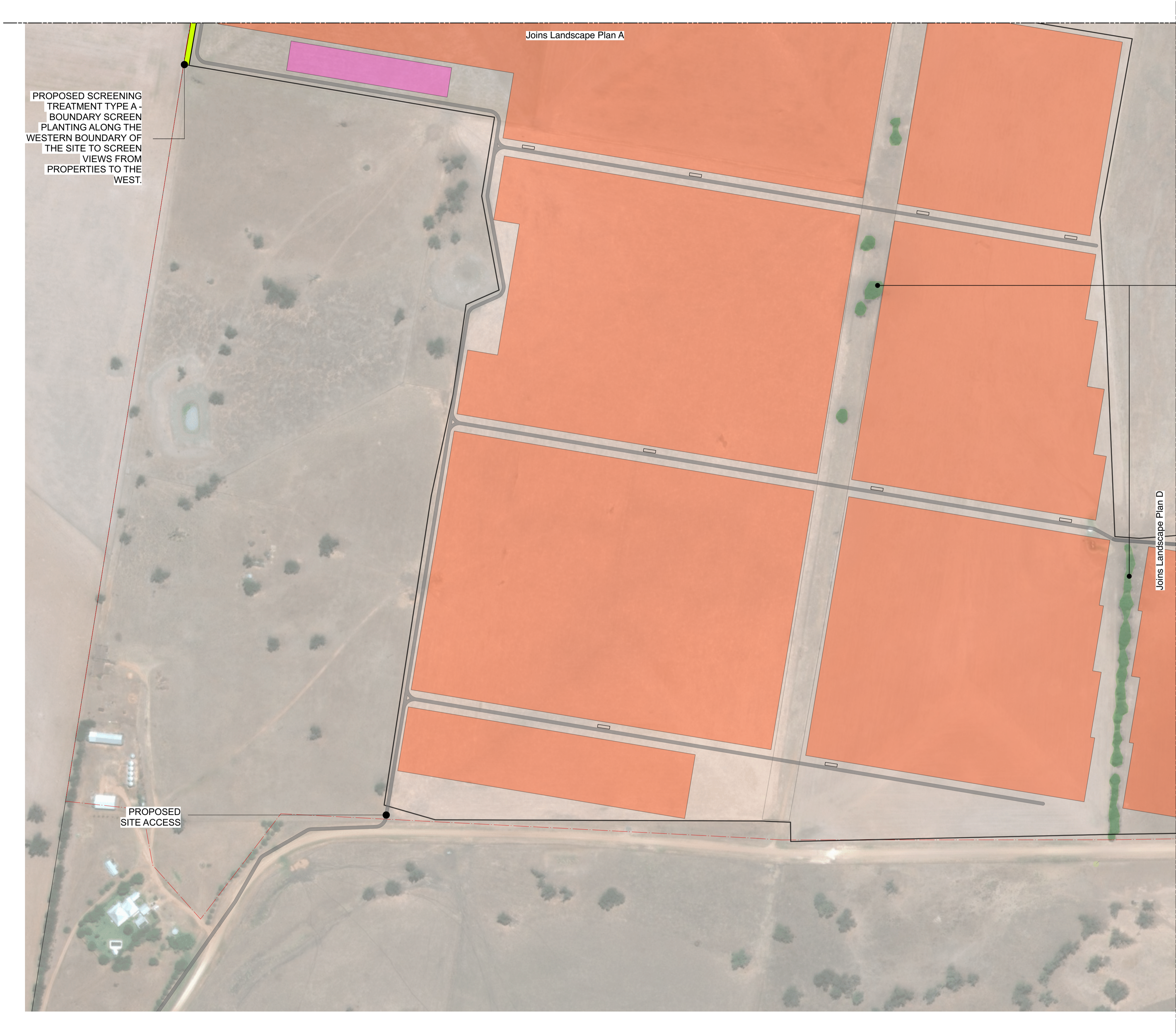
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LA-103

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LANDSCAPE PLAN C
Scale 1:2000 @ A1



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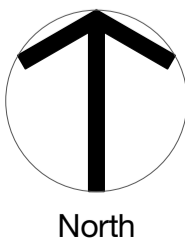
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LANDSCAPE PLAN C

SCALE: 1:2000

ORIGINAL DRAWING AT A1.
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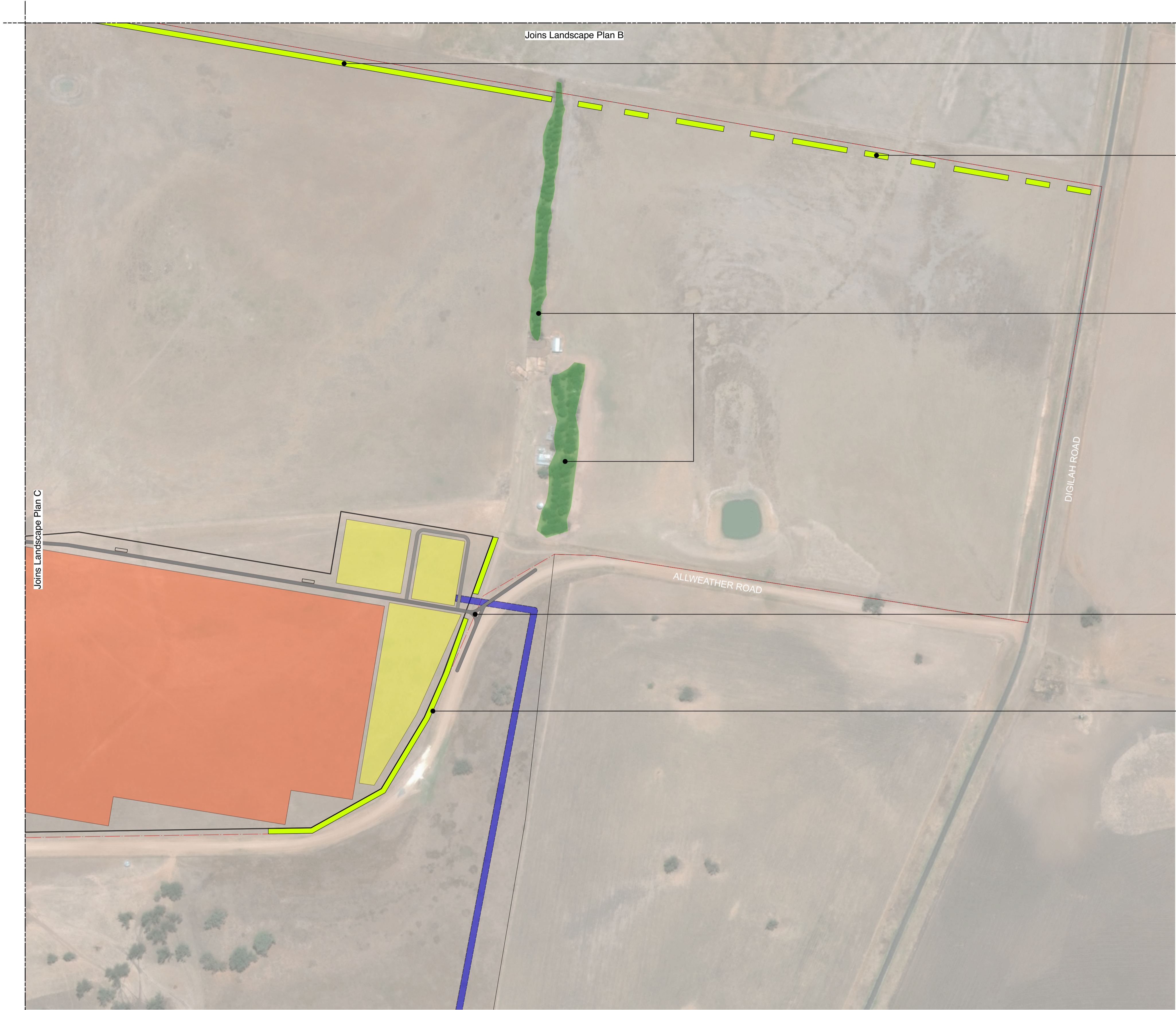
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PROPOSED SCREENING
TREATMENT TYPE A -
BOUNDARY PLANTING TO
SCREEN VIEWS FROM
PROPERTIES TO THE
NORTH
SEE LA-106

FRAGMENT PROPOSED
SCREENING TREATMENT
TYPE A WITH APPROX.
60% COVERAGE TO
MATCH EXISTING
LANDSCAPE CHARACTER
SEE LA-106

ALL EXISTING VEGETATION
TO BE RETAINED,
PROTECTED AND
MAINTAINED IN
ACCORDANCE WITH
SPECIFICATION

PROPOSED SITE ACCESS

PROPOSED SCREENING
TREATMENT TYPE A -
BOUNDARY PLANTING
ALONG THE EASTERN
BOUNDARY OF THE SITE
TO SCREEN VIEWS FROM
DIGILAH ROAD AND
PROPERTIES TO THE
EAST.

LEGEND

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LANDSCAPE PLAN D
Scale 1:2000 @ A1



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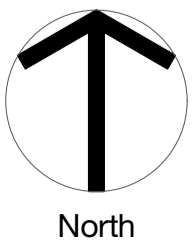
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LANDSCAPE PLAN D

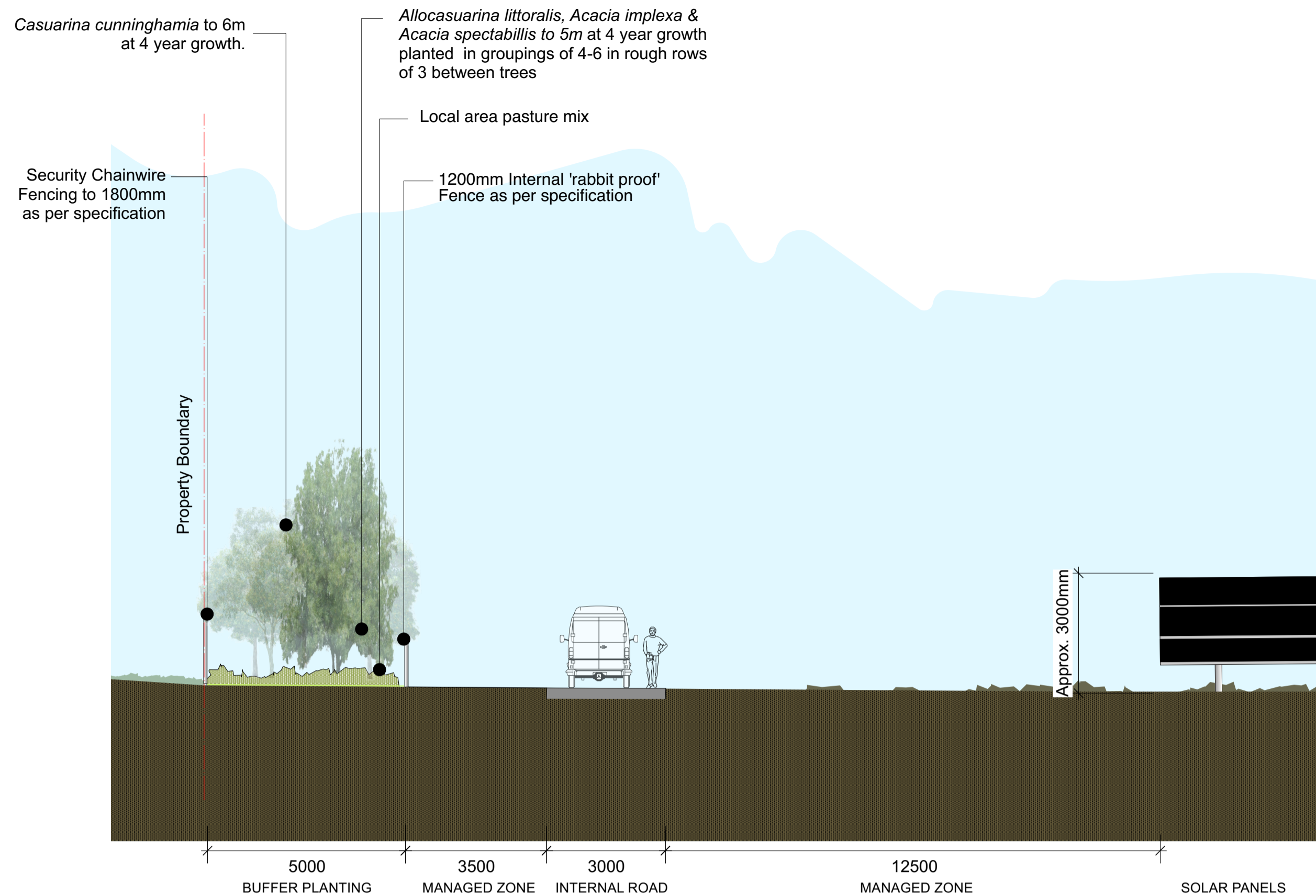
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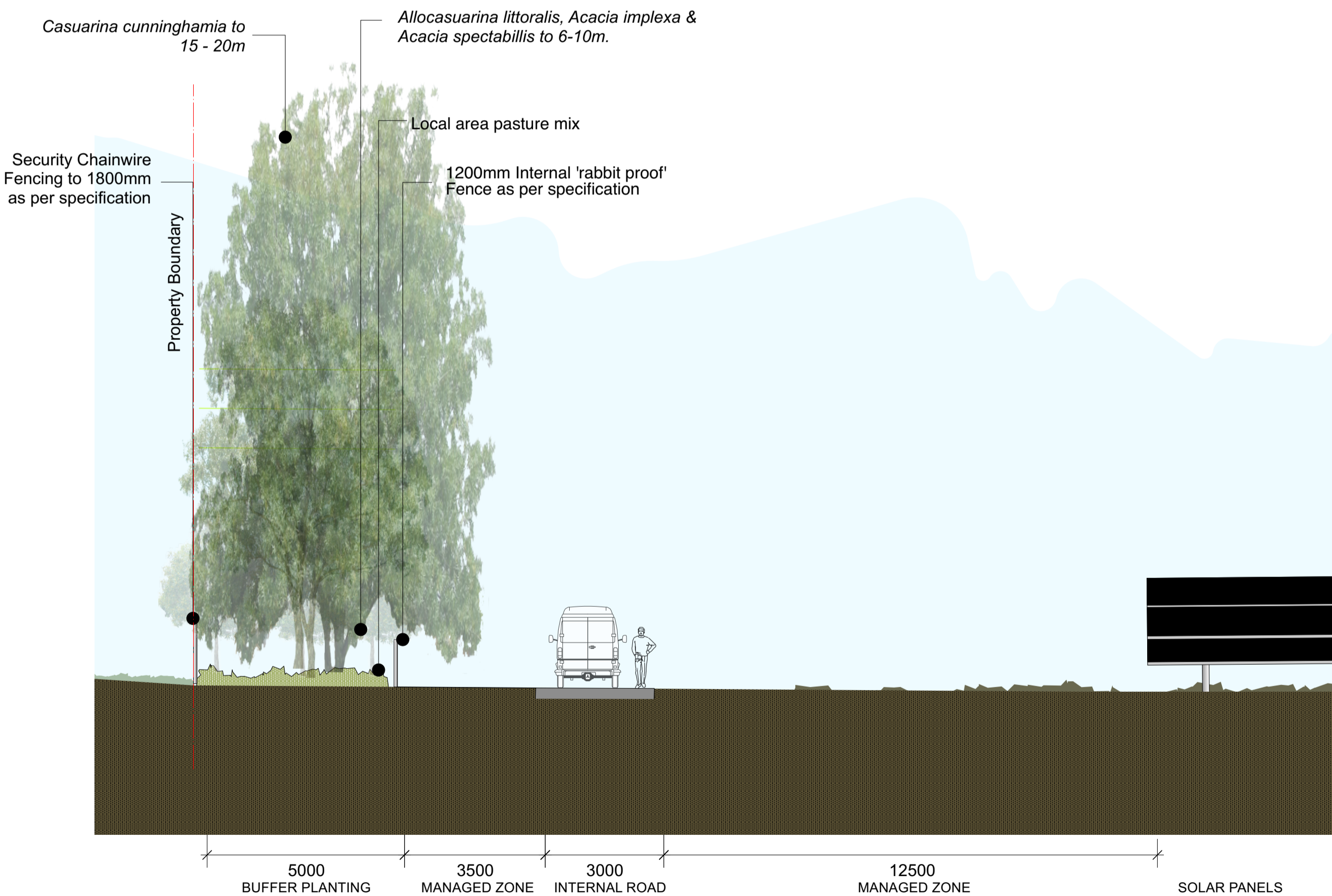
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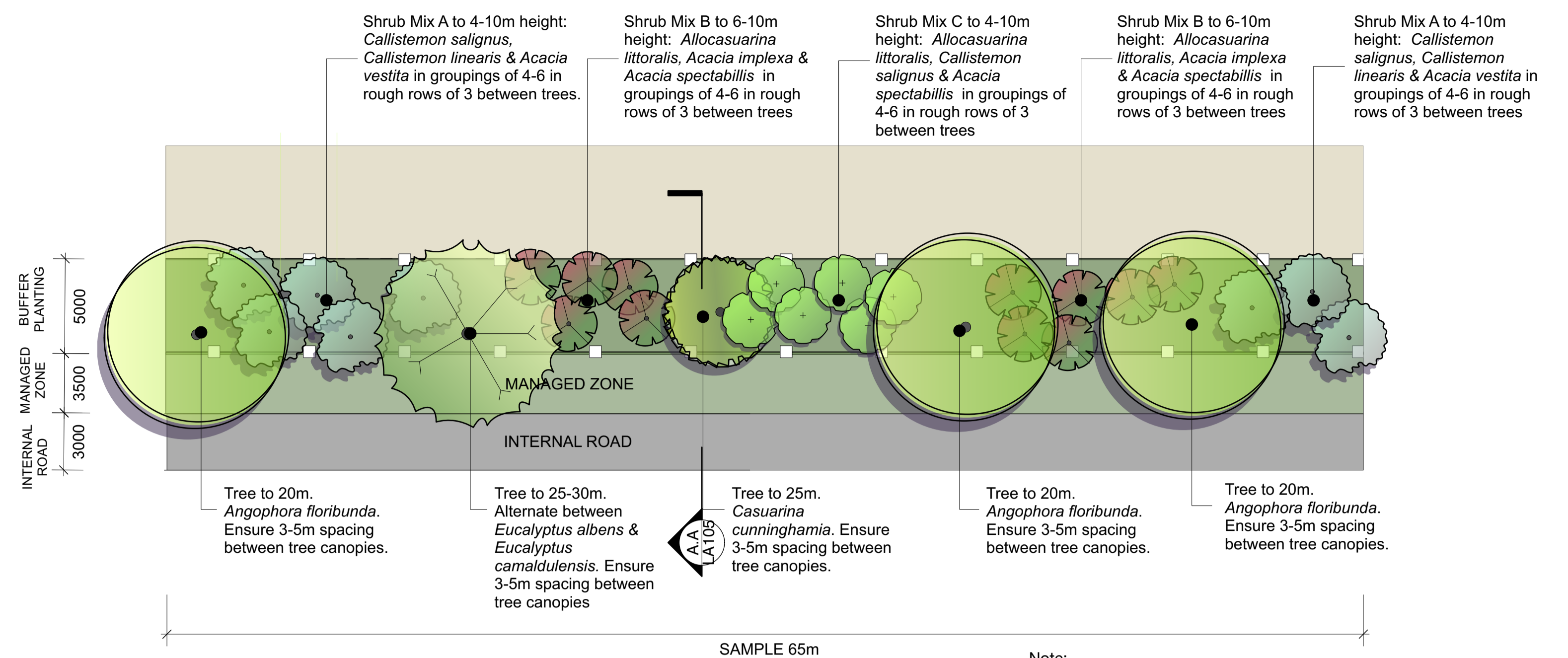
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SECTION AA - PROPOSED THREE ROWS OF SCREENING (4 YEARS GROWTH)
1:100

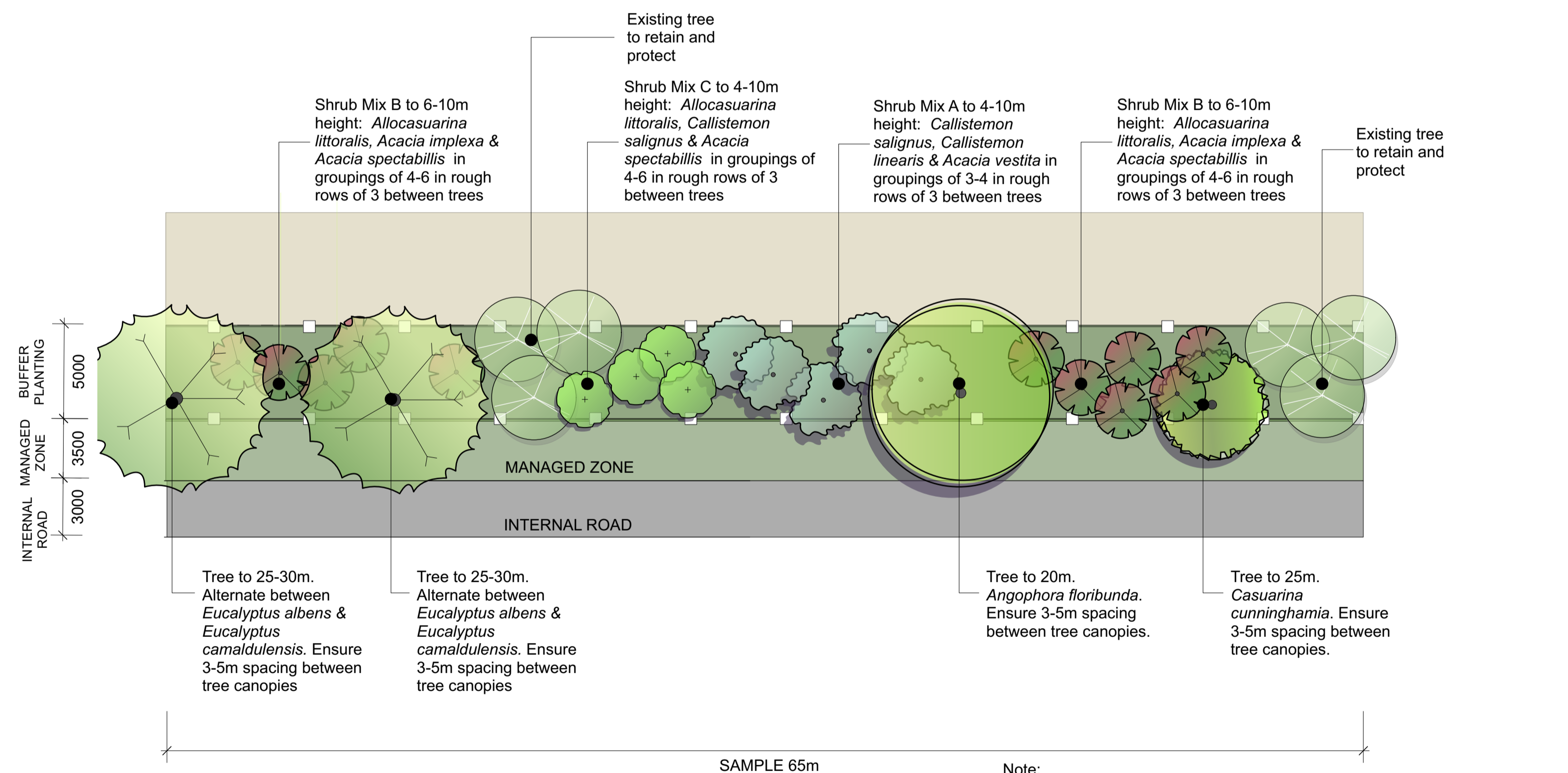


PROPOSED THREE ROWS SCREENING (MATURE HEIGHT AND SPREAD)
1:100



TYPICAL PLAN OF PROPOSED SCREENING TREATMENT A - THREE ROWS OF SCREENING (MATURE HEIGHT AND SPREAD)
1:200

Note:
- Trees and shrubs are to be planted in groupings as specified and alternated to achieve a natural appearance and integrate into the existing landscape character.
- Ensure all *Acacia species* are planted clear of tree canopies. Trees and shrubs spacings have been prepared in accordance with RFS's "Planning for Bushfire Protection 2019". Spread is assumed as anticipated mature size, refer to Plant Schedule.



TYPICAL PLAN OF PROPOSED SCREENING TREATMENT B - THREE ROWS OF SUPPLEMENTARY PLANTING
1:200

Note:
- Trees and shrubs to be planted in groupings between existing tree planting as specified and alternated to achieve a natural appearance and integrate into the existing landscape character.
- Ensure all *Acacia species* are planted clear of tree canopies. Trees and shrubs spacings have been prepared in accordance with RFS's "Planning for Bushfire Protection 2019". Spread is assumed as anticipated mature size, refer to Plant Schedule.



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MED Allweather Rd, Dunedoo
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Status: FINAL

DETAILS

SCALE: N.T.S.

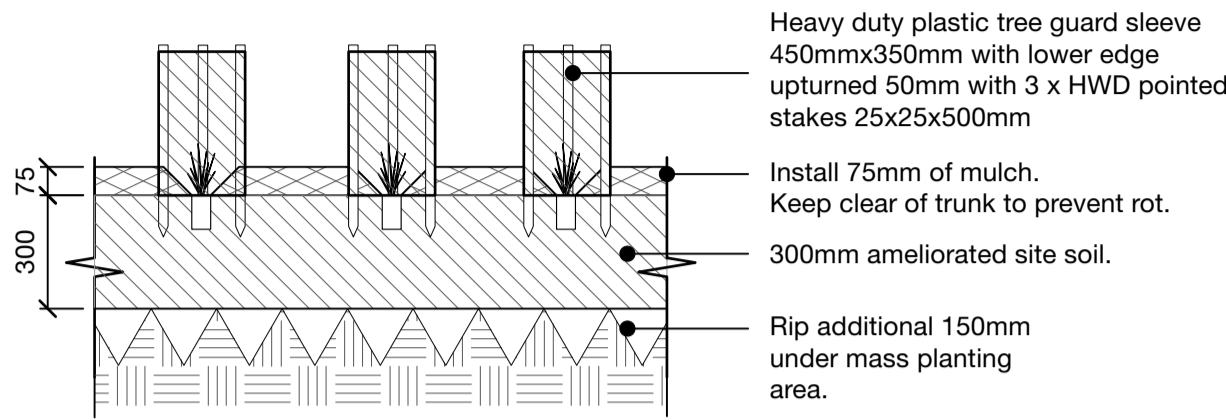
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Drawing No.
LA-106

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North



TYPICAL PLANTING DETAIL (TUBESTOCK)
1:20

Planting Schedule

Code	Botanical Name	Common Name	Pot Size	Mature Height	Height at 4 years	Mature Width	Qty
Trees							
ANG flo	<i>Angophora floribunda</i>	Rough-Barked Apple	Tubestock	15 - 20m	3m	10m	242
CAS cun	<i>Casuarina cunninghamia</i>	River She-oak	Tubestock	20m	6m	6m	100
EUC alb	<i>Eucalyptus albens</i>	White Box	Tubestock	25m	3m	8m	64
EUC cam	<i>Eucalyptus camaldulensis</i>	River Red Gum	Tubestock	30m	4m	8m	64
Shrubs							
ACA imp	<i>Acacia implexa</i>	Hickory Wattle	Tubestock	10m	5m	3m	300
ACA spe	<i>Acacia spectabilis</i>	Mudgee Wattle	Tubestock	6m	5m	3m	330
ACA ves	<i>Acacia vestita</i>	Hairy Wattle	Tubestock	6m	4m	4m	200
ALL lit	<i>Allocasuarina littoralis</i>	Black She-oak	Tubestock	10m	5m	3m	402
CAL lin	<i>Callistemon linearis</i>	Narrow-Leaved Bottlebrush	Tubestock	4m	3m	4m	172
CAL sal	<i>Callistemon salignus</i>	Willow Bottlebrush	Tubestock	10m	7m	3m	200

NOTE:
- Planting quantities have been doubled to what is shown in the planting matrix to allow for attrition and non performing stock.
- 90% of the selected planting species are endemic to the area.

TREE AND SHRUB SELECTIONS

TREES



Angophora floribunda



Eucalyptus albens



Eucalyptus camaldulensis



Casuarina cunninghamiana

SHRUBS



Acacia implexa



Acacia spectabilis



Acacia vestita



Allocasuarina littoralis



Callistemon salignus



Callistemon linearis

TREE AND SHRUB SELECTIONS



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PROJECT:
DUNEDOO SOLAR FARM
Allweather Rd, Dunedoo

Status: FINAL

DETAILS AND PLANTING LIST

SCALE: N.T.S

ORIGINAL DRAWING AT A1.
Drawn By: MED
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Project No.

Drawing No.

LA-107

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E

North

SPECIFICATION

1.0 GENERAL

1.1 ROLES AND RESPONSIBILITIES

The Proponent of the Dunedoo Solar Farm has overall responsibility for ensuring the implementation of the Landscaping Plan. In addition, the following other persons have specific responsibilities to deliver on aspects of this Landscaping Plan:

- Contractor - The Contractor engaged by the Prononent to carry out the works required by this Landscaping Plan. The Contractor will be responsible for:
 - each of the specific items required by the tables contained in section 7.4; and
 - completing the maintenance log required by section 8.2
- Moir Landscape Architecture – The author of this Landscaping Plan who will be responsible for carrying out inspections and preparing reports to verify compliance with the Landscaping Plan as set out in section 8 (with the exception of completing the maintenance log which will be the responsibility of the Contractor).

1.2 EXISTING SERVICES

Existing services on site include storm water drainage, water, and associated power service conduits. Locations of all services should be established prior to excavation of planting holes and installation of trees. The drawings DO NOT indicate the extent of existing services. Existing services must be confirmed by the Contractor prior to excavation. Do not excavate by machine within 1m of existing underground services without prior approval or identification of service location by the site superintendent.

1.3 PROTECTION OF EXISTING FEATURES

During installation protect all existing trees, shrubs and other specified vegetation, features and improvements, structures and utilities. Retained trees to be protected from damage from groundworks. Take necessary precautions, including the following:

Harmful Materials: Do not store or otherwise place bulk materials and chemicals under or near trees. Do not place spoil from excavations against tree trunks, even for short periods. Prevent wind blown materials such as cement from harming trees and plants.
Damage: prevent damage to tree bark. Do not attach stays, guys and the like to trees.
Work under trees: Do not add or remove topsoil within the drip line, use hand methods such that root systems are preserved intact and undamaged. Open up excavations under tree canopies for as short a period as possible.
Roots: Where it is necessary to cut tree roots, use means such that the cutting does not unduly disturb the remaining root system.
Compacted Ground: Avoid compaction of the ground under trees.

1.4 FERTILISERS AND ADDITIVES

Apply fertilisers according to the manufacturer's recommendations and recommended rates. Use slow release fertiliser pellets placed to the bottom of the planting hole for plants. Spread fertiliser over topsoil before laying turf.
PLANTS 8/9mth Slow release fertiliser. N:P:K 8:1:5 (Natives)
TURF Complete lawn fertiliser. N:P:K 10:4:5.

2.0 MATERIALS

2.1 PLANT MATERIAL

Make no substitutions unless approved by Moir Landscape Architecture. Substitutions shall not be approved unless the Contractor complies with this specification.

Plant material: Plants shall be of the species, sizes and quantities as shown on the drawing. Plants shall be vigorous, well established, of good form, not soft or forced, free from disease and insect pests. Plants shall have large healthy root systems.

2.2 SOILS

Top 300mm soil to be equal to AS4419-2003 'Organic Soil' with texture to AS4419-2003 Table 1- Sandy Loam.
Below 300mm do not incorporate organic matter and be equal to AS4419-2003 'Soil blend' with max 5% organic matter content. Texture to AS4419-2003 Table 1- Sandy Loam.

2.2.1 DEFINITIONS

Site topsoil: soil excavated from the site which has the following characteristics:
Contains minimum 2% organic matter, supports plant life, and is free from unwanted matter
Unwanted matter (in topsoil): Stones over 25mm diameter, clay lumps, weeds and tree roots, sticks and rubbish and material toxic to plants.

Topsoil:
Where available use **ameliorated site topsoil**. Where unavailable Import topsoil from an off-site source approved by the Superintendent, equivalent to specification above.

Source Landscape Soil:
Soil to be used for these landscape works shall be: Ameliorated Site Topsoil or Imported General Purpose Soil to the areas and locations as specified. Soil for the works shall be free from noxious weeds etc. Soil shall be assumed to be placed to all revegetated areas and backfill to all plantings. Unless otherwise directed by site superintendent, the Contractor is responsible for the removal and or disposal of all spoil or excess soil excavated in the process of implementing the landscape works.

2.2.2 SOIL TESTS

Test soil and ameliorate in accordance with soil test results. Where unavailable for reuse import suitable topsoil to support native plant growth.

Sampling: As recommended in AS 4419 (2018) Appendix A (when on site soil is to be used).
Sampling technique: The following sampling technique should be used in conjunction with the guidelines recommended in AS 4419 (1998). Where discrepancies arise, refer to the Superintendent for clarification prior to proceeding with any works.

The Contractor shall arrange for the following soil tests to be carried out:

- One test of any proposed imported topsoil; and
- Where site topsoil is to be used, one site topsoil test by an approved soil testing laboratory as specified, from topsoil stockpiles.

For each test, take three samples of each soil type. These should be taken from various locations. Each sample should be approximately a spade full in quantity. For each soil type, thoroughly mix the three samples together to obtain an 'average' sample. Ensure that mixing is carried out in a clean mixing container, with no impurities such as cement residue or imported soil etc present. Extract 1kg (approximately a 2L ice cream container) final samples from each of the three mixed batches. Package and forward to the soil laboratory for testing, together with a site plan locating sources of soil samples and a record of any relevant details about the site and source locations.

Type of Soil Test Required: The Contractor shall specify that a 'major soil test' is required, for the purpose of analysing the characteristics and recommendations for use as a landscaping topsoil for native species.

Results: The results of all soil tests should be submitted to the superintendent when available.

Lead time: Allow a minimum of 10 full working days for completion of soil testing, and check with laboratory to ensure testing will not delay landscaping works. Supply soil tests to site superintendent once available.

2.2.3 SUBSOIL

Excavated Planting Beds: Where defined planting beds are indicated on the landscape drawings with specific species scheduled and no turfing shown, treat as an excavated landscape planting bed

Excavation technique: Excavate to backfill with ameliorated site soil or imported general purpose soil to bring to levels shown on the drawings to allow for mulching and placement of imported soil. Rip and cultivate to depths as shown on the drawings.

2.2.4 SOIL TEXTURES

Use soils described by the following terms (or their equivalents) which comply generally with the texture classifications and typical uses of AS 4419 – (2018) Table H1 Medium textured - Sandy loam

2.2.5 SOIL LEVELS

Finished soil levels shall allow turf or mulch to be finished to top of kerb, gravel pavement, existing levels or as otherwise shown on drawings.

Consolidation
Tamp lightly and uniformly in 150 mm layers. Avoid differential subsidence and excess compaction and produce a finished topsoil surface which has the following characteristics:

- Finished to design levels.
- Smooth and free from stones or lumps of soil.
- Graded to drain freely, without ponding, to catchment points.
- Graded evenly into adjoining ground surfaces.
- Ready for planting.

Backfill Soil: Backfill holes using ameliorated site topsoil. Stock pile site soil onsite. Confirm stockpiles of site soil with superintendent prior to placement of materials. Site soil to be free from debris and weeds.

2.2.6 ADDITIVES

Additive types and rates: The Contractor shall incorporate additives to the subsoil or topsoil at rates recommended by the soil test results. This may include but not limited to PH neutral compost, lime, gypsum, urea, potash.

Application: Where subsoil additives are recommended by the soil tests apply additives after cultivation of the subsoil.

Where site topsoil is to be stockpiled for reuse, incorporate additives as recommended in soil tests by cultivating through the topsoil. For excavated garden beds or backfill to planting holes, incorporate additives into stockpiled topsoil prior to placement. In all situations, ensure additives are thoroughly mixed through topsoil.

2.3 MULCH

The use of mulch shall be limited to those areas which are specified on the plans, highly disturbed areas, and in locations where there is low erosion potential. Composted site mulch or an approved equivalent product (approved by site superintendent) spread to a depth of 75mm, is to be used. Where there is risk of mobilisation of surface materials due to weed management and/or planting works coir logs shall be used.

2.4 FERTILISERS

Depth: Incorporate additives by hand to a depth of 300mm.
Application Rate: To manufacturer's recommended application rates.

2.5 HARDSCAPE MATERIALS

2.5.1 FENCING

SECURITY FENCING

Security fencing to 1800mm high to be installed as per plans. Security fencing shall be an 1800mm high chainwire fence. A min. 900mm high rabbit proof portion shall be installed at the base of the chainwire fence. The lower portion shall be installed as per the *'Feral Rabbit Fence' Design* from *Catalogue of Fence Designs* by the Australian Department of Agriculture, Water and Environment. <https://www.awe.gov.au/sites/default/files/documents/catalogue.pdf>

INTERNAL FENCING

Internal fencing to 1200mm high to be installed as per plans. Fence design shall be constructed as per the *'Feral Rabbit Fence' Design* from *Catalogue of Fence Designs* by the Australian Department of Agriculture, Water and Environment. <https://www.awe.gov.au/sites/default/files/documents/catalogue.pdf>

3.0 TREE SUPPLY SPECIFICATION

3.1 STANDARD

Guidance: Follow the guidance given in 'AS2303:2018' Tree Stock for Landscape Use'.

4.0 CRITERIA FOR TREE STOCK ASSESSMENT

4.1 GENERALLY

Tree stock to conform to 'AS2303:2018' Tree Stock for Landscape Use'.

5.0 CRITERIA FOR TREE STOCK BALANCE ASSESSMENT

5.1 GENERALLY

Comply to 'AS2303:2018' Tree Stock for Landscape Use'.

Tree stock balance is determined by calculating size index by multiplying the height (metres) of the tree stock measured from the root crown to the top of the trunk by the calliper (millimetres), as follows: *Size index = height x calliper*
The calculated size index value of tree stock in containers ≥20L or ex-ground tree stock with a minimum rootball diameter of ≥400mm should fall within nominated container volume as set out in Appendix E of 'AS2303:2018' .

- NOTES:
- It is recognized that species, climatic conditions and production process may influence the height-calliper proportions. Therefore, size index should not be used in isolation when specifying tree stock for landscape use.
 - Refer to 'AS2303:2018' Tree Stock for Landscape Use' for further information regarding indicative tree stock height and calliper measurements.

6.0 EXECUTION

6.1 EXCAVATION OF PLANTING HOLES

Locations for plants and/or outlines of areas to be planted are to be staked out at the site. Locate and mark all subsurface utility lines. Approval of the stakeout by the supervisor is required before excavation begins. If the planting area under any tree is initially dug too deep, the soil added to bring it up to the correct level should be thoroughly tamped. The sides of the excavation of all planting areas shall be sloped at 45 degrees. Maintain all required angles of repose of the adjacent materials as shown on the drawings. Do not excavate compacted subgrades of adjacent pavement or structures.

Subgrade soils shall be separated from the topsoil, removed from the area, and not used as backfill in any planted area. Excavations shall not be left uncovered or unprotected overnight.

6.2 SUB-GRADE CULTIVATION

Location: to all pits where sub-soil cultivation is noted on approved planting details.
Remove: Rocks >100mm diameter from base of excavated pits.
Apply gypsum at the at the manufacturer's specified rates to clay subgrades.
Harrow to break up clods but do not smooth (leave the surface rough to accept topsoil).
Preparation of subgrades to be inspected prior to the installation or modification of topsoil or planting mix. Till the subsoil into the bottom layer of topsoil or planting mix. Loosen the soil of the subgrade to a depth of 50 to 75 mm with a rototiller or other suitable device.
Detrimental soil conditions: The supervisor is to be notified, in writing, of soil conditions encountered, including poor drainage, that the Contractor considers detrimental to the growth of plant material. When detrimental conditions are uncovered, planting shall be discontinued until instructions to resolve the conditions are received.
Obstructions: If rock, underground construction work, utilities, tree roots, or other obstructions

6.3 PLANTING OPERATIONS

Before planting begins thoroughly water the plants and planting areas. Water plants again immediately after planting.

Lift plants only from the bottom of the root balls or with belts or lifting harnesses of sufficient width not to damage the root balls. Do not lift trees by their trunk or use the trunk as a lever in positioning or moving the tree in the planting area.

Remove plastic, paper, or fiber pots from containerised plant material. Score the side of the root ball with a sharp knife and tease out roots. Immediately after removing the container, install the plant such that the roots do not dry out. Pack planting mix around the exposed roots while planting. Completely remove any waterproof or water-repellant strings or wrappings from the root ball and trunk before backfilling.

Soils and mulch

Place soil mixes, tamping lightly to reduce settlement. Ensure that the backfill immediately around the base of the root ball is tamped with foot pressure sufficient to prevent the root ball from shifting or leaning.

Thoroughly water all plants immediately after planting. Apply water by hose directly to the root ball and the adjacent soil. Remove all tags, labels, strings, etc. from all plants. Remove any excess soil, debris, and planting material from the job site at the end of each workday.

Fine Grading

Provide smooth transitions between slopes of different gradients and direction. Modify the grade so that the finish grade is flush with all paving surfaces or as directed by the drawings. Fill all dips and remove any bumps in the overall plane of the slope.

Pruning

Plants shall not be heavily pruned at the time of planting. Pruning is required at planting time to correct defects in the tree structure, including removal of injured branches, double leaders, waterspouts, suckers, and interfering branches. Healthy lower branches and interior small twigs should not be removed except as necessary to clear walks and roads. In no case should more than one-quarter of the branching structure be removed. Retain the normal or natural shape of the plant. All pruning shall be completed using clean, sharp tools. All cuts shall be clean and smooth, with the bark intact with no rough edges or tears.

Mulching

All trees are to be mulched to the depths shown on the drawing. Mulch must not be placed within 8 cm of the trunks of trees. Spread 75mm layer mulch to all mass planting beds and individual plantings in turf. Finish to the required levels. Keep mulch away from the plant stems. No mulch to creek banks. Mulch selection to be based on suitability to species proposed in planting selection.

Stakes and Growth Bag

Growth bag shall be securely fastened, staked and installed as per detail. Growth bag to be staked to a depth sufficient to secure as per site conditions. Refer LA-107 for details.

7.0 PLANT ESTABLISHMENT

7.1 SCOPE

The Plant Establishment Period for the Contractor will be 156 weeks.

The period is to take into account all areas documented within the Landscape Plan, not only where works have taken place.

All rubbish related to landscape works shall be removed by the Contractor before it is allowed to accumulate.

Period: The Plant Establishment Period commences at the date of Practical Completion.
The duration of the plant establishment period is 156 weeks

Program: The maintenance schedule will be advised once Practical Completion has occurred and in line with the procedures and actions as outlined in 7.4.

Log Book: Keep a log book recording when and what maintenance work has been done and what materials, including toxic materials, have been used. Refer to section 8.

Recurrent Works: Throughout the Planting Establishment Period, continue to carry out recurrent works of a maintenance nature including, but not limited to, watering, mowing, weeding, rubbish removal, fertilising, pest and disease control, staking and tying, replanting, cultivating, pruning and keeping the site neat and tidy.

Replacements: Continue to replace failed, damaged or stolen plants for the extent of the Planting Establishment Period.

Mulched Surfaces: Maintain the surface in a clean and tidy condition and reinstate the mulch as necessary.

Site Water: The Contractor shall be responsible for supplying water and/or paying for water for the duration of the works.

7.2 WEEDING

Any species likely to significantly invade the vegetation management area, prevent natural regeneration, or impede seed growth is to be targeted for removal. Species considered as weeds within the Warrumbungle Shire Council area and listed under the National Significance and Biosecurity Weeds to be given priority.

7.3 VEGETATION MANAGEMENT TO REDUCE BUSHFIRE RISK

The nominated Contractor must ensure that essential efforts are undertaken to reduce the bushfire risk to the proposed solar park and associated amenities. These may include but are not limited to ensuring there is no accumulation of fine debris close to the development, removal of understorey fuel loads to limit flame heights and canopy fire and thereby reduce overall radiant heat and removal of loose bark and fine fuels.

Management and monitoring to be done quarterly during the Planting Establishment Period and at increased frequency during the hot dryer months. Contractor shall carry out regular checks to:

- Ensure areas under and around fences, fence posts, gates and trees are raked and cleared of fuel.
- Monitor planting areas for loose litter such as pieces of loose bark, leaves and branches which could potentially generate embers.
- Ensure tree canopies are not continuous at maturity by maintaining 2-5m gaps between the canopies.
- Ensure planting is as per the approved landscape documentation and in accordance with the RFS Bushfire Regulations.
- Remove litter and leaves from paths and access roads to ensure good condition in case of a bushfire event.
- Woodpiles and rubbish consisting of combustible fuels to be located away from development and tree canopies.
- Shrubs are planted in-between tree canopies and pruned to maintain a sufficient distance from adjoining tree canopies.
- Grass areas are maintained to a minimum height by slashing twice (2) a year as per the RFS Bushfire Guidelines.
- Ensure the mature planting areas are installed and maintained in accordance with the RFS's 'Standards for Asset Protection Zones' available at the RFS webpage at www.rfs.nsw.gov.au
- Trees and other vegetation under or in the vicinity of powerlines and tower lines should be maintained in accordance with the guidelines in "Vegetation Safety Clearances" issued by Energy Australia (NS179, April 2002)



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No:	DATE:	REVISION:
A	27/1/22	FINAL
B	7/2/22	FINAL
C	7/2/22	FINAL
D	10/2/22	FINAL
E	16/2/22	FINAL

BY:
MED
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PROJECT:

DUNEDOO SOLAR FARM

Allweather Rd, Dunedoo

Status: FINAL

SPECIFICATION

SCALE:

Project No.

1544

Drawn By: MED

Drawing No.

Rev

Checked By: SR

Approved By: DM

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NOTE: DRAWING PURPOSES FOR APPROVAL ONLY. NOT FOR CONSTRUCTION.

7.4 ESTABLISHMENT PROCEDURES, MANAGEMENT ACTIONS AND MONITORING RESPONSIBILITIES
The Proponent shall be responsible for engaging a suitably qualified Contractor to undertake all tasks and actions as outlined in the tables below.

PHASE 01 - SITE PREPARATION AND IMPLEMENTATION (PRIOR TO COMMENCEMENT OF CONSTRUCTION)

Actions	Task description	Allocated Timeframe	Positive Indicators	Frequency	Contingencies
Watering	Keep soil moist by watering regularly and gently to ensure sprouting		Colour of the soil must be a darker tone and feel moist to the touch	2-3 watering cycles to get the soil wet or moist	If the soil appears two third lighter than when watered repeat watering cycle
Mowing	Keep the seeded turfed area to a minimum height to ensure visual security	First mow to occur after 8-10cm of visible sprouts	Sprouts visible in areas	3-6 weeks after spreading / planting	Mow only after turf is at a recommended height. Mowing should occur gently to ensure as new seedling are tender
Fertilising	Lightly fertilise seeded turf with a quality fertiliser Apply fertiliser to screen planting as per manufacturers advice	After the first mow	Healthy growth of turf and vegetation	Until seed establishment	Do not over fertilise Use organic fertiliser
Weed spraying (Pre-planting)	Broad acre and spot spraying of annual grasses and weeds within planting zones following relevant standards and procedures	4-6 weeks prior to planting	Decline and reduction of live weed cover by 90%	Within the first two weeks of spraying inspect for effectiveness Dated photos of effectiveness and include in report Retain invoices if possible as evidence	Repeat spraying to achieve 90% reduction rate
Pest animal control	Inspect site for any pest animal warrens and treat as necessary	Prior to planting	No evidence of damage to plantings and no evidence of pests	Monitor site weekly during establishment period for evidence of pests	Consider effective control measure or fencing if pest animals continue to pose a threat to plantings
Planting and Guarding	Ensure planting is carried out at recommended densities within screening areas identified on the approved landscape plans. Stake and guard all trees and shrubs with standard tree guards or equivalent as per detail Ensure temporary guards or fencing around seeded turf to promote healthy growth	Planting and guarding to take place after installation	Successfully staked and guarded prior to commencement of construction	Inspect locations after planting every two weeks for signs of pests and animal damage Monitor and remove tree guards if deemed necessary	In dry conditions water plantings using water truck or similar methods Use 1.5m tall guards or netting if standard tree guards are insufficient

PHASE 02 - PLANT ESTABLISHMENT PERIOD (POST CONSTRUCTION AND OPERATION TO 3 YEARS)

Actions	Task description	Allocated Timeframe	Positive Indicators	Frequency	Contingencies
Monitoring to achieve satisfactory growth rates	Establish a minimum of one photo point in each management zone to demonstrate growth and screening effectiveness	Every three months after plant establishment	Satisfactory growth is achieved as per requirements	Document planting success every three months. Collate and monitor photo point and compile into six monthly report	If die back occurs determine the best performing species and use to achieve desired results
Watering	Regularly water juvenile plants to ensure proper establishment	Weekly over three months following planting	95% survival rate for planting vegetation following three months	Monitor for signs of drought stress in plants Document each watering cycle	If water is unavailable contact DPIE to discuss other contingencies to achieve screen planting
Weeding	Spot spray along planting zones to reduce weed growth	Spray monthly for first 12 months then quarterly for three years	Screening area is 90% native vegetation	Within the first two weeks of spraying inspect for effectiveness Dated photos of effectiveness and include in report Retain invoices if possible as evidence	Repeat spraying cycle if proven ineffective within 14 days
Pest animal control	Insect site for any signs of pest animals and conduct necessary physical or chemical treatments	Three times annually for three years	No visible evidence of damage to plants	Inspect locations after planting every two weeks for signs of pests and animal damage Retain invoices if possible as evidence	In dry conditions water plantings using water truck or similar methods Use 1.5m tall guards or netting if damage occurs
Infill planting	Replace any dead plants with new stock or with the best performing species	Monitor throughout the three-year period	Failed planting to be replaced to achieve 95% success rate	Inspect locations after planting every two weeks for signs of pests and animal damage	If die back occurs determine surviving best performing species and use to achieve desired results
Monitor fencing	Ensure proposed fencing is in good condition for effective security of the development	Quarterly after installation for three years	Gates and fences are in good working order and operate successfully to exclude livestock or pests	Dated photos to be included in six monthly reports	If required undertake repair works or engage contractor to remediate any issues

PHASE 03 - ON-GOING MAINTENANCE (DURING OPERATION)

Actions	Task description	Allocated Timeframe	Positive Indicators	Frequency	Contingencies
Weeding	Spot spray within management zones to reduce weed growth	Spray twice annually as required or in response to weed issues	Screening area is 90% native vegetation	Within the first two weeks of spraying inspect for effectiveness	Repeat spraying cycle if proven ineffective within 14 days
Pest animal control	Insect site for any signs of pest animals and conduct necessary physical or chemical treatments	Twice annually or as required	No visible evidence of damage to plants	Inspect locations to monitor for damage	Implement more intensive fencing and tree guarding protocols if unsuccessful
Vegetation management	Managing vegetation in line with section 8.2 of specification Removing and replacing dead or dying trees	Quarterly during establishment period and as required	Assets are protected Boundary screening continues to meet the Conditions of Consent	Every 2 weeks during period of drought, quarterly outside of this	Ensure vegetation management techniques are monitored

8.0 REPORTING

8.1 PHASE 01 - SITE PREPARATION AND IMPLEMENTATION

Practical Completion Inspections and Reports
Moir Landscape Architecture will conduct an inspection of the site at the completion of Phase 01 to identify any defects and to ensure that planting has been installed as per the documentation. Moir Landscape Architecture will submit a 'Practical Completion Report' to the Planning Certifying Authority. This report will confirm that the works have been installed as per the approved plans, or outline any deviations from the plans, and any rectifications required. Upon the completion and issuing of this certificate, the Plant Establishment Period will commence.

8.2 PHASE 02 - PLANT ESTABLISHMENT PERIOD

Quarterly Inspections and Reports

Moir Landscape Architecture are to undertake quarterly inspections with the Proponent and Contractor present. This is to include quarterly inspections for the first two years of the establishment period and six monthly inspections for the remaining year (or until screening sufficient to achieve the Conditions of Consent). A report is to be produced by Moir Landscape Architecture summarising the inspection and providing any recommendations for rectification works to be carried out including the identification of dead or dying vegetation and their replacement and any outstanding maintenance issues not adequately addressing indicators outlined in section 7.4.

Maintenance Log

A 'Maintenance Log' is to be completed by the Contractor verifying that satisfactory maintenance of the works has been undertaken and that any necessary rectification measures have been carried out to a high professional standard. All works undertaken are to be recorded with reference to section 7.4.

Final Completion Inspection and Report

Moir Landscape Architecture are to undertake a Final Completion Inspection with the Proponent and Contractor present at the completion of the Phase 02 to identify any final defects and recommendations for rectification works to be carried out. A Final Completion Report will be produced that will certify that the outcomes outlined in the Conditions of Consent have been met.



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BY: MED MED MED MED MED

PROJECT:
DUNEDOO SOLAR FARM
Allweather Rd, Dunedoo

Status: FINAL

SPECIFICATION

SCALE: Project No. 1544

ORIGINAL DRAWING AT A1. Drawing No. 1544

Drawn By: MED Rev E

Checked By: SR Approved By: DM

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