



# Alterra

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## Carpenters Project Update

22 JUNE 2020

## CARPENTERS

BEEDELUP



The Carpenters Project is a **300-hectare avocado development** located in the premium horticultural region of Pemberton, Western Australia. The property is a **former blue gum plantation**, with trees being harvested as the land is **repositioned into horticulture**.

The development has **significant water** capture and storage capacity. Department of Primary Industries and Regional Development estimates 7.5 megalitres of water per hectare is required to produce avocados in Pemberton<sup>1</sup>.

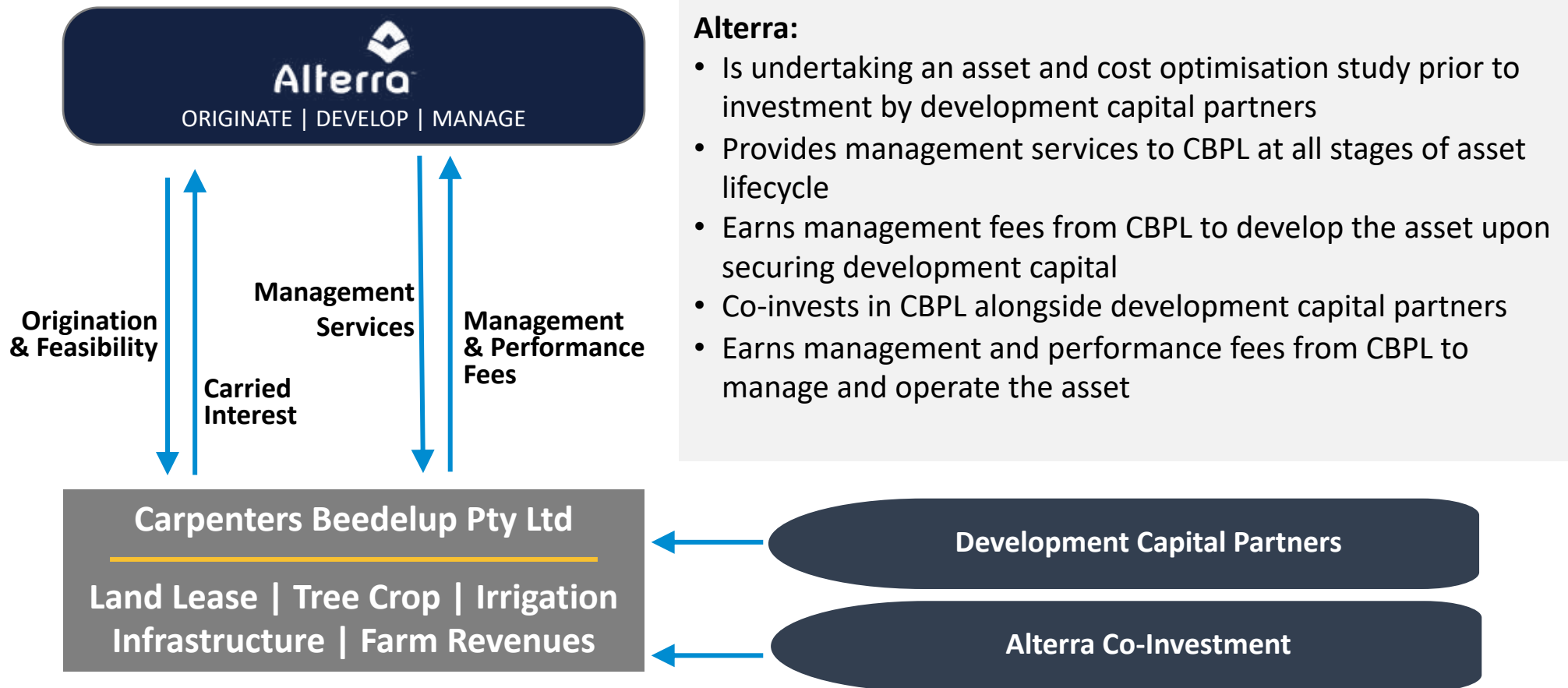
Property Location	Carpenters Beedelup, WA
Property Size	500 hectares
Plantable Area	300 hectares
Annual Rainfall	1,000 mm
Water Licences - Surface	3,000 megalitres
Scheme Water Access	Southern Forest Irrigation Scheme once developed
Spring Water	Various springs on property for capturing water
Casuarina Water	Access to 500 megalitres p.a. secured from adjoining Casuarina property
Potential Water Storage Capacity	Up to 7.2 gigalitres (7,200 megalitres) Dam 1 – up to 5.4 gigalitres Dam 2 – up to 1.8 gigalitres
Peak water requirements for avocados - Year 10	7.5 megalitres per hectare per annum <sup>1</sup> Est. 2.25 gigalitres per annum for 300 hectares of mature avocados
Power	3-phase connected to property and both dam sites
Soil Types	Deep karri loams
Existing Infrastructure	Excellent internal roads. Adjoining neighbouring “Casuarina” property has extensive infrastructure and mature apple orchards
Access	3 entry / exit points on property



Source: 1) “Growing Avocados – Annual Water Requirements | Agriculture And Food”. *Agric.Wa.Gov.Au*, 2020, <https://www.agric.wa.gov.au/water-management/growing-avocados-%E2%80%93-annual-water-requirements>. Accessed 20 June 2020.

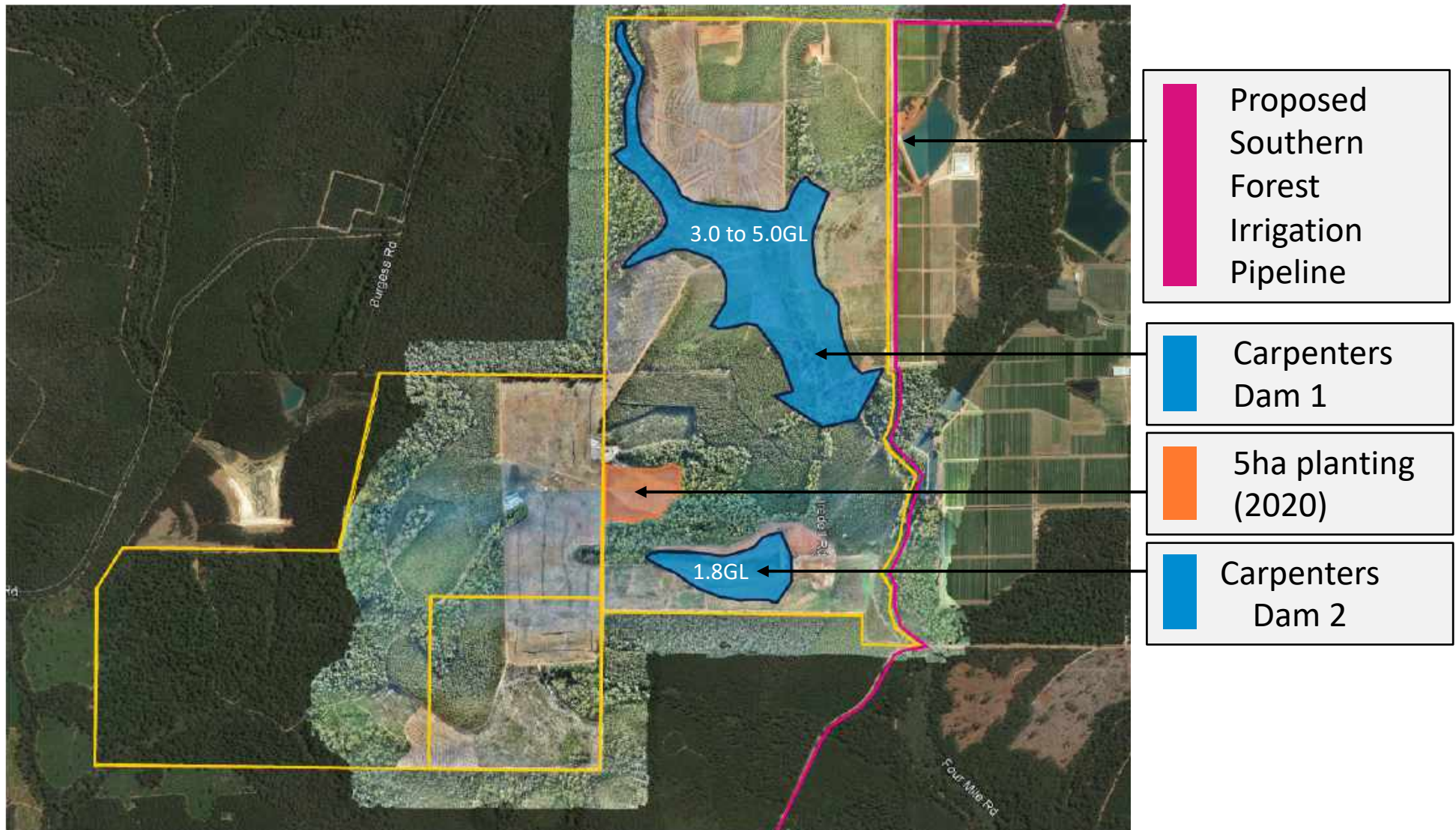


Alterra has originated the Carpenters Project, with SPV Carpenters Beedelup Pty Ltd (**CBPL**) entering into a 50 year lease for the land and water. In the 10 weeks since gaining access to the property, Alterra has advanced the an asset and cost optimisation study, completed site investigations, mobilised contractors and started preparation for first 100 hectares.





# Significant On-Farm Water Capture and Storage Potential





Dam site at Casotti Group's adjoining property Casuarina

## Carpenters Water Assets Overview

- Approvals for construction of Dam 1 - 3.0GL
- Potential additional Dam 2 - 1.8GL
- Site investigation showing an additional 2.4GL potential at Dam 1
- Multiple locations for water storage sites on property
- Three-phase power installed at Dam 1 and Dam 2 locations



Progress		Timeframe
Phase 1	Site investigation for water potential Approval and licensing in place for both dam sites	Complete
Phase 2	Engaged contractors, desktop design and hydrology commenced	Commenced
Phase 3	Geotechnical and ground investigation	3 months
Phase 4	Detailed design	5 months
Phase 5	Tender process	TBC
Phase 6	Construction	TBC

- 80+ years experience in Western Australian
- Accredited by Engineers Australia
- Integrated services with civil designers, geotechnical engineers, hydrogeologists and hydrologists to address all aspects of dam design
- [galt.com.au](http://galt.com.au)





Netafim drip irrigation trials at the Carpenters Farm – May 2020

## Irrigation and Fertigation Overview


- Irrigation and fertigation are key to project performance
- Global irrigation leader Netafim engaged
- Implementing an intelligent precision irrigation and fertigation system capable of increasing yields and shortening the period for return on investment
- Alterra and Netafim have run a series of irrigation trials on the soils at Carpenters to optimise the design of a system to optimise water, nutrient and energy efficiency
- Alterra targeting to reduce water and power requirements by up to 20%, in line with Netafim's previous results achieved with Israeli and Australian avocado producer on East Coast



- World's largest provider of drip irrigation
- 30% share of the global market for drip irrigation
- 70+ years irrigation experience
- Avocado irrigation specialists
- [netafim.com.au](https://netafim.com.au)

Land preparation for 100 hectares has commenced, with an initial 5-hectare planting of avocados scheduled for September 2020 and a 90-hectare planting in 2021.

Phase 2 planting is expected to commence from 2022.



2021 - 90 hectare planting

2020 - 5 hectare planting



## 5 hectare planting site



**May 2020 – Project Week 1**



**June 2020 – Project Week 10**



## 90 hectare planting site



Alterra has **secured production capacity at a South West avocado nursery** and has **successfully grafted its own budwood genetics** on to rootstock for the 2020 plantings.

Alterra has management oversight of rootstock selection, budwood selection, grafting and tree specifications. **The nursery has expanded its production capacity** to ensure it can supply the Carpenters Project.

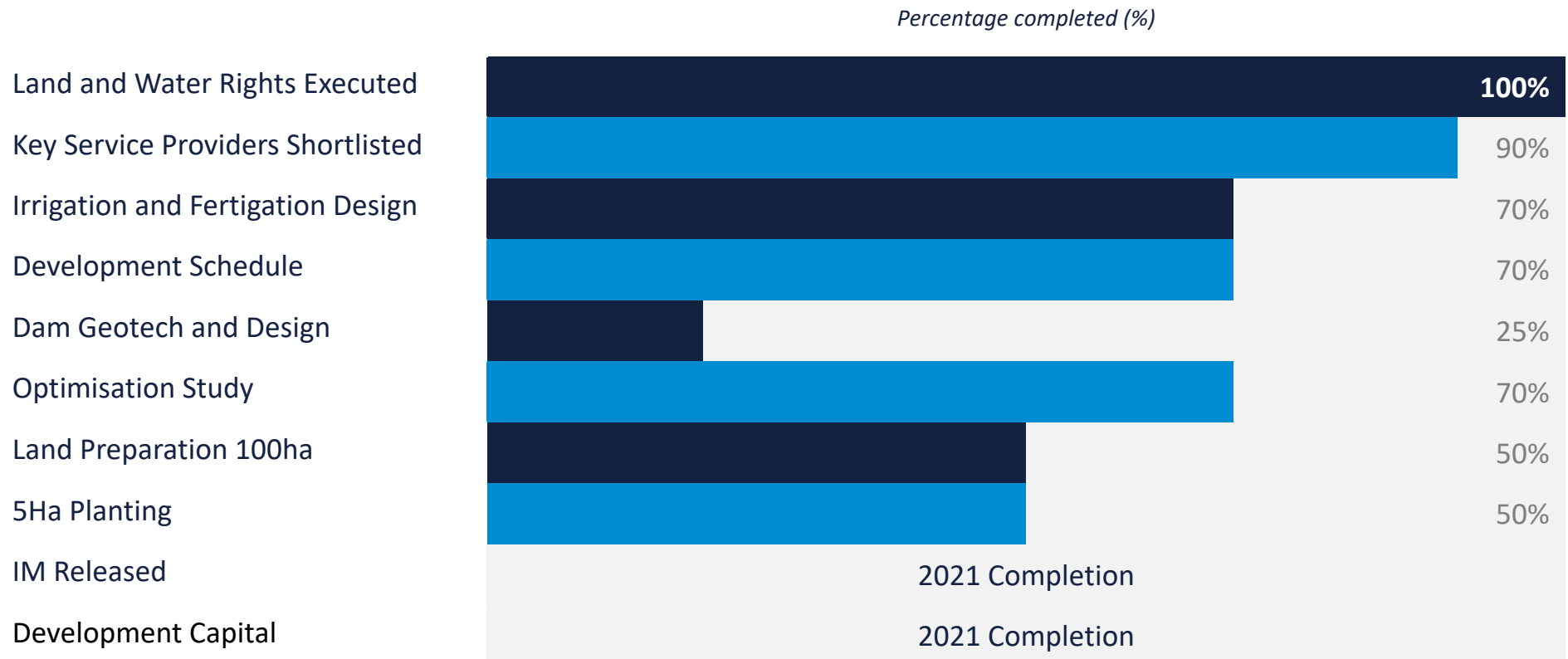
- Current production capacity stands at ~30,000 young avocado trees per annum (c.100 hectares planting capacity p.a.)
- Alterra's budwood genetics exclusively sourced from French's Group trees, known genetics well adapted to region's climate and management system
- Young tree health, graft quality and root formation are key to yield potential of avocado trees
- Alterra committed to supporting South West businesses wherever possible







Alterra has finalised its proposed planting schedule and is seeking to confirm the project's key consultants in the near term.

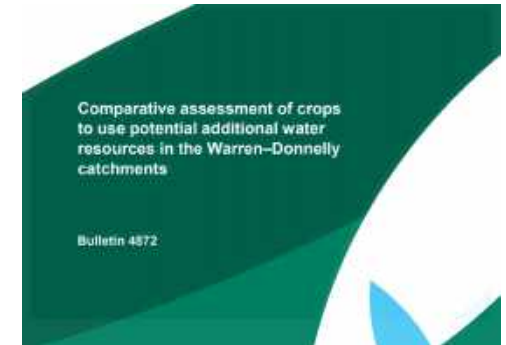




[Avocados Australia Facts at a Glance](#)



[2007 – 2020 Weekly Retail Pricing](#)



[Avocado Gross Margins Warren-Donnelly Catchments](#)



[Israel research shows avocado yields could increase 50%](#)



[Netafim Avocado Irrigation YouTube](#)



[Avocado Industry Strategic Investment Plan](#)





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