

Our Ref: SP1597

20<sup>th</sup> September 2024

The Chief Executive Officer  
Shire of Chittering  
PO Box 70  
Bindoon WA 6502

**DEVELOPMENT APPLICATION**  
**LOT 800 (No. 3421) GREAT NORTHERN HIGHWAY MUCHEA**

Dynamic Planning and Developments Pty Ltd (DP) acts on behalf of Arvela (the proponent), in relation to a development application at Lot 800 (No.3421) Great Northern Highway, Muchea (herein referred to as the ‘subject site’). The proposal is in regard to a development application seeking a change of non-conforming use for one of the three existing Poultry Breeding Sheds for the use of Insect Breeding/Production for Black Soldier Flies (BSF).

This submission is to demonstrate the suitability of the proposal within the locality’s context and provide a complete assessment of the proposed development against the applicable provisions contained in the Shire of Chittering Local Planning Scheme No. 6, and any relevant Local Planning Policies.

For submission purposes, we provide the following information:

- This concise submission providing details of the proposed development and relevant planning justification
- Certificate of Title (Appendix 1).
- Proposed development plans (Appendix 2).
- Letter of Recommendation from DPIRD (Appendix 3).
- The presentation prepared by Arvela for the convenience of the Shire of Chittering (Appendix 4).

Based on the assessment undertaken in the succeeding sections, the proposal is considered to warrant favorable consideration and subsequent approval by the Shire of Chittering.

## **BACKGROUND**

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Arvela is a research and development-based enterprise that specialise in researching and commercialising the potential for the BSF to improve sustainability outcomes. Founded in Perth in 2012, Arvela is involved in contributing important research insight into the usefulness of the BSF, and its use in the bioconversion of organic waste into high-value products that have a wide variety of applications. Arvela supply BSF to waste managers serving Local Governments, Supermarkets, Pet Food Manufacturers, Agriculture and Horticulture Industries.

The BSF is a non-pest species naturalised in Australia and upon maturity is not attracted to human habitation or foods. In addition to this, the BSF has no functional mouthparts for biting / feeding, has a very short lifespan (4-6 days) and cannot survive in the greater Perth region outside of a suitable facility. In this regard, the BSF a highly controlled species under the management of Arvela who are globally recognised leaders in the field. The BSF is listed on the Western Australian Organism List (WAOL) database of permitted organisms under the Biosecurity and Agriculture Management Act 2007 (BAM Act).

The company is run by an enthusiastic team of scientists with backgrounds and important experience in Conservation Biology, Marine Science, and other STEM fields. Arvela operations are funded by shareholders and is a successful recipient of JTSI funding under the Innovation Attraction Fund. The BSF industry is recognised and supported by the Federal Department of Agriculture, Fisheries and Forestry's 'AgriFutures Emerging Industries' program. It is important to note that Arvela has long standing positive research and collaboration relationship with the Department of Primary Industries and Regional Development (DPIRD).

A letter of recommendation from DPIRD is available in Appendix 3.

## LEGAL DESCRIPTION

Element	Information
Address	Lot 800 (No.3421) Great Northern Highway, Muchea
Volume/Folio	2903/33
Plan No.	P404613
Lot size	51.307 ha



Figure 1: The subject site.

## SITE DETAILS

The subject site is located in the municipal locality of the Shire of Chittering and in the suburb of Muchea. The subject site is zoned as ‘Light Industry’ under the provisions of the Shire of Chittering Local Planning Scheme 6 (LPS6). The objectives of the zone as per LPS6 are as follows:

**3.2.2 Light Industry Zone**  
 AMD 21 GG 3/4/09; AMD 60 GG 03/11/17; AMD 67 GG 07/10/22

- a) To provide for a range of industrial uses and service industries generally compatible with urban areas, that cannot be located in commercial zones.
- b) To ensure that where any development adjoins zoned or developed residential properties, the development is suitably set back, screened or otherwise treated so as to not detract from the residential amenity.

Figure 2: Light Industry Zone objectives as per LPS6.

The subject site is surrounded by Light Industry land use to the north and south and Agricultural Resource to the east and west. The subject site is also subject to 3 Special Control Areas, the first being ‘Military Considerations (RAAF)’, the second being ‘Muchea Industrial Park’ and third being ‘Water Prone Area’. The subject site fronts Great Northern Highway to the east and is bound by Tonkin Highway to the west.

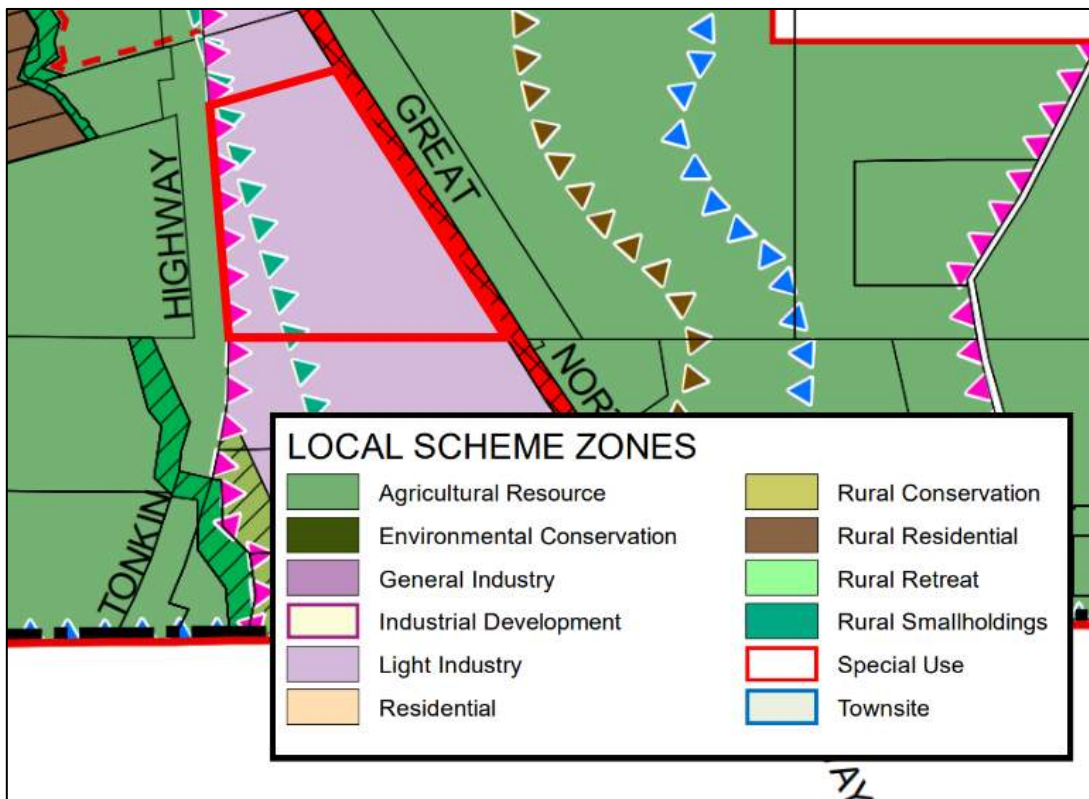


Figure 3: The subject site and surrounding land use as per LPS6,

## PROPOSED DEVELOPMENT

The proposed development seeks to repurpose one of the existing 3 sheds onsite (Shed 3) for Arvela’s operation. The basic production process of Arvela is outlined in Figure 4 and an introduction to Arvela is attached in Appendix 4.

The seven additional shipping containers will be used for the set-up of and operation of the BSF breeding apparatuses which will fully enclose and contain the larvae / BSF and other supporting operations (e.g. storage) within them.

Larvae are fed a formulated feed, sourced from a local *Feedsafe* accredited feed mill, which will be stored in a pre-existing silo on site. Following pupation, adult BSF flies are housed in secure mesh cages where they mate, lay eggs and ultimately expire approximately 6 days post maturity. Eggs are collected and dispatched to waste managers customers nationally.

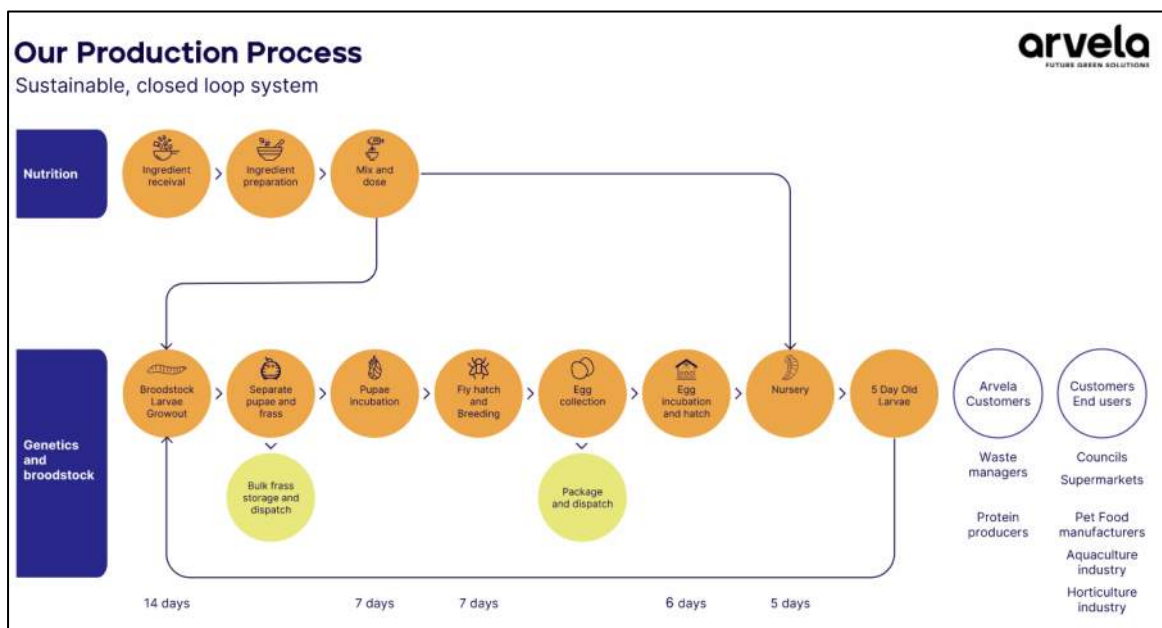


Figure 4: Arvela Production Process

With reference to Figure 5, Figure 6 and Appendix 2, the extent of development proposed and operation of the subject site is as follows:

Item	Development
1	Shed 1 and Shed 2 remain as Poultry Breeding Sheds. No modification.
2	Shed 3 is to be re-purposed from a Poultry Breeding Shed to a BSF Breeding facility. No structural modifications internally or externally.
3	Four (4) 40ft Shipping Containers to be installed on site next to Shed 3 and be used as part of the BSF breeding operation.
4	Three (3) 20ft Shipping Containers to be installed on site next to Shed 3 and be used as part of the BSF breeding operation.
5	Balance of buildings, water tanks and caretaker residence to be shared between Arvela and Poultry Breeding operator. No structural modifications internally or externally.

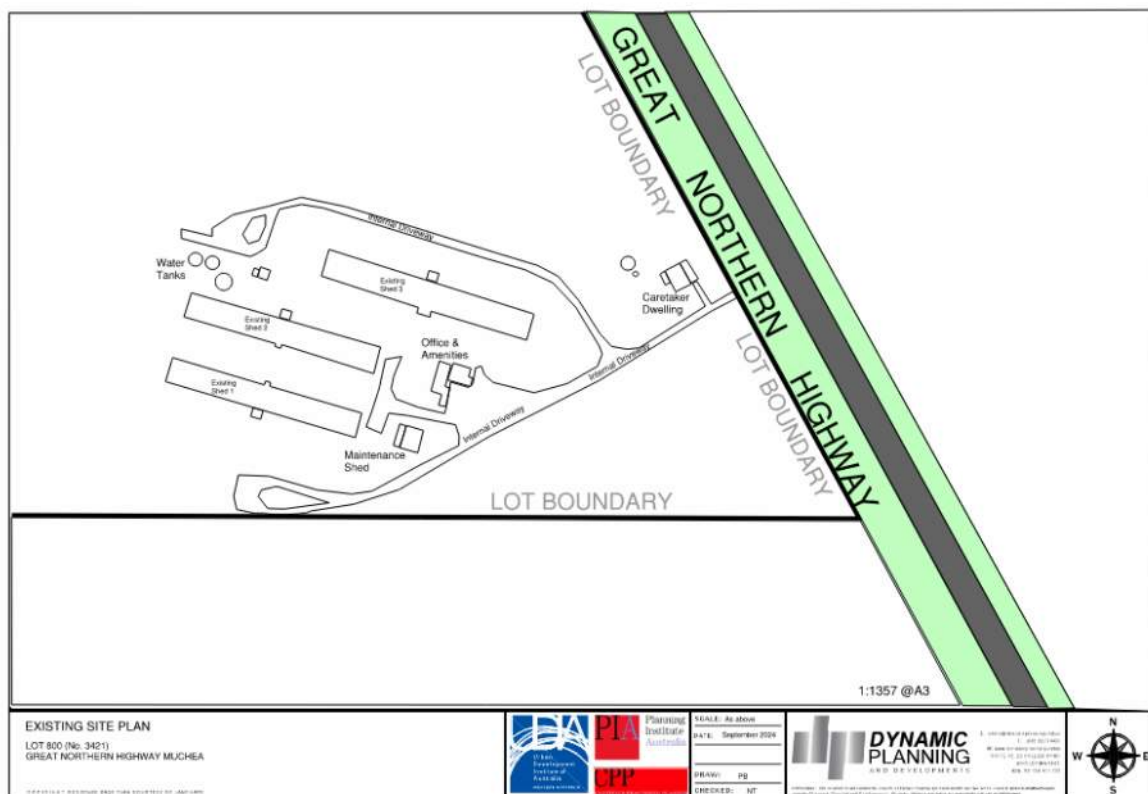


Figure 5: The subject site, existing building lay out.

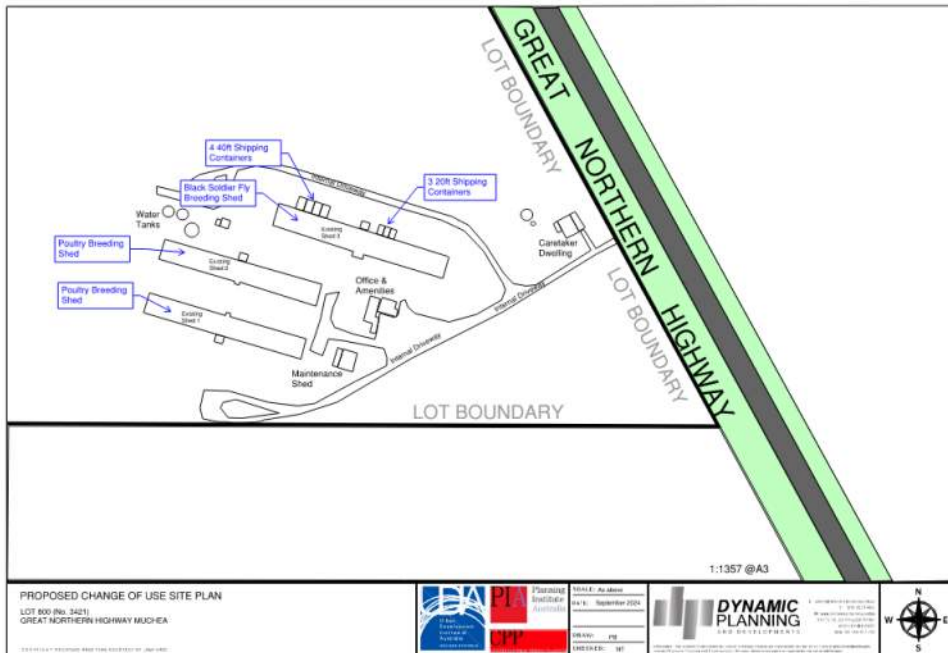


Figure 6: Proposed change of use building layout.

As illustrated by Figure 6 and Appendix 2, much of the subject site building outlay remains unchanged with the exception of the addition of the 7 shipping containers to be located near Shed 3. The elevational appearance of the proposed shipping containers are illustrated in Figure 7.

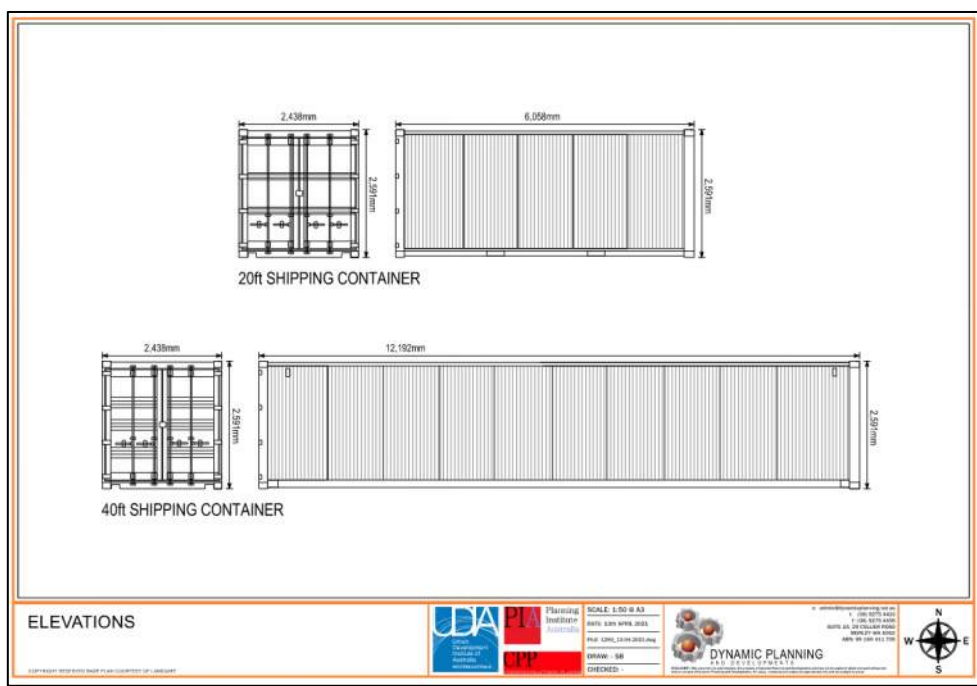


Figure 7: Proposed shipping containers.

## ZONING AND LAND USE PERMISSIBILITY

### Shire of Chittering Local Planning Scheme No.6

The subject site is zoned 'Light Industry' and subject to 3 Special Control Areas, the first being 'Military Considerations (RAAF)', the second being 'Muchea Industrial Park' and the third 'Water Prone Area'.

It is acknowledged that the current land use of the subject site (Poultry Breeding) is a non-conforming land use with the objectives of the zone outlined in Figure 2 and that the proposed land use (BSF Breeding) is also not strictly conforming to the zone objectives. However, there is scope to approve the proposed development despite the non-conforming land use elements.

Part 3; Section 3.9; Clause 3.9.1 and 3.9.3 of LPS6 provide conditions and avenues for approval for the proposed development. An extract of the abovementioned relevant clauses are provided in Figure 8.

<p><b>3.9 EXTENSIONS AND CHANGES TO A NON-CONFORMING USE</b></p> <p>3.9.1 A person must not -</p> <p style="margin-left: 40px;">a) alter or extend a non-conforming use;</p> <p style="margin-left: 40px;">b) erect, alter or extend a building used for or in conjunction with or in furtherance of a non-conforming use; or</p> <p style="margin-left: 40px;">c) change the use of land from a non-conforming use to another non-conforming use;</p> <p style="margin-left: 40px;">without first having applied for and obtained Development approval under this Scheme.</p> <p>3.9.2 An application for Development approval under this clause shall be advertised in accordance with clause 64 of the deemed provisions. <span style="float: right;"><i>AMD 62 GG 14/02/17</i></span></p> <p>3.9.3 Where an application is for a change of use from an existing non-conforming use to another non-conforming use, the local government is not to grant its development approval unless the proposed use is less detrimental to the amenity of the locality than the existing non-conforming use and is, in the opinion of the local government, closer to the intended use of the zone.</p>
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Figure 8: Part 3; Section 3.9 of LPS6.

As per the above, the current non-conforming land use can be changed to another non-conforming land use provided Development Approval is applied for and obtained and the proposed non-conforming land use is less detrimental / an improvement upon the already existing non-conforming land use. Subsequent sections of this report will outline how the proposed land use is less detrimental to the amenity of the locality.

## Special Control Area – Military Considerations (RAAF)

The purpose of this Special Control Area is to protect the integrity of the operations of the RAAF Base Pearce, RAAF Gingin Airfield and Muchea Air Weapons Range and associated flight paths by ensuring that development complies with the height limit requirements set out by the Department of Defence. This requires that sensitive land uses within the designated flight paths are built to mitigate impacts associated with aircraft noise.

The Planning Requirements within this Special Control Area outlined in Part 5; Clause 5.5.3 of the LPS.

### 5.5.3 Planning Requirements

*AMD 21 GG 3/4/09*

5.5.3.1 In addition to development which otherwise requires approval under the Scheme, development approval is required for any development within this Special Control Area that meets one or more of the following:

- a) Is 15 metres or greater in height.
- b) Is a habitable building that is identified as being within an Australian Noise Exposure Forecast (ANEF) zone greater than 20 ANEF.

*Note: The ANEF chart for the RAAF Base Pearce and RAAF Gingin Airfield Defence Aviation Area is available from the local government's website or on request from the Department of Defence.*

5.5.3.2 Any new dwelling located within the 20 ANEF contour shall be constructed so as to comply with any noise attenuation measures required by Australian Standard AS 2021 Aircraft Noise Intrusion – Building Siting and Construction, or to achieve the following:

- a) An indoor design sound level of 50dB(A) or less for all sleeping areas and dedicated lounges;
- b) An indoor design sound level of 55dB(A) or less for all other habitable spaces; and
- c) An indoor design sound level of 60dB(A) or less for bathroom, toilets and laundries.

5.5.3.3 The roofing material of any building within the Special Control Area shall be non-reflective.

*AMD 69 GG 22/7/22*

Figure 9: Part 5; Section 5.5.3 of LPS6.

The proposed development does not involve habitable buildings or new dwellings. In this regard subclause 5.5.3.1 and 5.5.3.2 are not applicable. Subclause 5.5.3.3 can be considered to be satisfied as the proposed shipping containers are non-reflective. Additional relevant considerations are outlined in Clause 5.5.4 (Figure 10).

**5.5.4 Relevant Considerations**

In considering any Application for Development approval the local government shall have regard to:

- a) whether the proposal is compatible with current and future Defence Force flying operations associated with RAAF Base Pearce, RAAF Gingn Airfield and Muchea Air Weapons Range;
- b) whether any buildings proposed for human occupation requires noise attenuation measures in accordance with Australian Standard 2021; and
- c) whether the proposal constitutes a hazard or interference to aircraft flying in the area including but not limited to: excess building height, extraneous outdoor lighting and increased risk of bird strike to aircraft.

*AMD 69 GG 22/7/22*

*Figure 10: Clause 5.5.4 of LPS6*

The proposed development is of non-military and non-Airforce nature. It is limited to ground operations only and would be indistinguishable from any other civilian/commercial enterprise. There are no buildings proposed for human occupation and there are no excessive building heights or extraneous outdoor lighting requirements for the proposed development.

**Special Control Area – Muchea Industrial Park**

The purpose of this Special Control Area is outlined Part 5; Section 5.7; Clause 5.7.1 of LPS6 (Figure 11) and Table 1 demonstrates how the proposed development responds to the Planning Requirements in Clause 5.7.2.

**5.7 MUCHEA INDUSTRIAL PARK**  
*AMD 52 GG 26/06/15; AMD 62 GG 14/02/17; AMD 60 GG 03/11/17; AMD 67 GG 07/10/22*

The Muchea Industrial Park Special Control Area is shown on the Scheme Map. Development approval is required for any development within the Special Control Area.

**5.7.1 Purpose**

- a) to provide a basis for the zoning and development of the Muchea Industrial Park as an industrial estate in accordance with the Muchea Industrial Park Structure Plan;
- b) to accommodate impacts from industrial uses within the boundaries of the Muchea Industrial Park;
- c) to provide a basis for the co-ordination of future subdivision and development;
- d) to protect and manage the natural environment, landscape values and air and water quality, resulting in a high quality industrial estate that responds to its natural setting;
- e) to provide for essential services for a broad range of land uses; and
- f) limit the development of land uses that might compromise the intended purpose of the area as an industrial estate.

*Figure 11: Part 5; Section 5.7; Clause 5.7.1 of LPS6.*

Subclause	Planning Requirement	Comment
5.7.2.1	Notwithstanding any other land use permissibility expressed in the Scheme, no residential land uses or caretakers dwellings will be approved in the Muchea Industrial Park Special Control Area. For the purpose of this clause, workforce accommodation is not regarded to be a residential land use.	Complies. The proposed development does not involve the development or modification of the existing caretaker's dwelling.
5.7.2.2	In considering zoning proposals for 'Industrial Development', 'General Industry' and 'Light Industry' within the Muchea Industrial Park proposals are to address the objectives and requirements of the Muchea Industrial Park Structure Plan, including:	
	details of how the proposal will manage stormwater run-off and wastewater disposal with specific reference to potential impacts on water quality and quantity and the nutrient load of the Ellen Brook which may include studies, commensurate with the scale of the proposal, in accordance with State Policy and the Better Urban Water Management Guidelines;	Complies. The proposed development does not significantly increase the building footprint as to increase the demand on stormwater management.
	details of potential impacts on flora and vegetation, fauna and habitat which may include the need for studies undertaken in accordance with Environmental Protection Authority guidance and consideration of matters of national environmental significance;	The proposal does not have any impacts on Flora and Fauna Communities.
	details of potential impacts to, and proposed buffers from, waterways and wetlands which may include the need for studies in accordance with State Policy and technical guidance;	Complies. Shed 3 is not located within any such buffers.
	A land capability assessment demonstrating that the site is capable of assimilating nutrients and disposing of wastewater without an adverse impact on ecosystem health;	Complies. The proposed development does not significantly increase the building footprint as to increase the demand on stormwater management.
	a desktop Aboriginal heritage assessment; and	Complies. The proposal does place any additional permanent structures on site

		and does not involve any site works or disturbances.
	any other matters relevant to the site, such as access and egress and basic raw materials	Complies. No additional crossovers proposed.
5.7.2.3	Zoning proposals are to be assessed for suitability on the basis of:	
	their location relative to sensitive land uses;	N/A
	the environmental suitability of the site; and	N/A
	the potential impact of proposed drainage and wastewater treatment and disposal systems on the environment.	N/A
5.7.2.4	Structure planning is not required for lots 700, 701 and 352 (previously described as lots 100 and 101) and lots 102, M1606, 22, 30, 202, 3 and 201. Structure planning is required on other lots in the Special Control Area in the following circumstances:	
	in precincts where orderly and proper planning is needed to achieve coordinated provision of services and infrastructure; or	Complies. The proposed development is not services or infrastructure intensive as to warrant a Local Structure Plan.
	where land is zoned for Industrial Development.	N/A. The subject site is zone 'Light Industry'.
5.7.2.5	Subdivision or development of land within the Muchea Industrial Park shall also be in accordance with the provisions and requirements of Schedule 11 as applicable.	N/A
5.7.2.6	Unless a planning proposal demonstrates otherwise, and is supported by relevant agencies and the local government, servicing within the SCA is to be as follows:	
	reticulated water supplied by a licenced provider is to be provided at the first stage of any industrial subdivision;	N/A
	wastewater disposal is to be in accordance with Government policy and clauses 4.9(b) to €;	Complies. Proposed development will utilise existing infrastructure.
	provision is to be made for essential service infrastructure, including drainage, wastewater disposal, water supply and roads.	

5.7.2.7	Internal roads identified in Figure 8 of the Muchea Industrial Park Structure Plan (2011) are to be reserved at the first stage of industrial subdivision.	N/A
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*Table 1: Proposed development's response to the Planning Requirements relevant to the Special Control Area.*

## Special Control Area – Water Prone Area

The purpose of the Special Control Area is outlined in Part 5 Clause 5.3.2 of LPS6 (Figure 12).

### 5.3.2 Purpose

- a) To manage development in areas where there is high risk of inundation so as to protect people and property from undue damage and where there is a potential risk to human health.
- b) To preclude development and the use of land which may increase the amount of nutrients from entering the surface and/or sub-surface water systems.
- c) To ensure that wetland environmental values and ecological integrity are preserved and mentioned.

*Figure 12: Part 5; Clause 5.3.2 of LPS6*

The proposed development does not interfere with any water bodies and the extent of development is limited to and contained within the existing infrastructure bounds. In this case, there is negligible impact on the environment. An assessment of how the proposed development responds to the Special Control Area Planning Requirements is provided in Table 2.

Subclause	Planning Requirement	Comment
5.3.3	The local government will impose conditions on any Development approval relating to	
	the construction and occupation of any dwelling or outbuilding;	No objection.
	the type of effluent disposal system used in this area shall be high performance with bacterial and nutrient stripping capabilities to the specifications of local government and the Health Department and shall be located in a position determined by local government.;	Existing system to be utilised.
	minimum floor levels for any building above the highest known water levels;	No objection. The new buildings are shipping containers, and their heights can be adjusted to suit.
	any land use that may contribute to the degradation of the surface or subsurface water quality.	Complies. There is no proposed activity that involves water contamination. The proposed development will use existing water infrastructure.
	no development other than for conservation purposes will be permitted within 30 metres of any natural water body.	Complies. No portion of the proposed development is within 30 meters of a natural water body.
	damming, draining or other developments which may alter the natural flow of surface water will not be permitted unless such works are part of an approved Catchment Management Plan.	Complies. No damming or additional draining works are proposed.

*Table 2: Proposed development's response to the Planning Requirements relevant to the Special Control Area.*

## **DEVELOPMENT CONSIDERATIONS**

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### **Structure Plan**

LPS6 Schedule 11 indicates that upon subdivision or development a Local Structure Plan be prepared should be prepared. The proposed development is for a change of use from a non-conforming land use to another less intensive non-conforming land use. The context, scale and demand of the proposed development does not appear to warrant the undergoing of and creation of a Local Structure Plan.

It is important to note that this proposed development does not prejudice or hinder future development undergoing and creating a Local Structure Plan.

### **Bushfire**

The subject site is within a DFES Bushfire Prone Area however the nature of the proposed development and land use does not warrant the need for a Bushfire Management Plan. This is especially the case given the following circumstances:

- The development application is limited to Shed 3.
  - The number of Arvela staff attending Shed 3 (2-3 staff members) will be less than the number of Poultry Breeding staff (8 staff members) currently attending Shed 3 at any one time.
  - There are no structural or vulnerable modifications proposed i.e no modifications to doors, windows, roof, eaves, etc.
- The shipping containers proposed are non-habitable.
- The shipping containers proposed are made of non-combustible material and as such are not considered to expose Shed 3 or any other building site to an increased level of risk.
- The landowner/occupant is required to comply with the Shire of Chittering's Firebreak Notice which effectively prescribes a realistic Asset Protection Zone (APZ), debris management instructions and firebreak requirements.

- The proposed development does not involve significant modifications which would require Elements 1 – 4 of ‘Guidelines for Planning in Bushfire Prone Areas’ to be incorporated into the proposed development.
  - Element 1 Location: The proposed works are isolated to Shed 3 and as discussed previously; the non-combustible shipping containers mean no increased exposure to bushfire risk.
  - Element 2 Siting and Design of Development: The Shire of Chittering Firebreak notices specifies an APZ which is to be installed. The extent of development is limited to existing structures and not elsewhere on the subject site where there a different exposures and risks.
  - Element 3 Vehicular Access: There are no new public or private roads proposed. The proposed development will utilise existing internal roads. The Shire of Chittering Firebreak Notices specifies perimeter roads (firebreaks).
  - Element 4 Water: The proposed development has no increased demand on water for firefighting purposes given Shed 3 is an existing building and the shipping containers are considered to be non-combustible.

### **Biosecurity**

The BSF is on the Western Australian Organism List (WAOL) database of permitted organisms under the Biosecurity and Agriculture Management Act 2007. The BSF does not nuisance humans or livestock and has no functional mouth parts for biting. The proponent, Arvela come with high recommendations from DPIRD after years of consultation and cooperation. A copy of the letter of recommendation from DPIRD is attached (Appendix 3).

### **Vehicular Access and Parking**

The proposed development / Arvela operations do not require any modification to the existing crossover to suit vehicular access. The Poultry Breeding operation demands approximately 4 trucks visiting the site daily, 6 days a week under the current land use arrangement. The introduction of Arvela operating Shed 3 will reduce the number of truck visits required by the Poultry Breeding operator. In addition to this, Arvela would only require 2 truck visits a day, 6 days a week. It is noted that vehicles servicing Arvela are predominantly limited to non-commercial vehicles (i.e vans, cars).

Arvela projects approximately 3 staff members on site at any one time and as a result, parking for staff members would be easily accommodated in the existing car parking areas.

## **SUMMARY**

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In light of the above sections, the proposed change of non-conforming use to a less intensive non-conforming use is considered to be a step in the right direction and importantly is within the scope of Part 3; Section 3.9; Clause 3.9.1 and 3.9.3 of LPS6.

Key considerations of the proposed development include:

- The proposed development is a less non-conforming land use as opposed to the current non-conforming land use.
- The proposed development does not conflict with any of the Special Control Areas applicable to the subject site.
- The installation of shipping containers is of similar appearance to the existing sheds, distanced from the street and importantly of a Light Industry appearance.
- There are no increased demands on existing infrastructure and the land use impacts on the subject site and locality will be an improvement upon the existing non-conforming land use.
- The operator is a highly regarded and recommended by State government authorities (DPIRD) and the operation endorsed by multi-Government levels of funding.

As such, we respectfully request that the Shire of Chittering support and approve the proposal. Should you have further queries or seek clarification with regard to the matters raised above, please do not hesitate to contact the undersigned on (08) 9275-4433.

Yours faithfully,



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Neil Teo  
Director

**Appendix 1**  
*Certificate of Title*

WESTERN



AUSTRALIA

REGISTER NUMBER <b>N/A</b>	
DUPLICATE EDITION <b>2</b>	DATE DUPLICATE ISSUED <b>23/10/2020</b>

**RECORD OF CERTIFICATE OF TITLE**  
UNDER THE TRANSFER OF LAND ACT 1893

VOLUME **2903** FOLIO **33**

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

*BGRoberts*  
REGISTRAR OF TITLES



**THIS IS A MULTI-LOT TITLE**

**LAND DESCRIPTION:**

LOTS 800 & 801 ON DEPOSITED PLAN 404613

**REGISTERED PROPRIETOR:**  
(FIRST SCHEDULE)

INGHAM RURAL PROPERTY GROUP PTY LTD OF 2 OLD KURRAJONG ROAD CASULA NSW 2170  
(XA N357645 ) REGISTERED 17/6/2016

**LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:**  
(SECOND SCHEDULE)

- EXCEPT AND RESERVING METALS, MINERALS, GEMS AND MINERAL OIL SPECIFIED IN TRANSFER 188/1945.
- B946572 EASEMENT BENEFIT SEE DIAGRAM 72548. AS TO LOT 800 ON DP 404613 ONLY REGISTERED 1/7/1980.
- O434482 LEASE TO INGHAMS ENTERPRISES PTY. LIMITED OF LEVEL 4 1 JULIUS AVENUE NORTH RYDE NSW 2113 EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 25/6/2020.
- O434483 COVENANT BENEFIT. SEE DEPOSITED PLAN 418562. REGISTERED 6/7/2020.
- O434484 LEASE TO INGHAMS ENTERPRISES PTY. LIMITED OF LEVEL 4 1 JULIUS AVENUE NORTH RYDE NSW 2113 EXPIRES: SEE LEASE. AS TO PORTION ONLY AS TO LOT 800 ON DP 404613 ONLY REGISTERED 25/6/2020.
- O434483 COVENANT BENEFIT. SEE DEPOSITED PLAN 418562. AS TO LOT 800 ON DP 404613 ONLY REGISTERED 6/7/2020.
- O434483 RESTRICTIVE COVENANT BURDEN. AS TO PORTION ONLY SEE DEPOSITED PLAN 418562. FOR THE BENEFIT OF LEASE O434482 AND LEASE O434484 ONLY. REGISTERED 6/7/2020.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.  
\* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.  
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

**STATEMENTS:**

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

END OF PAGE 1 - CONTINUED OVER

RECORD OF CERTIFICATE OF TITLE

REGISTER NUMBER: N/A

VOLUME/FOLIO: 2903-33

PAGE 2

SKETCH OF LAND: DP404613  
PREVIOUS TITLE: 2903-30, 2903-31  
PROPERTY STREET ADDRESS: NO STREET ADDRESS INFORMATION AVAILABLE.  
LOCAL GOVERNMENT AUTHORITY: SHIRE OF CHITTERING

NOTE 1: O538060 DOCUMENT O434483 DETAILS UPDATED: LODGEMENT DATE/TIME = FROM (25/06/2020 08:30:00) TO (06/07/2020 08:30:00), LEGAL STANDING DATE/TIME = FROM (25/06/2020 14:50:27) TO (06/07/2020 08:30:00), REGISTRATION DATE/TIME = FROM (23/10/2020 15:17:53) TO (06/07/2020 08:30:00)

NOTE 2: CORRECTION MADE ON ORIGINAL CERTIFICATE OF TITLE - BUT NOT SHOWN ON CURRENT EDITION OF THE DUPLICATE

**Appendix 2**  
*Proposed Development Plans*



EXISTING SITE PLAN (AERIAL)  
 LOT 800 (No. 3421)  
 GREAT NORTHERN HIGHWAY MUCHEA

COPYRIGHT RESERVED BASE PLAN COURTESY OF LANDGATE



SCALE: As above

DATE: September 2024

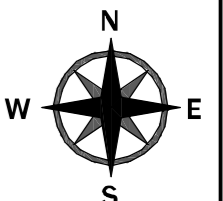
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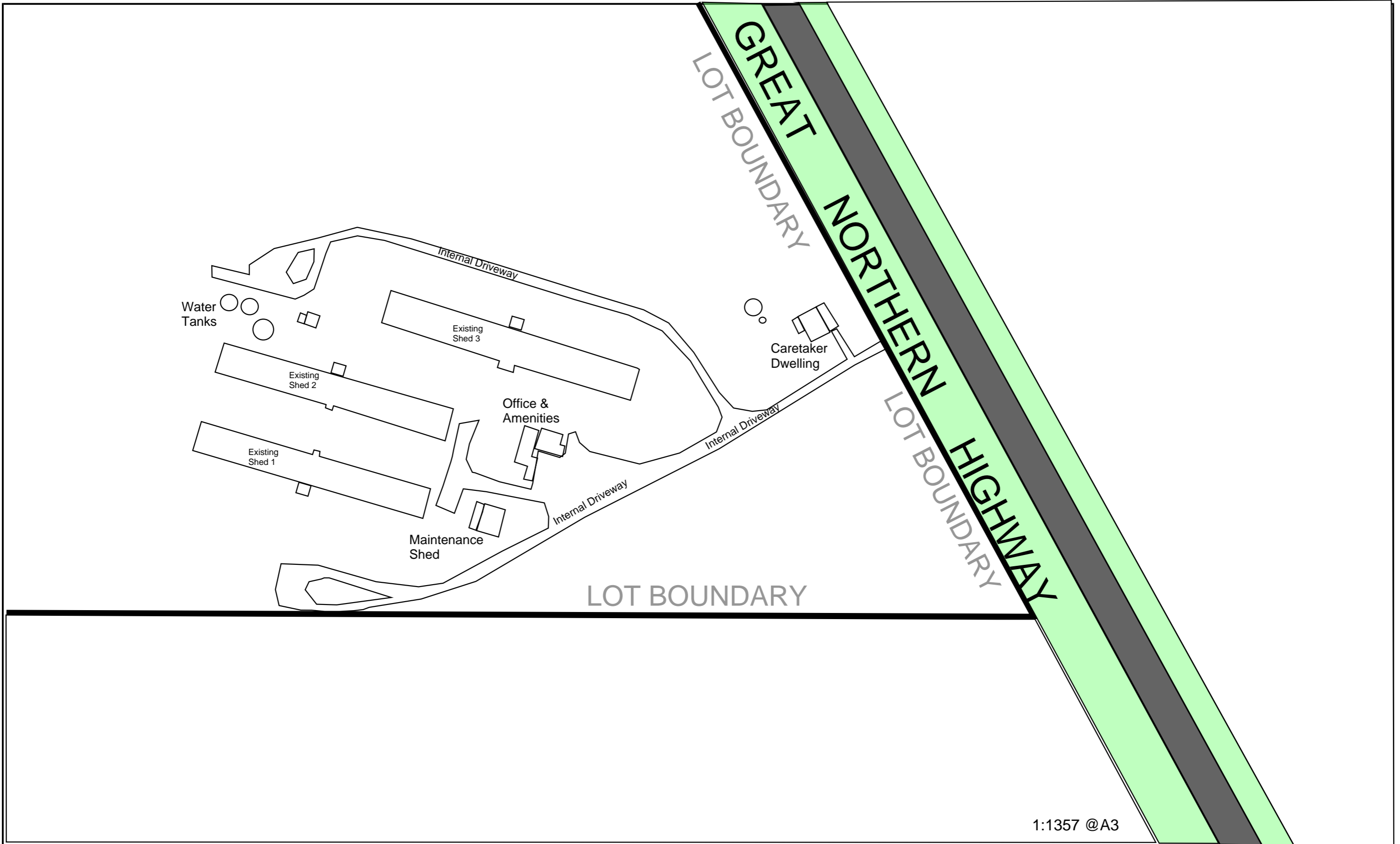
CHECKED: NT



E: [admin@dynamicplanning.net.au](mailto:admin@dynamicplanning.net.au)  
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 W: [www.dynamicplanning.net.au](http://www.dynamicplanning.net.au)  
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 MORLEY WA 6062  
 ABN: 99 169 411 705

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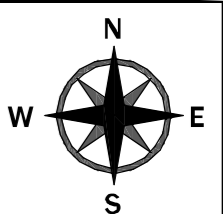
**EXISTING SITE PLAN**  
 LOT 800 (No. 3421)  
 GREAT NORTHERN HIGHWAY MUCHEA

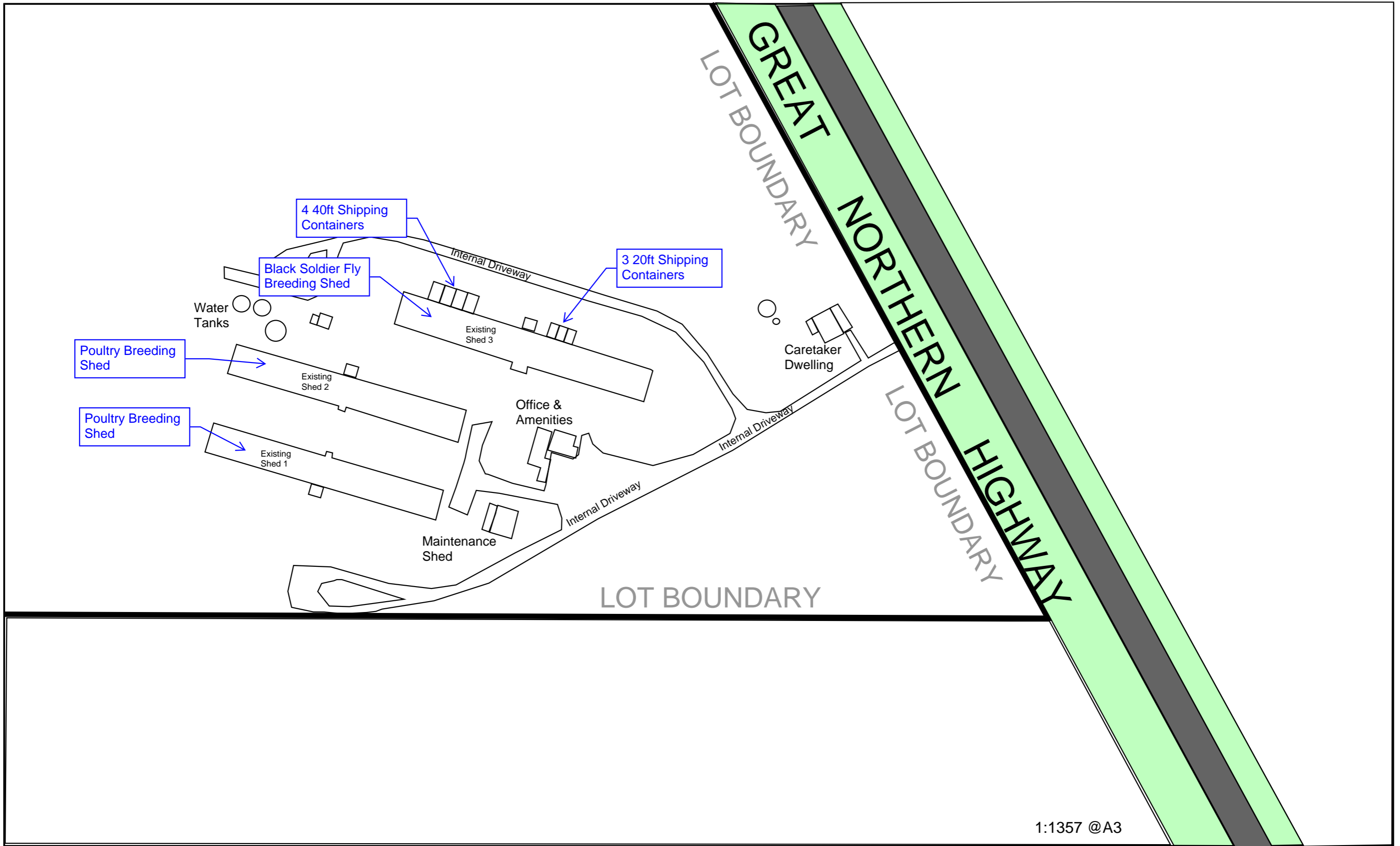
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SCALE: As above  
 DATE: September 2024  
 DRAW: PB  
 CHECKED: NT

**DYNAMIC PLANNING AND DEVELOPMENTS**  
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 T: (08) 9275 4433  
 W: www.dynamicplanning.net.au  
 SUITE 15, 29 COLLIER ROAD  
 MORLEY WA 6062  
 ABN: 99 169 411 705





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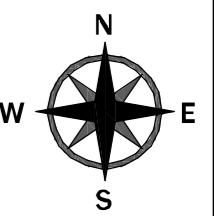
**PROPOSED CHANGE OF USE SITE PLAN**  
 LOT 800 (No. 3421)  
 GREAT NORTHERN HIGHWAY MUCHEA

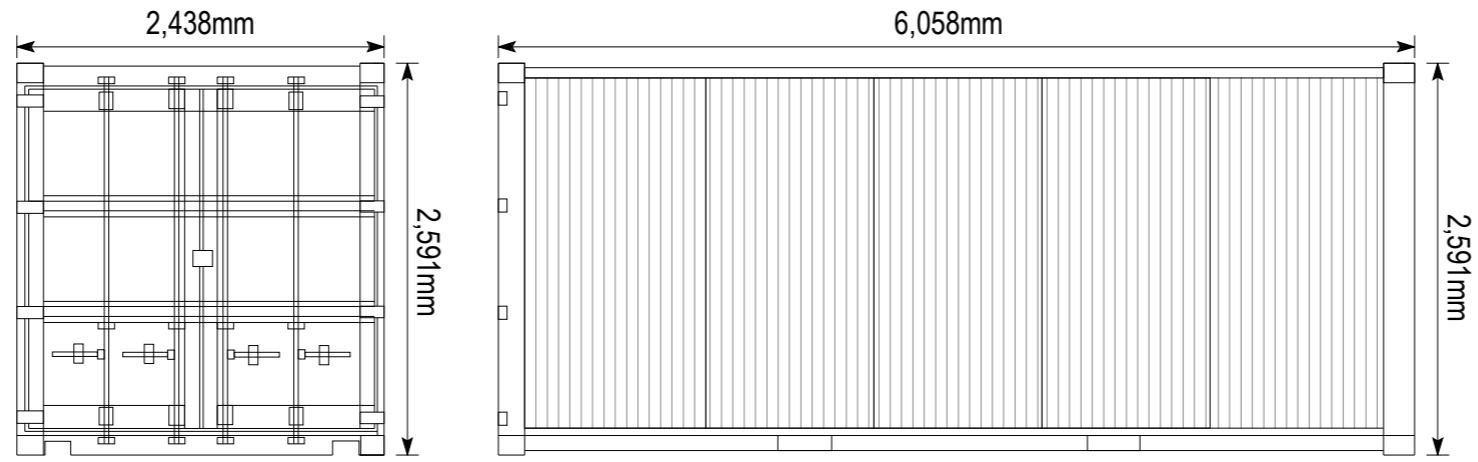
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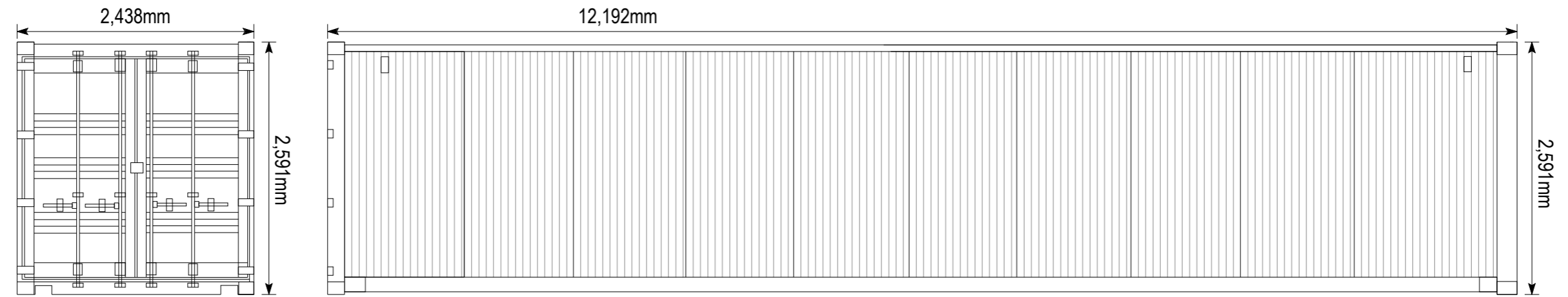
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20ft SHIPPING CONTAINER



40ft SHIPPING CONTAINER

**ELEVATIONS**

LOT 800 (No. 3421)  
GREAT NORTHERN HIGHWAY MUCHEA

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**Appendix 3**  
*DPIRD Letter of Recommendation*



Department of  
**Primary Industries and  
Regional Development**

Our reference:  
DC\_BSF\_06092024  
Enquiries: 0416 181 162

Shire of Chittering  
PO Box 70, Bindoon WA 6502

Dear Sir/Madam

**TO WHOM IT MAY CONCERN**

**RE: BLACK SOLDIER FLY REARING FACILITY LOCATED IN MUCHEA, WA**

This letter is to advise the Shire of Chittering that the proposed Arvela Black Soldier Fly (BSF) Rearing Facility based at Muchea involves the rearing of a fly species that is on the Western Australian Organism List (WAOL) database of permitted organisms under the Biosecurity and Agriculture Management Act 2007 (BAM Act).

BSF is not a nuisance to either humans or livestock – the adult black soldier fly has a very short lifespan (4-6 days) and no functional mouthparts for biting / feeding.

This fly species is used worldwide for the sustainable bioremediation of a broad array of waste streams. Arvela are enabling this industry in Australia through the provision of BSF eggs and larvae to waste managers and protein producers.

I have personally visited Arvela's existing facilities over many years and their expertise working with this fly species is extremely professional.

Based on DPIRD trials to date, I am particularly excited by the potential of BSF for the management of stable fly in Western Australia.

Yours sincerely

Dr David Cook

**Title:** Research Scientist (Entomologist)

**Pillar:** Primary Industry Development

6<sup>th</sup> September, 2024

3 Baron-Hay Court, Kensington WA 6151  
Telephone +61 416181162

[david.cook3@dpird.wa.gov.au](mailto:david.cook3@dpird.wa.gov.au)

[dpird.wa.gov.au](http://dpird.wa.gov.au)

ABN: 18 951 343 745

**Appendix 4**  
*Arvela Presentation*

# BSF Breeding Facility

Shire of Chittering

20 September 2024



**We started Arvela with a  
clear mission: to give  
waste a purpose.**

Luke Wheat – Founder & Managing Director



## Our Story

Founded in Perth in 2012, Arvela was inspired by the potential of black soldier flies to convert organic waste into high-value products. After ten years of relentless research, testing, and trailblazing, we're not just staring at the horizon – we're redefining it.

# Operational Overview

## Scaling up in Greater Perth

Arvela supply Black Soldier Fly (BSF) eggs to businesses building their own insect-based waste and protein solutions. This allows our customers to focus on their core business without the need to manage the complexity and challenges of breeding

### Existing operations

- Shenton Park (UWA Research Station)
- Arvela operations since 2017
- Supply of BSF eggs, shipped via time-critical direct flights to domestic customers
- Innovation Centre of Excellence
- Site also provides an opportunity to trial and derisk systems prior to scale up

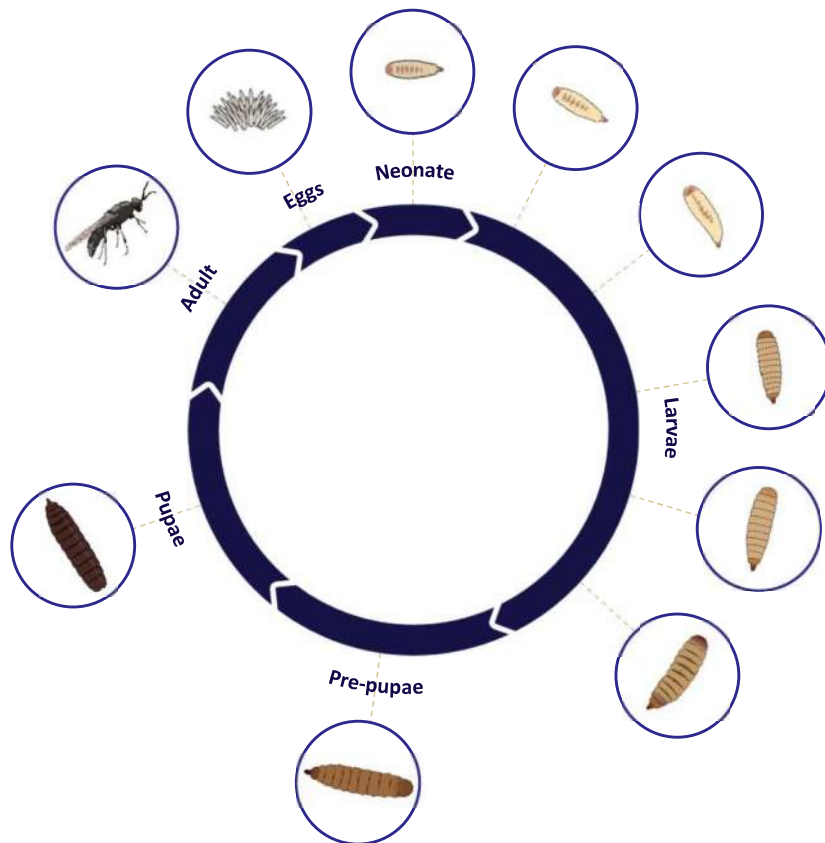


### Commercial scale facility

- Preferred location: Muchea
- Transitional (5-10 years) facility to supply eggs to meet domestic and export demand (until such time as a bespoke facility is built)
- Successful recipient of matched State Government funding under the Investment Attraction Fund

# What is the Black Soldier Fly?

## BSF lifecycle



## Why the BSF?

### Non-selective feeder

- Feedstock is abundant, efficient, scalable and sustainable
- Large variety of feedstock sources

### Highly efficient

- Rapid lifecycle
- Requires minimal space for rearing
- High feed conversion efficiency

### High in nutrients

- Rich in proteins and fats
- Highly digestible, hypoallergenic protein
- Fishmeal and soybean meal substitute

### Sustainably produced in a controlled environment

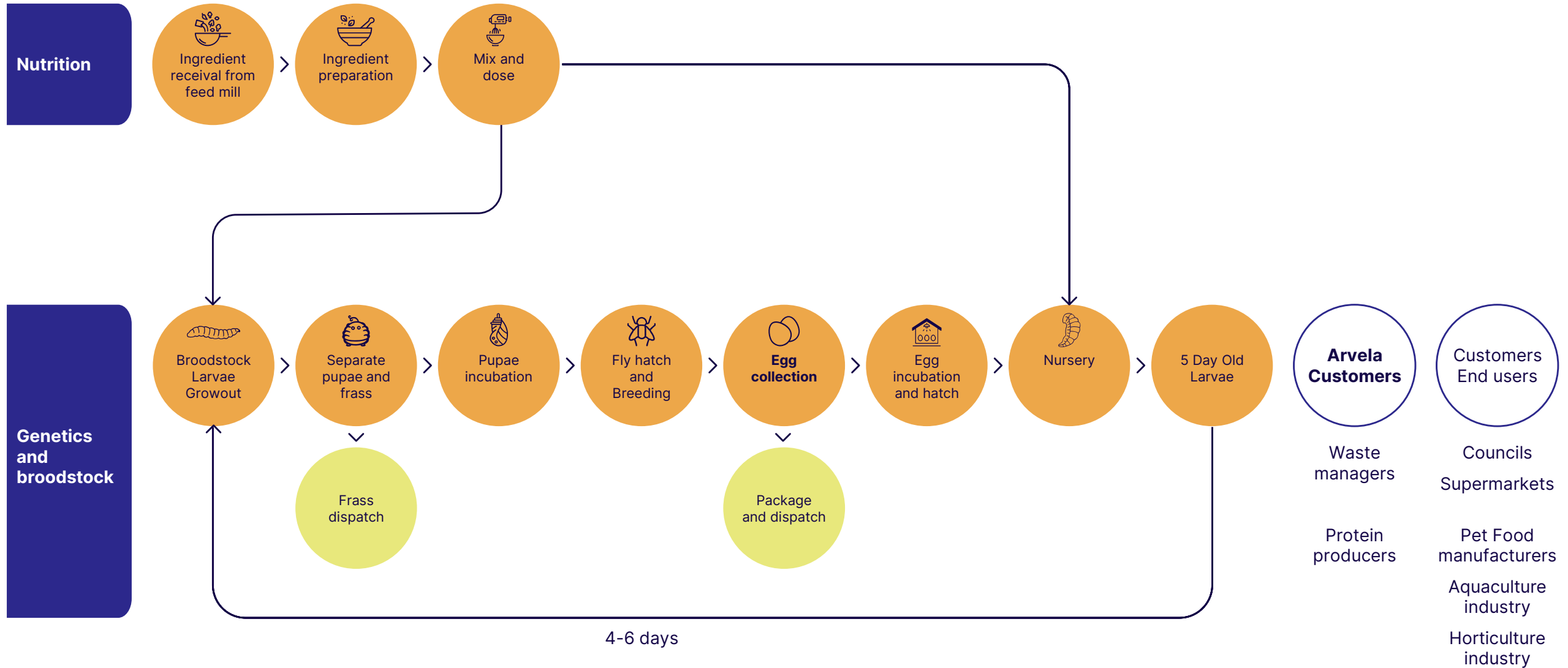
- Negligible land and water requirements
- GHG abatement vs landfill and composting

# BSF Industry Overview

- The Black Soldier Fly (*Hermetia illucens*, BSF), is a non-pest species naturalised in Australia
  - the adult fly is not attracted to human habitation or foods, are non-biting and non-invasive
  - survival requires very specific climatic conditions – ie. they would not survive outside a commercial facility in greater Perth
  - short life cycle as a fly (7 days)
- In Western Australia
  - BSF is listed on the Western Australian Organism List (WAOL) database of permitted organisms under the Biosecurity and Agriculture Management Act 2007 (BAM Act)
  - Arvela has a long-standing history of research and collaboration with DPIRD (e.g. stable fly management)
  - Arvela is FeedSafe® accredited – the gold standard for end-to-end quality assurance
- BSF is the subject of a dedicated AgriFutures Emerging Industries program funded by the Federal Department of Agriculture, Fisheries and Forestry
- Producers represented by the peak industry body – Insect Protein Association of Australia (IPAA)
- Commercial scale BSF facilities are operational in Europe, the USA and Asia. Over US\$2.0 billion raised globally to fund industry development, commercialisation and expansion





# Our Production Process

Sustainable, closed loop system



# Sustainability Benefits

Key industry growth driver

 <p>Waste to landfill</p>	<ul style="list-style-type: none"> <li>Our customers use our products to consume organic waste that would otherwise be sent to landfill</li> </ul>
 <p>Greenhouse gas emissions</p>	<ul style="list-style-type: none"> <li>This reduces GHG emissions relative to landfill (methane, CO<sub>2</sub>, NOx)</li> <li>Organic waste accounts for a third of global methane emissions</li> </ul>
 <p>Arable land use</p>	<ul style="list-style-type: none"> <li>Our insects are grown indoors and require no arable land</li> </ul>
 <p>Water consumption</p>	<ul style="list-style-type: none"> <li>Our insects obtain their water requirements from their feed</li> </ul>

**Directly addresses UN Sustainable Development Goals**



The image shows three UN Sustainable Development Goal icons: Goal 12 (Responsible Consumption and Production) in orange, Goal 14 (Life Below Water) in blue, and Goal 15 (Life on Land) in green. Each icon includes a number, the goal name, and a representative symbol.

# Example customer: Goterra

## Goterra's waste management solution



- Goterra are an Australian waste management company
- Distributed model with self contained units that process up to 1.7 tonnes of waste per day using the Black Soldier Fly
- National presence and blue-chip customer base
  - Lend Lease offer tower in Darling Harbour, Sydney
  - Melbourne Airport
  - Hyatt Hotels
  - City of Sydney
  - Howard Street Wharves in Brisbane
  - Woolworths
- WA presence from late 2024, with City of Gosnells
- Most of the larvae used in Goterra's units are from Arvela's eggs
- Multi-year supply agreement

# Proposed site (1 of 2)

Lot 800 (RN 3421) Great Northern Highway, Muchea

- Utilise existing infrastructure from a former poultry breeder farm
- Shed #3, existing water tanks, silos to be retained

Proposed for Arvela
Unavailable



# Proposed site (2 of 2)

Existing infrastructure + 40ft containers

NOT TO SCALE



# Site Requirements

PRELIMINARY

Characteristic	Detail
Vehicle movements	~Fortnightly bulk stock feed delivery (0.5 movements per week) Courier van pickups (5-7 movements / week) Personnel vehicles (10 movements per day)
Wastewater	Only wastewater is from washing down (cleaning) at low volumes Able to be treated using existing infrastructure
Power	Utilise existing 3 phase
Odour	Odour may be produced <u>within</u> the facility at some stages of the life cycle however is controlled with enclosed chambers, stacks, buffer distances and scrubbers where required
Noise / emissions	Minimal, limited to vehicle movements (BSF make no noise)

# Senior Management Team



**Luke Wheat**

CEO, Managing Director

Luke founded Arvela in 2012 and is a pioneer of the Australian insect industry.

Luke is responsible for delivery of strategic, operational and commercial milestones while continuing to nurture a culture of innovation and excellence. Luke's diverse experience across field biology, science and operations management is crucial in driving innovative ideas into commercial outcomes.

Luke holds a Bachelor of Conservation Biology and Bachelor of Marine Science from Murdoch University and is a Board member of the Insect Protein Association of Australia (IPAA).



**Tom Foster**

Chief Commercial Officer

Tom joined Arvela as our Chief Commercial Officer in January 2023.

Tom is responsible for Arvela's strategy, business development and finance functions. Tom brings over 15 years of experience in strategy, transformation and performance improvement across a range of industries in Australia, Asia and the US. Tom commenced his career with L.E.K. Consulting prior to working at Inghams Group Limited, where he held roles in strategy, transformation and investor relations.

Tom holds a Bachelor of Science and Bachelor of Commerce from the University of New South Wales.



**Paul Ross**

Chief Operating Officer

Paul joined Arvela as our Chief Operating Officer in July 2024.

Paul is responsible for Arvela's operations and continuous improvement. Paul has over 30 years of operational experience in ANZ and Asia, across diverse industries including packaging, food manufacturing and recycling. Paul has extensive experience in scaling up complex operations and supply chain networks.

Paul holds a Bachelor of Food Technology, an MBA from Western Sydney University and diplomas in Logistics and Finance.

# Board of Directors

 <p><b>Ian Brannan</b> Chairman</p>	 <p><b>Juliet Maclean</b> Non-Executive Director</p>	 <p><b>Michael Falconer</b> Alternate Director</p>	 <p><b>Kerry Wheat</b> Non-Executive Director</p>
<p>Ian has 30 years' senior management experience in public and private companies in Australia, the US and the UK.</p> <p>Ian has extensive experience as a CFO and Director / Company Secretary in the food, intensive protein processing and manufacturing industries. Ian brings strong governance and a track record of growing businesses.</p> <p>Ian is a qualified Accountant (ACMA CGMA) and holds an MBA from the University of Warwick.</p>	<p>Juliet has 30 years' experience in the agri sector and is co-founder of New Zealand dairy business, Synlait and Onside, an award winning Agritech business.</p> <p>Juliet holds various governance roles across agricultural, technology, beverage and property businesses.</p> <p>Juliet holds a Bachelor of Agriculture from Massey University, is a Nuffield Scholar and Kellogg Rural Leader.</p>	<p>Michael is an accomplished business leader with global experience across a range of sectors. Michael previously worked for investment bank Credit Suisse in New Zealand and New York, and was CEO of Carter Holt Harvey, a leading Australasian building supplies manufacturer.</p> <p>Michael is Chair of Orion Health, Cardrona Distillery, Onside, NextMinute and South Pacific Fire Protection. Michael holds a Bachelor of Business Management (First Class Honours) from Waikato University.</p>	<p>Kerry is a founding Director of Future Green Solutions and was instrumental in the execution of early-stage biological experimentation and business development.</p> <p>Kerry has over 30 years' experience in business management, payroll and accounting.</p>

A woman in a striped shirt is flying a colorful kite in a vast field of tall grass at sunset. The kite is high in the air, and the woman is looking towards it. The background shows a line of trees and a distant horizon under a soft, orange and blue sky.

**Thank you.**

**Join the flight towards  
sustainability.**

# arvela

FUTURE GREEN SOLUTIONS

[arvela.com.au](https://arvela.com.au)

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