



**Ornatas Pty Ltd**  
**31 Nubeena Crescent**  
**Traffic Impact Assessment**  
**March 2020**



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# 1. Introduction

## 1.1 Background

Midson Traffic were engaged by Ornatas Pty Ltd to prepare a traffic impact assessment for a pilot scale rock lobster hatchery at 31 Nubeena Crescent, Taroom.

## 1.2 Traffic Impact Assessment (TIA)

A traffic impact assessment (TIA) is a process of compiling and analysing information on the impacts that a specific development proposal is likely to have on the operation of roads and transport networks. A TIA should not only include general impacts relating to traffic management, but should also consider specific impacts on all road users, including on-road public transport, pedestrians, cyclists and heavy vehicles.

This TIA has been prepared in accordance with the Department of State Growth (DSG) publication, *A Framework for Undertaking Traffic Impact Assessments*, September 2007. This TIA has also been prepared with reference to the Austroads publication, *Guide to Traffic Management*, Part 12: *Traffic Impacts of Developments*, 2009.

Land use developments generate traffic movements as people move to, from and within a development. Without a clear understanding of the type of traffic movements (including cars, pedestrians, trucks, etc), the scale of their movements, timing, duration and location, there is a risk that this traffic movement may contribute to safety issues, unforeseen congestion or other problems where the development connects to the road system or elsewhere on the road network. A TIA attempts to forecast these movements and their impact on the surrounding transport network.

A TIA is not a promotional exercise undertaken on behalf of a developer; a TIA must provide an impartial and objective description of the impacts and traffic effects of a proposed development. A full and detailed assessment of how vehicle and person movements to and from a development site might affect existing road and pedestrian networks is required. An objective consideration of the traffic impact of a proposal is vital to enable planning decisions to be based upon the principles of sustainable development.

This TIA has been prepared to address matters raised by Kingborough Council to address parking requirements outlined in the Parking and Access Code of the Kingborough Interim Planning Scheme 2015.

## 1.3 Statement of Qualification and Experience

This TIA has been prepared by an experienced and qualified traffic engineer in accordance with the requirements of Council's Planning Scheme and The Department of State Growth's, *A Framework for Undertaking Traffic Impact Assessments*, September 2007, as well as Council's requirements.

The TIA was prepared by Keith Midson. Keith's experience and qualifications are briefly outlined as follows:

- 23 years professional experience in traffic engineering and transport planning.
- Master of Transport, Monash University, 2006
- Master of Traffic, Monash University, 2004

- Bachelor of Civil Engineering, University of Tasmania, 1995
- Engineers Australia: Fellow (FIEAust); Chartered Professional Engineer (CPEng); Engineering Executive (EngExec); National Engineers Register (NER)

#### **1.4 Project Scope**

The project scope of this TIA is outlined as follows:

- Review of the existing road environment in the vicinity of the site and the traffic conditions on the road network.
- Provision of information on the proposed development with regards to traffic movements and activity.
- Identification of the traffic generation potential of the proposal with respect to the surrounding road network in terms of road network capacity.
- Review of the parking requirements of the proposed development. Assessment of this parking supply with Planning Scheme requirements.
- Traffic implications of the proposal with respect to the external road network in terms of traffic efficiency and road safety.

#### **1.5 Subject Site**

The subject site is located at 31 Nubeena Crescent, Tarooma. The site is currently part of the University of Tasmania's IMAS facility.

The subject site and surrounding road network is shown in Figure 1.

**Figure 1 Subject Site & Surrounding Road Network**



*Image Source: LIST Map, DPIPWE*

## 1.6 Reference Resources

The following references were used in the preparation of this TIA:

- Kingborough Interim Planning Scheme, 2015 (Planning Scheme)
- Austroads, *Guide to Traffic Management, Part 12: Traffic Impacts of Developments*, 2009
- Austroads, *Guide to Road Design, Part 4A: Unsignalised and Signalised Intersections*, 2009
- Department of State Growth, *A Framework for Undertaking Traffic Impact Assessments*, 2007
- Roads and Maritime Services NSW, *Guide to Traffic Generating Developments*, 2002 (RMS Guide)
- Roads and Maritime Services NSW, *Updated Traffic Surveys*, 2013 (Updated RMS Guide)
- Australian Standards, AS2890.1, *Off-Street Parking*, 2004 (AS2890.1:2004)

## 2. Existing Conditions

### 2.1 Transport Network

For the purpose of this report, the transport network consists of Nubeena Crescent and Channel Highway.

Channel Highway near the subject site is classified as a *Category 4 – Feeder Road* under the Planning Scheme and the Department of State Growth publication, *Tasmanian State Road Hierarchy, 2007*.

*Feeder Roads provide safe passenger vehicle and tourist movement within the regions of Tasmania. Where the main road servicing the town is a State Road, Feeder Roads connect towns with a population of around 1,000 or more to Trunk, Regional Freight and Regional Access Roads.*

*While some of these roads currently carry heavy freight traffic, they duplicate existing Trunk, Regional Freight or Regional Access roads and are not DIER's strategically preferred heavy vehicle routes. Feeder Roads facilitate connection to Trunk, Regional Freight and Regional Access roads for:*

- local commercial interaction;*
- local freight movement;*
- smaller regional resource bases;*
- local passenger vehicle movement; and*
- tourists and major tourist destinations.*

Near the subject site, Channel Highway is an urban two-lane, two-way road with an average pavement width of 6.0 – 6.5 metres, widening slightly on the curves. Cycle lanes have been installed on both sides of the Highway, although the cycle lanes are not signed and therefore they act as 'informal' cycle lanes. Channel Highway carries approximately 7,000 vehicles per day near Nubeena Crescent.

Nubeena Crescent is a local residential dead-end street that connects to Channel Highway at its western end, and a boat ramp area at the eastern end. It provides access to residential properties along its length, as well as the University of Tasmania IMAS facilities (the subject site), and the Kelvedon Park sports grounds.

Nubeena Crescent adjacent to the subject site is shown in Figure 2.

**Figure 2 Nubeena Crescent**



## **2.2 Road Safety Performance**

Crash data can provide valuable information on the road safety performance of a road network. Existing road safety deficiencies can be highlighted through the examination of crash data, which can assist in determining whether traffic generation from the proposed development may exacerbate any identified issues.

Crash data was obtained from the Department of State Growth for a 5+ year period between 1<sup>st</sup> January 2014 and 30 September 2019 for the full length of Nubeena Crescent. No crashes were reported in Nubeena Crescent during this time.

## 3. Proposed Development

### 3.1 Development Proposal

The proposed development is a pilot scale rock lobster hatchery. Due to the nature of the use, the proposed development has been specifically designed to accommodate the unique needs of breeding and hatching of the rock lobster.

The proposed building increase from 1 to two storeys, with a maximum height of 9.96 metres. The proposed building is an area of 1,185 m<sup>2</sup>.

The ground floor will be used for plant equipment and the first floor will be segregated into two sections: the office administration and staff facilities; and laboratory and phyllo soma room (hatchery).

Vehicle access to the site will be via the Right of Way through the adjoining lot to the east and enter the site via the south-eastern corner.

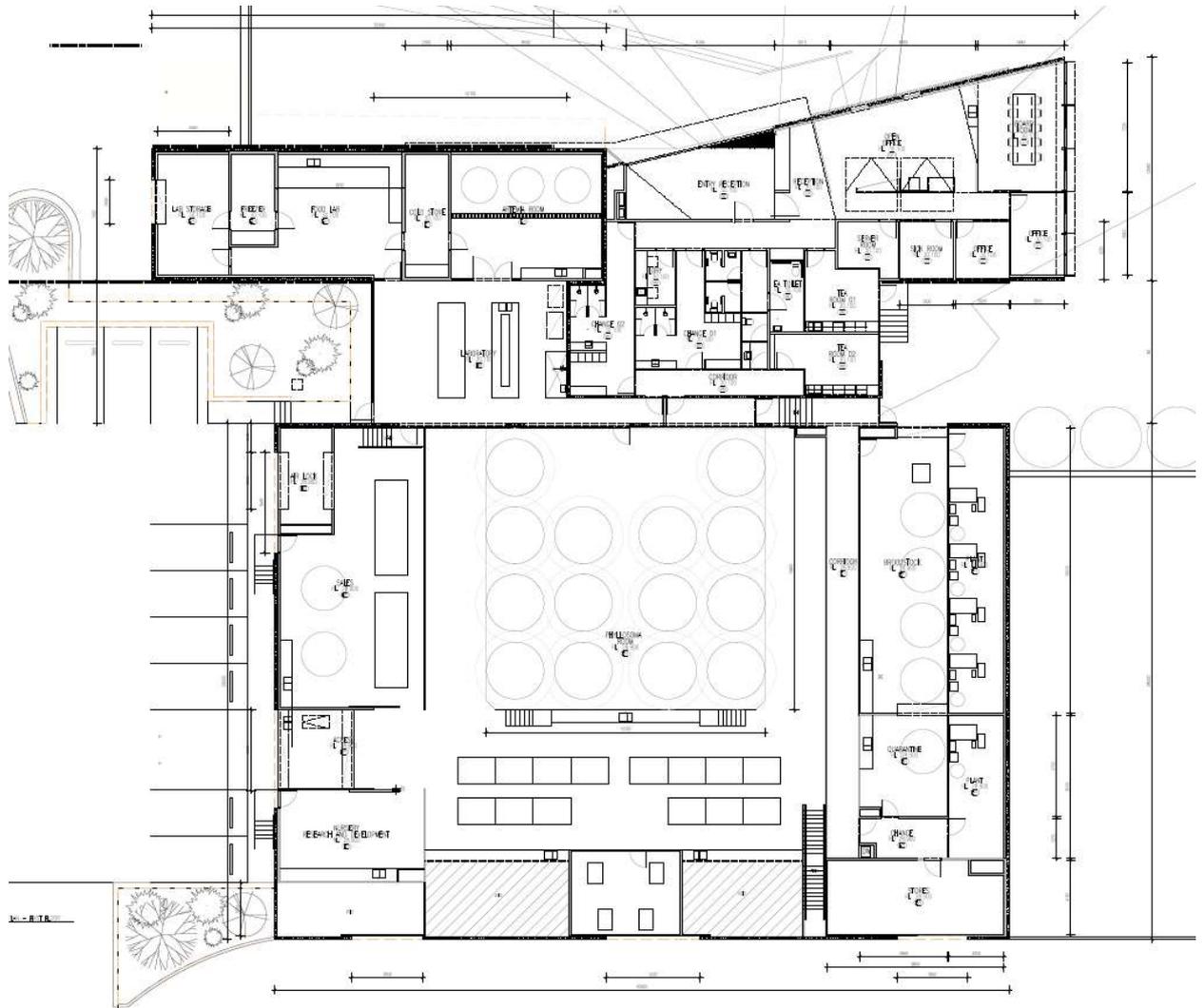
The proposed development will involve the removal of some trees from the site, and the demolition of the existing sheds. Note that some sheds have already been demolished, with one additional shed to be demolished prior to construction. The demolition work will be done separately to the development subject of this work.

Parking is proposed for 10 spaces, including one space for persons with a disability. Areas are also provided for commercial vehicle loading and unloading.

The proposed development is shown in Figure 3. The site layout of the proposed development is provided in Figure 4.



**Figure 4 Building Layout**



## 4. Traffic Impacts

### 4.1 Traffic Generation

The traffic generation of the development was determined from first principles.

The facility will have 10 staff on weekdays and 4 staff on weekends. The weekday traffic movements associated with staff vehicles is likely to be 25 vehicles per day (10 inward arrival trips, 10 outward departure trips, and 5 additional trips associated with other activities).

The development will be serviced by light rigid vehicle trucks and vans. This will include delivery of materials required for the hatchery as well as waste removal. Truck and van deliveries are expected to be several times per week.

The total traffic generation associated with the development is therefore likely to be in the order of 29 vehicles per day with a peak of 10 vehicles per hour.

It is further noted that the proposed development will utilise the existing facilities such as delivery and waste collection. The net traffic generation associated with the site is therefore less than 29 vehicles per day.

### 4.2 Trip Distribution

All traffic will access the site via right-turn entry and left-turn exit on Nubeena Crescent.

### 4.3 Access Impacts

The Acceptable Solution A3 of Clause E5.5.1 of the Planning Scheme states "*The annual average daily traffic (AADT) of vehicle movements, to and from a site, using an existing access or junction, in an area subject to a speed limit of 60km/h or less, must not increase by more than 20% or 40 vehicle movements per day, whichever is the greater*".

The existing access is shared with the University IMAS site. The traffic volumes currently utilising the access are in the order of 200 vehicles per day. The traffic generation of the development therefore meets the requirements of Acceptable Solution A3 of Clause E5.5.1 of the Planning Scheme.

### 4.4 Sight Distance

Acceptable Solution A1 of E5.6.4 of the Planning Scheme states: "*Sight distances at an access or junction must comply with the Safe Intersection Sight Distance shown in Table E5.1*".

Table E5.1 is reproduced in Table 1. The "Vehicle Speed" is defined in the Planning Scheme as "*the actual or recorded speed of traffic passing along the road and is the speed at or below which 85% of passing vehicles travel*". This is often referred to as the "Design Speed" or the "85<sup>th</sup> Percentile speed" in traffic engineering terminology.

**Table 1 Planning Scheme SISD Requirements**

Vehicle Speed	Safe Intersection Sight Distance in metres, for speed limit of:	
	km/h	60 km/h or less
50	80	90
60	105	115
70	130	140
80	165	175
90		210
100		250
110		290

*Source: Table E5.1, Kingborough Interim Planning Scheme, 2015*

The 85<sup>th</sup> percentile speed was estimated to be in the order of 30-km/h near the site's access. The relatively low speed is due to the dead-end and narrow configuration of Nubeena Crescent near the site's access. There is no requirement for vehicle speeds lower than 50-km/h, however the minimum SISD requirement of 80 metres was assumed. More than 80 metres is available to the west of the access and full sight distance is available to the eastern termination of Nubeena Crescent.

The available sight distance therefore meets the Acceptable Solution A1 of Clause E5.6.4 of the Planning Scheme.

#### **4.5 Road Safety Impacts**

No significant adverse road safety impacts are expected for the proposal, as the forecast peak traffic generation will not alter significantly from the existing situation. The following points are relevant in relation to road safety:

- Access to the site does not alter from the existing situation. Car parking facilities will be formalised and all vehicles required to access the site have adequate manoeuvring area.
- The site is located towards the end of a cul-de-sac. Limited unrelated through traffic will travel past the access to the site, thus reducing vehicular conflict at the access.
- Adequate sight distance is available at site's access on Nubeena Crescent for the relatively low prevailing vehicle speeds.
- There is sufficient spare capacity in Nubeena Crescent and the surrounding road network to absorb the traffic generated from the proposed development.
- The crash history in the surrounding road network near the subject site does not indicate that there are any existing road safety issues that may be exacerbated by the increased traffic generated by the proposed development.

## 5. Parking Assessment

### 5.1 Parking Provision

The proposal provides a total of 10 spaces, including one space for persons with a disability. The parking layout is shown in Figure 4.

### 5.2 Planning Scheme Requirements

The objective of E6.6.1 of the Planning Scheme is to ensure that:

- (a) There is enough car parking to meet the reasonable needs of all users of a use or development, taking into account the level of parking available on or outside of the land and the access afforded by other modes of transport.*
- (b) A use or development does not detract from the amenity of users or the locality by:
  - (i) Preventing regular parking overspill;*
  - (ii) Minimising the impact of car parking on heritage and local character.**

The Acceptable Solution, A1, of E6.6.1 of the Planning Scheme states that the number of on-site car parking spaces must be no less than the number specified in Table E6.1. Table E6.1 has no requirement for 'resource development' land use.

The development provides sufficient parking to cater for all staff and visitors of the site without spilling into the adjacent parking areas of the IMAS site or Nubeena Crescent. The proposed development therefore complies with the Acceptable Solution, A1, of E6.6.1 of the Planning Scheme.

### 5.3 Accessible Car Parking

The Acceptable Solution A1 of Clause E6.6.2 of the Planning Scheme states:

*"Car parking spaces provided for people with a disability must:*

- (a) satisfy the relevant provisions of the Building Code of Australia;*
- (b) be incorporated into the overall car park design;*
- (c) be located as close as practicable to the building entrance."*

The development is classified as a 'Class 5' and 'Class 8' building under the BCA Code. This requires the provision of 1 accessible parking space for every 100 spaces. This is a requirement for one accessible parking space.

One accessible parking space is proposed. The location of the disabled parking space is as close as practicable to the building entrance.

The Acceptable Solution A1 of Clause E6.6.2 of the Planning Scheme is met.

#### **5.4 Car Parking Layout**

The Acceptable Solution A1 of Clause E6.7.5 of the Planning Scheme states “*The layout of car parking spaces, access aisles, circulation roadways and ramps must be designed and constructed to comply with section 2 “Design of Parking Modules, Circulation Roadways and Ramps” of AS/NZS 2890.1:2004 Parking Facilities Part 1: Off-street car parking and must have sufficient headroom to comply with clause 5.3 “Headroom” of the same Standard*”.

The car parking is classified as Class 1A (residential, domestic and employee parking) under AS2890.1. AS2890.1 requires the following dimensions for Class 1A car parking:

- Space width 2.4 metres
- Space length 5.4 metres
- Aisle Width 5.8 metres

The spaces comply with AS2890.1 requirements for Class 1A. The Acceptable Solution A1 of Clause E6.7.5 of the Planning Scheme is met.

## 6. Conclusions

This traffic impact assessment (TIA) investigated the traffic and parking impacts of a pilot scale rock lobster hatchery at 31 Nubeena Crescent, Taroona.

The key findings of the TIA are summarised as follows:

- The development is located within existing UTAS IMAS land.
- The traffic generation of the development is likely to be in the order of 29 vehicles per day, with a peak of 10 vehicles per hour. The traffic generation meets the requirements of Acceptable Solution A1 of Clause E5.5.1 of the Planning Scheme at the existing access on Nubeena Crescent.
- The on-site car parking provision meets the requirements of Acceptable Solution A1 of Clause E6.6.1 of the Planning Scheme.
- The on-site provision of accessible parking meets the requirements of Acceptable Solution A1 of Clause E6.6.2 of the Planning Scheme.
- The dimensions of the car parking spaces meet the requirements of AS2890.1 and Acceptable Solution A1 of Clause E6.7.5 of the Planning Scheme.

Based on the findings of this report and subject to the recommendations above, the proposed development is supported on traffic grounds.

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