

Land Use Conflict Risk Assessment Proposed Rezoning Planning Proposal

Location:

Lot 261 DP 1262316 & Lot 11 DP 807867
Rankin Drive Bangalow

Prepared for:

Instant Steel Pty Ltd

Report No:

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RE: Lot 261 DP 1262316 & Lot 11 DP 807867, Rankin Drive Bangalow NSW.

HMC Environmental Consulting Pty Ltd is pleased to present our report for a Land Use Conflict Risk Assessment (LUCRA) for the abovementioned site.

We trust this report meets with your requirements. If you require further information, please contact HMC Environmental Consulting directly on the numbers provided.

Yours sincerely



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(B.App.Sc.Env.Hlth)

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EXECUTIVE SUMMARY

Background

A proposed rezoning of existing vacant land located at Lot 261 DP 1262316 & Lot 11 DP 807867, Rankin Drive, Bangalow NSW (site). The applicant is proposing to rezone part of the land from RU2 Rural Landscape to R2 and R3 Residential for the purposes of a future residential land use. It is noted that part of the total land is already zoned as R2 Residential as shown in Appendix 3. HMC Environmental Consulting (HMC) was commissioned by Instant Steel Pty Ltd to undertake the required investigation to address potential land use conflict and risk of occurrence associated with the proposed rezoning planning proposal for the site, and surrounding properties. The assessment addresses potential conflict prior to the proposed change in land use in accordance with the *Living and Working in Rural Areas Handbook* (Department of Primary Industries et.al, 2007).

A Land Use Conflict Risk Assessment (LUCRA) including a desktop assessment of available information, a detailed site inspection, and consultation with the landowner and owners of neighbouring properties, was undertaken to identify land use compatibility and strategies to minimise land use conflicts. The key constraint identified for the proposed development is the existing agricultural land use (macadamia plantation) to the north of the property.

This LUCRA report presents a consolidation of the best strategies to minimise conflicts that may arise in relation to the proposed land use change in order to assist the Byron Shire Council in assessing potential land use conflicts between the proposed development and neighbouring land uses.

Objectives

The objectives of the Land Use Conflict Risk Assessment (LUCRA) are to:

1. Accurately identify and address potential land use conflict issues and risk of occurrence before the rezoning proceeds or a dispute arises;
2. Assess the effect of the proposed rezoning on neighbouring land uses;
3. Increase the understanding of potential land use conflict to inform and complement development control and buffer requirements; and
4. Highlight or recommend strategies to help minimise the potential for land use conflicts to occur and contribute to the negotiation, proposal, implementation, and evaluation of separation strategies.

Scope of Works

In order to achieve the objectives of this LUCRA, the work undertaken during the investigation included the following:

- Collection of site-specific information including the nature of the current and proposed land use, land uses of adjacent properties, site conditions (topography, climate, and natural features), site history, site inspection and consultation with relevant owners/operators of project site and adjacent properties. Consideration of the proposed and surrounding land uses for incompatibility and conflict issues;
- Evaluation of each recorded land use and identify the level of risk of a land use conflict arising;
- Identification of risk management strategies that may help lower the risk of the issue resulting in a dispute and conflict; and
- Summarising the key issues, their risk level, and recommended management strategies.

Conclusion/Recommendations Summary

The Land Use Conflict Risk Assessment conclusions are based on the information described in this report and appendices and should be read in conjunction with the complete report, including Section 5 Limitations.

A Land Use Conflict Risk Assessment (LUCRA) including a review of aerial photography, surround land uses, a site inspection, and extensive consultation with surrounding neighbours has identified and addressed potential sources of conflict between the proposed development and surrounding land uses.

The primary source of potential conflict was identified as the macadamia plantation on the property located north of the proposed rezoning site at 16 Pioneers Crescent, Bangalow, NSW. The main sources of potential conflict due to the macadamia plantation include agricultural spray drift, noise, odour, and dust. No macadamia nut processing occurs on the farm. The *Living and Working in Rural Areas* handbook recommends a minimum separation buffer of 300m between Residential & Urban Development and Cropping & Horticulture, or a vegetated buffer of 30m. The closest proximity of the macadamia plantation to the subject site is approximately 110m. There is a 100m buffer of Hinterland Way, including approximately 30m of vegetated buffer either side of the roadway.

The existing buffer zones and farming operations are assessed to be sufficient in reducing the likelihood of any conflicts arising from the plantation.

A large rural landholding located at 96 Granuaille Road, Bangalow, west of the proposed rezoning site was also identified as a potential source of conflict, however, there is currently no existing intensive agricultural practices occurring on this property, and, if any agricultural activities occur in the future, the existing buffer distance, and vegetated buffers would ensure any risk of future conflict to be negligible.

Any proposed development on the subject site should be designed to not inhibit existing normal farming practices in order to minimise risk of incompatibility and the resulting potential conflict. When considering potential conflict between residential and agricultural land uses, it is important to recognise that all agricultural activities should be following effective and practical measures to protect the surrounding environment in accordance with the Protection of the Environment Operations Act (POEO) and industry specific guidelines, including legislative guidelines covering the use and handling of agricultural chemicals and work health and safety.

The LUCRA has concluded that the subject site located at Lot 261 DP 1262316 & Lot 11 DP 807867, Rankin Drive Bangalow, NSW, as shown in Appendix 2 of this report, is considered suitable for the proposed rezoning, subject to the following recommendations:

1. The existing vegetated buffer between Hinterland Way and the subject site to be retained and maintained. The vegetated buffer to be a minimum width of 5m, with foliage from the base to the crown to ensure the vegetation is sufficient in trapping and minimising any chemical spray drift and dust from the farming operation entering the proposed rezoning site.
2. Effective communication between neighbours and agricultural land users and any future residents in the proposed rezoned site to be encouraged to ensure that residents are aware of the practices occurring on surrounding agricultural land, particularly the macadamia plantation, to minimise the risk of conflict.

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Abbreviations/acronyms

AS	Australian Standard
Client	Instant Steel Pty Ltd
EPA	Environment Protection Authority
HMC	HMC Environmental Consulting
LEP	Local Environment Plan
LUCRA	Land Use Conflict Risk Assessment
OEH	[NSW] Office of Environment and Heritage
POEO	NSW EPA Protection of the Environment Operations Act 1997
Site	Lot 261 DP 1262316 & Lot 11 DP 807867, Rankin Drive Bangalow, NSW

1 INTRODUCTION

1.1 Background

A proposed rezoning of existing vacant land located at Lot 261 DP 1262316 & Lot 11 DP 807867, Rankin Drive, Bangalow NSW (site). The applicant is proposing to rezone part of the land from RU2 Rural Landscape to R2 and R3 Residential for the purposes of a future residential land use. It is noted that part of the total land is already zoned as R2 Residential as shown in Appendix 3. HMC Environmental Consulting (HMC) was commissioned by Instant Steel Pty Ltd to undertake the required investigation to address potential land use conflict and risk of occurrence associated with the proposed rezoning planning proposal for the site, and surrounding properties. The assessment addresses potential conflict prior to the proposed change in land use in accordance with the *Living and Working in Rural Areas Handbook* (Department of Primary Industries et.al, 2007).

A Land Use Conflict Risk Assessment (LUCRA) including a desktop assessment of available information, a detailed site inspection, and consultation with the landowner and owners of neighbouring properties, was undertaken to identify land use compatibility and strategies to minimise land use conflicts. The key constraint identified for the proposed development is the existing agricultural land use (macadamia plantation) north of the site.

This LUCRA report presents a consolidation of the best strategies to minimise conflicts that may arise in relation to the proposed land use change in order to assist the Byron Shire Council in assessing potential land use conflicts between the proposed rezoning and neighbouring land uses.

1.2 Project Description

The current proposal is for the rezoning of existing vacant land. The property that is to be rezoned has an area of approximately 4.1 hectares. At this stage, a preliminary concept lot layout plan has been provided that indicates a future subdivision including 19 R2 residential lots, ranging from 765m² (Lot 4) to 2925m² (Lot 14), and 2 R3 residential lots, which are 3935m² (Lot 12) and 6450m² (Lot 21). Although the proposed subdivision is not part of this proposal, using the potential future land use as a guide, does provide information that may be used to assess likely conflict issues

The site would be serviced by a new roadway and pedestrian/cycling paths, as well as reticulated water, sewerage, and power/communications. Bangalow is located in the upper reaches of the Wilsons River Catchment, with a proposed water sensitive urban design in place for the proposed lots in order to reach a high level of sustainability and effectively comply with stormwater requirements. Both lots will be connected to the Bangalow Reticulated Sewage System.

1.3 Objectives

The objectives of the Land Use Conflict Risk Assessment (LUCRA) are to:

1. Accurately identify and address potential land use conflict issues and risk of occurrence before the residential subdivision proceeds or a dispute arises;
2. Assess the effect of the proposed residential subdivision on neighbouring land uses;
3. Increase the understanding of potential land use conflict to inform and complement development control and buffer requirements; and
4. Highlight or recommend strategies to help minimise the potential for land use conflicts to occur and contribute to the negotiation, proposal, implementation, and evaluation of separation strategies.

1.4 Scope of Works

In order to achieve the objectives of this LUCRA, the work undertaken during the investigation included the following:

- Collection of site-specific information including the nature of the current and proposed land use, land uses of adjacent properties, site conditions (topography, climate, and natural features), site history, site

inspection and consultation with relevant owners/operators of project site and adjacent properties. Consideration of the proposed and surrounding land uses for incompatibility and conflict issues;

- Evaluation of each recorded land use and identify the level of risk of a land use conflict arising;
- Identification of risk management strategies that may help lower the risk of the issue resulting in a dispute and conflict; and
- Summarising the key issues, their risk level, and recommended management strategies.

Table 1 - Site Identification Summary

Street Address	68 Rankin Drive Bangalow NSW 2479
Site Description (Area)	Lot 261 DP 1262316 Lot 11 DP 807867
Site Area	Approximately 4.2 Ha
Elevation (mAHD)	47 - 100
Geographical Coordinates (MGA Zone 56)	Easting: 556143.552 Northing: 6826283.769 (Approximate centre of site).
Local Government	Byron Shire
Parish	Byron
County	Rous
Existing Zoning	RU2 - Rural Landscape R2 – Low Density Residential
Proposed Zoning	R2 – Low Density Residential, R3 – Medium Density Residential
Land use - Existing	Vacant Rural
Land use - Proposed	Residential
Site Services	Power, Sewage and Water
Surrounding land uses	Agricultural/Residential
Closest Sensitive Environment	Un-named stream located on the lower slopes of the site. Stormwater from the site would be directed towards the un-named stream eventually discharge into the Byron Creek approx. 200m south-east

Table 2 – Site Characteristics

Topography	High to mid slopes of ridgeline Eastern aspect 47-100 mAHD elevation across the site
Regional Geology (Hashimoto et al 2008)	Bedrock geology Expected; Tertiary volcanic (Tv): basalt, rhyolite, trachytes, gabbro and syenite & Quaternary Valley Fill (Qav): silt, clay, fluvial sand and gravel; found throughout un-named stream location.
Soil Landscape (Morand, 1996)	Bangalow (bg) landscape (Expected), Krasnozems 100- >200cm Low rolling hills on Lismore Basalts within the Alstonville Plateau.
Australian Soil Classification https://www.environment.nsw.gov.au/eSpade2Webapp	Ferrosols (FE) Soils with B2 horizons which are high in free iron oxide, and which lack strong texture contrast between A and B horizons These soils are almost entirely formed on either basic or ultrabasic igneous rocks, their metamorphic equivalents, or alluvium derived therefrom. Although these soils do not occupy large areas in Australia, they

	are widely recognised and often intensively used because of their favourable physical properties.
Groundwater Database Search	The online NSW Office of Water groundwater mapping (http://allwaterdata.water.nsw.gov.au/water.stm) shows no registered groundwater bores within 500m of the site. The closest groundwater bore lies approximately 1.2km south of the subject site.

2 GATHER INFORMATION

2.1 Nature of the Land Use Change and Development Proposed

The objective of this Planning Proposal is to amend the Byron L.E.P. 2014 to extend the existing R2 Low Density Residential Zone to cover the majority of the site (Lot 261 DP 1262316, and Lot 11 DP 80786), and to rezone the eastern portion of the site into R3 Medium Density Residential. A future concept plan would include the subdivision of the site to provide for 19 R2 residential lots, and 2 R3 residential lots.

The property is currently zoned as R2 Low Density Residential and RU2 Rural Landscape under the Byron LEP 2014. The proposed rezoning would consolidate the existing RU2 into the existing R2 zone to form a R2 zone that would extend across majority the site and rezone the eastern portion into R3 zone. (see **Appendix 2**).

2.2 Surrounding Land Use

Location	Site Description	Zone Byron LEP 2014	Land Use
North North-east	Lot 1 DP 1154192, 16 Pioneers Crescent	RU2 Rural Landscape	Located further north of the subject site, across Hinterland Way, and covers an area of approximately 38.7ha of which 12.2ha is under macadamia production. A consultation with the owner of the macadamia plantation revealed that spraying occurs on the property twice a year over two-day periods.
South	Rankin Drive, Corlis Crescent, Barby Crescent	R2 Low density residential	Residential subdivision
South South-east	Lot 262 DP 1262316, 3 Corlis Crescent	R2 Low density residential RU2 Rural Landscape	Currently vacant land with no evidence of any active agricultural land use.
West	Satinash Crescent	R2 Low density residential	Residential subdivision
Further West	Lot 4 DP 803839, 96 Granuaille Rd	RU2 Rural Landscape	Large rural property is currently used for rural residential with pasture. No grazing or agricultural activity currently being undertaken on the land. Owner advises future agricultural activities are being planned.
South- west	Lot 2 DP 790257, 46 Granuaille Rd	RU1 Primary Production	A rural property southwest of the site is currently used for macadamia production.

2.3 Topography, Climate and Natural Features

The property is generally elevated on the western side with moderate sloping towards the east, varying between 100 and 47m AHD. The site aspect is generally to the east.

The subject site is a rural lot that is generally cleared of vegetation, in which the site was previously covered by camphor laurel infestation. Some mature trees remain along the south-western boundary, including a forest red gum which is to be removed. The 4.1 ha site is currently vacant with no structures existing. The site slopes generally east towards an unnamed creek flowing through the site which is directed southeast into the Byron Creek.

The soils within the subject site are generally deep, well drained alluvial kransozem.

The subject site is located the sub-tropical climatic zone of northern NSW with the climate being described as humid-subtropical. Rainfall is seasonal, mainly concentrated in the summer months. The provided climate averages for Byron Bay (Cape Byron Lighthouse) weather station gives a good indication of the general climatic conditions experienced in the Byron locality, however, is not indicative of the exact onsite weather conditions of the subject site. The dominant wind at 9am is from the south-westerly (27.3%), while the dominant wind at 3pm is a mix of both south-easterly (25.6%) and northerly (17.6%).

2.4 Site Inspection

A site inspection was conducted by Taylah Richards of HMC on 27 November 2019. On the day of the inspection the weather was overcast. The site inspection shows the existing lot is generally cleared of native vegetation. Stockpiles of removed Camphor sp. were spread across the lower margins of the subject site. The site is bounded to the north by the Hinterland Highway and to the east by old railway lines. An un-named stream runs through the site which flows southeast into Byron Creek. The site extends east and west and generally has a northern aspect. The site slopes steeply from the upper regions near Rankin Drive to the east towards Byron Creek. There is an existing vegetated buffer on the northern side of the property of >30m between the site and Hinterland Way.

2.5 Consultation

From the 22nd April to 30th April, consultation was undertaken by Helen Tunks of HMC with neighbouring residents to determine the nature of land use on their properties and the extent and practices of any agricultural operations. A summary of the consultation undertaken and the relevant comments to potential land use conflicts are provided in **Table 3**.

Table 3 – Consultation with Neighbouring Residents

Neighbouring Resident Details	Comments
Lewis Haigh Owner 16 Pioneers Cres	Phone conversation on 23/04/2021. Owned the property since 2012. Macadamia farm of 3500 trees operated by a share farmer who works on 7 farms and lives off-site. Operating hours 7.30am – 3pm with typically two irregular days a month. Harvests three times a year (April, July, December). No processing onsite, nuts are binned and transported offsite for husking and processing. Pesticide/Herbicide spray occurs twice a year for 2 days via evaporative distributor (humidifier) on back of tractor. Fertilising occurs twice a year via ground throw machine using pellet/dust. No objections or concerns about the proposed development.
Ben Campbell Partner of owner 32 Satinash Cres	Phone conversation on 22/04/2021. Property used for residential activity only. No objections or concerns about the proposed development.
Tim Hall Owner 26 Satinash Cres	Phone conversation on 22/04/2021. Property used for residential activity only. Proposed rezoning and future subdivision of land considered.

	No objections or concerns about the proposed development.
Rae Franks Owner 24 Satinash Cres	Called and left a message on 22/04/2021, along with a follow up SMS requesting a call back. No response received.
Shane Mahoney Partner of Owner 20 Satinash Cres & 88 Rankin Dr	Phone conversation on 22/04/2021. Property used for residential activity only. Proposed rezoning and future subdivision of land considered. Raised objections against proposed development regarding the loss of Koala habitat and the visual amenity impact.
Ellan Lehane Owner 90 Rankin Dr	Phone conversation on 22/04/2021. Property used for residential activity only. No objections or concerns about the proposed development.
John Loxton 86 Rankin Dr	Unable to contact. Residential lot.
David Adams Owner 66 Rankin Dr	Phone conversation on 22/04/2021. Property used for residential activity only. No objections or concerns about the proposed development.
Christopher & Rebecca Proctor 3 Corlis Cres	Unable to contact. Daughter of proponent. Property vacant land with no current land use. Proposed rezoning and future subdivision considered with a road linking to subject site.
Mike Tomkins 96 Granuaille Rd	Phone conversation on 28/04/2021. Currently residential with pasture, future extension of agricultural activities being planned by owner, focusing on food crops.

2.6 Potential Land Use Conflicts

The potential land use conflicts below have been identified following a review of the desktop assessment and interviews with stakeholders.

2.6.1 Noise

Noise can easily cause conflict between adjoining properties, particularly in rural areas. Noise is to be expected in rural areas, particularly where agricultural industries are operating. Ensuring physical buffers (distance from source to sensitive receiver) are the best passive noise control. Best practice for preventing noise from causing conflict between landowners would include communication, advising neighbours when activities necessary for farm production that might cause noise nuisance, may occur.

Potential sources include:

- farming machinery,
- motor bikes,
- livestock, and
- ancillary machinery for onsite processing.

Noise nuisance can be reduced by maintaining equipment, operating within normal working hours, and being aware of potential noise nuisance when background noise is reduced (generally outside working hours - at night or early morning, Sundays).

There is a large-scale macadamia plantation on 16 Pioneers Crescent, to the north of the subject site, consisting of 3500 trees. There is a significant physical buffer (minimum 110m) between the macadamia farm and the proposed rezoning site.

It was confirmed during consultation with the current owner of the land that there is no processing occurring onsite, the macadamias are binned and transported offsite for husking and processing. There are typically three harvest periods a year (April, July, and December), with the associated vehicle movements generating noise. Fertilising

occurs twice a year via a ground throw machine using pellets/dust. Pesticide/herbicide spraying also takes place twice a year over a two-day period via an evaporative distributor (humidifier) on the back of a tractor. Other general farming practises can be a source of noise including mowing and the pruning of the trees.

2.6.2 Odour

There are many odours associated with agricultural practices which can have significant impacts on residential amenity with potential to affect resident's health. These can include odours associated with chemical sprays, fertilisers, cattle, and composting.

Large numbers of cattle inhabiting a small area of land (holding yards/feed lots) can result in a significant build-up of odours, particularly associated with the decomposition of animal waste.

The odour from chemical spray drift may be a source of alarm for residents adjoining macadamia plantations, and can raise fears, resulting in potential to cause conflict between landowners. The odours are related to particular identifiable 'markers' in the agricultural chemicals, and the strength of the odour is not necessarily indicative of the level of exposure, and the concentration of chemicals present. An individual's capacity to detect the odours varies greatly.

Communication between land users is critical in managing the risk of conflict arising due to the odour of chemical spray drift. If neighbours are notified when spraying will occur, and the type of chemicals being used, it can help to alleviate the fear associated with any odour emissions.

Vegetated buffer zones can also be an effective measure in trapping the bulk of the drift before it reaches neighbouring properties and, therefore, reduce odour impacts.

2.6.3 Dust

Dust generation from agricultural properties and operations is common particularly in dry seasons, due to:

- cultivation,
- fallow or bare ground,
- vehicle movements,
- livestock movements and yards and
- spreading fertiliser.

The main sources from a macadamia plantation would likely be:

- vehicle movements,
- cultivation prior to planting the trees, and
- the use of dust fertilisers.

The extent of the dust nuisance and perceived impacts arising from these operations are reliant on the climatic conditions (wind strength and direction, rainfall, humidity, and temperature), the soil type, and the vegetation cover. Vegetated buffers between the properties can help alleviate the amount of dust drifting onto the subject site and the risk of conflict.

2.6.4 Pests

Pest species are a big problem for North Coast NSW and can have a significant impact on agricultural, communities, threatened species and ecological communities. Pests, particularly rodents and flies, can also increase the risk of disease. It is therefore vital that communities work together and share the responsibility to manage pests in their local area. The NSW Government's *North Coast Regional Strategic Pest Animal Management Plan 2018-2023* outlines strategies to control and eradicate pest species in the area that should be adopted by all landowners and residents.

The use of pesticides as a control measure is standard practice by farmers, and it is a requirement by law that they strictly follow correct procedures and directions of the specific pesticide used. Chemicals must be stored safely, recording use. Farm practices that minimise pest breeding on rural land must also be adopted for the benefit of the entire community.

2.6.5 Operating Times

The standard farm operation time is during daylight hours for both practical and safety reasons. Irrigation is often undertaken during twilight and night times to take advantage of reduced evaporation and wind speed. Pumping needs to be monitored to ensure noise nuisance is not a problem to sensitive receivers, especially during times when background noise is low.

2.6.6 Chemical Use and Agricultural Spray Drift

Spray drift is when herbicide/pesticide chemicals used on agricultural properties become airborne and move onto a non-target area. These chemicals have the potential to injure or damage people, plants, animals, properties, or the environment. There is a substantial risk of conflict arising due to agricultural spray drift particularly with the fear associated with the exposure of chemicals and the affects it can have on the health of the neighbours of the agricultural properties. There are many factors which contribute to the likelihood of spray drift, including the types of chemicals used, the method of application and the weather conditions. Droplet size of the chemical spray is also a significant factor contributing to the risk of spray drift - the smaller the droplet size, the higher the risk of spray drift. It is the most important factor in managing the risk of spray drift, and is determined by the applicator and nozzles used, as well as the height in which the spray is released.

A discussion with the neighbouring macadamia plantation owner, Lewis Haigh, revealed that a variety of herbicides and pesticides are used as required under suitable weather conditions and restricted to the target trees as per the manufacturer's directions. Mr Haigh stated that agricultural spraying occurs twice a year for a period of two days. The spraying is via an evaporative distributor (humidifier) on the back of a tractor. He also fertilises the orchards twice a year via a ground throw machine using pellets. Given that Mr Haigh is following the regulations required for chemical spray, and the relatively low height at which the spray is released, there is a reduced risk of spray drift.

Buffer zones help to minimise drift into non-target areas including neighbouring properties. The planning guidelines for setback distances based on available research recommends a minimum of 300 m where open ground conditions apply, or 40 m where a vegetated buffer can be implemented. The distance between the site and adjoining agricultural operations is >100m. The setback between the site and the macadamia plantation is >300m.

There is an existing vegetated buffer of >30 m between the macadamia plantation and the Hinterland Way and an additional vegetated buffer of >20 m between Hinterland Way and the subject site. 2. It is therefore considered to have a minor risk of conflict.

2.6.7 Surface Water and Sediment Runoff and Run-on

The majority of sediment export off-site occurs during earthworks and construction activities prior to landscaping and stabilisation of the ground surface. The site grades to the east towards the Byron Creek and not towards adjoining properties. The construction and operation of the residential properties on the proposed lots would not result in any surface or sediment runoff depositing onto neighbouring land. During construction, all earthworks would be completed in accordance with an approved Erosion and Sediment Control Plan.

The cattle grazing property west of the site slopes west away from the site. No run-on is expected from this agricultural activity. The macadamia plantation on the property to the north does slope towards the subject site, however the Hinterland Highway bisects the area between the macadamia farm and the site providing a buffer from run-on water, which would instead be diverted towards Byron Creek.

2.6.8 Koala Habitat Destruction

A concern was raised by an adjoining neighbour to HMC regarding the development causing the destruction of koala habitat. A forest red gum is located on the southwest portion of the site, which is listed in the Significant Tree

Register as a koala food tree. The proposed alignment of the access road to access future lots has been designed to preserve the tree and prevents its removal. In addition, increasing the koala habitat was addressed during the planning process, with planting of established koala food trees proposed in the riparian area along the unnamed creek on the eastern boundary of the subject site. These measures would appear to be a reasonable response to alleviate any significant conflicts between landowners.

2.6.9 Increased Traffic

Traffic impacts would be assessed during the preparation of any future development application. The rezoning proposal is not expected to generate traffic along main road frontages and, any future subdivision would be designed to ensure all relevant traffic impacts relating to the proposed development have been identified, assessed, and mitigated.

3 LAND USE CONFLICT RISK ASSESSMENT

3.1 Introduction

This report utilises a risk assessment matrix to identify and rank the potential land use conflicts resulting from the proposed rezoning of Lot 261 DP 1262316 & Lot 11 DP 807867, Rankin Drive, Bangalow NSW. It assesses the environmental and public health impacts as well as any impacts on general amenity of the area in accordance with the probability of occurrence and the severity of the impact. Risk management strategies are then identified in order to mitigate any potential impacts and reduce potential land use conflicts between the subject site landowners and surrounding neighbouring landowners.

3.2 Risk Assessment and Risk Ranking

The risk ratings have been assessed through the consequences of the risks and the likelihood of the risks occurring. The risk is defined by the measure of consequence if it were to occur, based on 5 levels of consequence (**Table 4**). It is then scored on the likelihood of the consequence occurring and given a probability level of A – D (**Table 5**).

Table 4 – Measure of Consequence

Level: 1	Descriptor: Severe
Description	- Severe and/or permanent damage to the environment - Irreversible - Severe impact on the community - Neighbours are in prolonged dispute and legal action involved
Example/ Implication	- Harm or death to animals, fish, birds, or plants - Long term damage to soil or water - Odours so offensive some people are evacuated or leave voluntarily - Many public complaints and serious damage to Council's reputation - Contravenes Protection of the Environment & Operations Act 1997 and the conditions of Council's licences and permits. Almost certain prosecution under the POEO Act
Level: 2	Descriptor: Major
Description	- Serious and/or long-term impact to the environment - Long-term management implications - Serious impact on the community - Neighbours are in serious dispute
Example/ Implication	- Water, soil or air impacted, possibly in the long term - Harm to animals, fish or birds or plants - Public complaints. Neighbour disputes occur. Impacts pass quickly - Contravenes the conditions of Council's licences, permits and the POEO Act - Likely prosecution
Level: 3	Descriptor: Moderate

Description	- Moderate and/or medium-term impact to the environment and community - Some ongoing management implications - Neighbour disputes occur
Example/ Implication	- Water, soil or air known to be affected, probably in the short term - No serious harm to animals, fish, birds, or plants - Public largely unaware and few complaints to Council - May contravene the conditions of Council's Licences and the POEO Act - Unlikely to result in prosecution
Level: 4	Descriptor: Minor
Description	- Minor and/or short-term impact to the environment and community - Can be effectively managed as part of normal operations - Infrequent disputes between neighbours
Example/ Implication	- Theoretically could affect the environment or people but no impacts noticed - No complaints to Council - Does not affect the legal compliance status of Council
Level: 5	Descriptor: Negligible
Description	- Very minor impact to the environment and community - Can be effectively managed as part of normal operations - Neighbour disputes unlikely
Example/ Implication	- No measurable or identifiable impact on the environment - No measurable impact on the community or impact is generally acceptable.

Table 5 – Probability Table

Level	Descriptor	Description
A	Almost Certain	Common or repeating occurrence
B	Likely	Known to occur, or 'it has happened'
C	Possible	Could occur, or 'I've heard of it happening'
D	Unlikely	Could occur in some circumstances, but not likely to occur
E	Rare	Practically impossible

A Risk Ranking Matrix is used to rank the identified potential land use conflicts by assessing the environmental, public health and amenity impacts based on the probability of occurrence and the consequence of that impact. The risk ranking matrix yields a ranking from 11 to 25 to identify the risk of each impact (**Table 6**).

- 25 - highest magnitude of risk; a highly likely, very serious event.
- 11 – 25 is considered to be an unacceptable risk, and;
- 1 to 10 is considered to be acceptable.

Priority is given to those activities listed as the highest risk.

Table 6 – Risk Ranking Matrix

PROBABILITY	A	B	C	D	E
Consequence					
1	25	24	22	19	15
2	23	21	18	14	10
3	20	17	13	9	6
4	16	12	8	5	3
5	11	7	4	2	1

3.3 Risk Mitigation Management Strategies

When the risk receives a ranking of greater than 10, appropriate management strategies need to be identified that either affect the probability of the event occurring or reduces the consequence that the event has if it occurs. The risk level is then reassessed on the basis that these controls be implemented which lowers the risk ranking score to 10 or below. These strategies should then be monitored to ensure they are meeting the performance targets and effectiveness.

Table 7 – LUCRA Site Assessment

Potential Conflict Issue	Risk Ranking	Management Strategy	Controlled Ranking
Chemical Use/ Agricultural Spray Drift	C3 = 13 Unacceptable	Buffer zones help to minimise chemical spray drift into sensitive areas and should be sufficiently in depth to trap the bulk of any drift. The setback from the proposed rezoning site to the northern macadamia plantation is approximately 110m. There is a 100m buffer of Hinterland Way, including ~30m of vegetated buffer either side of the roadway. The <i>Living and Working in Rural Areas</i> handbook recommends a minimum separation buffer of 300m between Residential & Urban Development and Cropping & Horticulture, or a vegetated buffer of 30m. The existing buffer zones would reduce conflicts arising from spray drift. It is recommended that the existing vegetated buffer be retained and maintained on the northern side of the boundary. Communication between residents and the macadamia plantation is also recommended.	D4 = 5 Acceptable
Noise	C5 = 4 Acceptable	Noise associated with agricultural practices are a common occurrence in rural areas most commonly associated with vehicle movements. Given the existing setbacks, the intermittent use of farming vehicles for the plantation and the daytime operating times, the noise impacts are deemed to be negligible and unlikely to result in any conflict.	C5 = 4 Acceptable
Odour	B4 = 12 Unacceptable	The existing vegetated buffer between the properties should be effective in reducing any animal manure odour. The vegetated buffer would also capture the chemical spray drift which would also be effective in reducing the likelihood of conflict due to odour.	D4 = 5 Acceptable
Dust	B3 = 17 Unacceptable	The existing separation and vegetated buffer zones and the geographical landscape of the surrounding lands should be effective in reducing any off-site dust from impacting the site.	D4 = 5 Acceptable
Pests	B3 = 17 Unacceptable	Strategies and effective management by all landowners can significantly decrease the presence and impact of pest species in the community. Practices to minimise breeding, the correct use of pesticides and maintaining buffer areas between properties in an effective and timely manner will result in a decrease in pest species and, in turn, reduced conflict between neighbours.	D4 = 5 Acceptable
Operating Times	D4 = 5 Acceptable	The operating hours of the macadamia plantation is generally restricted to daylight hours only, therefore unlikely to result in conflict. No processing or husking occurs on the farm. Effective communication between the macadamia farm and the future residents of the proposed rezoning site would help alleviate concerns relating to potential noise nuisance. In the unlikely event of noise nuisance from impacts on the site from	D4 = 5 Acceptable

		off-site noise, any breach is able to be controlled via POEO (Noise Control) Regulation 2017	
Surface Water & Sediment Runoff and Run-on	D5 = 2 Acceptable	The site slopes towards the east away from neighbouring land and towards the Byron Creek, and therefore, will not cause any runoff from depositing sediment onto other properties. Hinterland Way acts as a buffer to prevent run-on from the neighbouring northern agricultural properties onto the site. The cattle grazing property to the west grades away from the site and would not discharge run on water onto the site.	D5 = 2 Acceptable
Koala Habitat Destruction	D2 = 14 Unacceptable	There are no koala habitat trees proposed to be removed. There is also additional koala feed trees proposed in the riparian area along the unnamed creek on the eastern boundary of the site. The forest red gum koala food tree, located on the southwest portion of the site, is to be protected and the access road is aligned to achieve this.	D4 = 5 Acceptable
Increased Traffic	D4 = 5 Acceptable	Traffic is not expected to be generated along the main road frontages and any future development application for a proposed subdivision would be designed to ensure all relevant traffic impacts have been identified, assessed, and mitigated.	D4 = 5 Acceptable

4 CONCLUSIONS AND RECOMMENDATIONS

The Land Use Conflict Risk Assessment conclusions are based on the information described in this report and appendices and should be read in conjunction with the complete report, including Section 5 Limitations.

A Land Use Conflict Risk Assessment (LUCRA), including a review of aerial photography, surrounding land uses, a site inspection, and extensive consultation with surrounding neighbours has identified and addressed potential sources of conflict between the proposed rezoning and surrounding land uses. The primary source of potential conflict was identified as the macadamia plantation on the property to the north, located at Lot 1 DP 1154192, 16 Pioneers Crescent, Bangalow, NSW. No macadamia nut processing occurs on the farm. A large rural landholding was identified as a potential source of conflict to the west at 96 Granuaille Road, Bangalow, however, there is currently no existing intensive agricultural practices occurring and, if any agricultural activities occur in the future, the existing buffer distance, and vegetated buffers demonstrate any risk of future conflict to be negligible.

The main sources of potential conflict due to the macadamia plantation include agricultural spray drift, noise, odour, and dust. The closest proximity of the macadamia plantation to the subject site is approximately 110m. There is a 100m buffer of Hinterland Way, including approximately 30m of vegetated buffer either side of the roadway. The *Living and Working in Rural Areas* handbook recommends a minimum separation buffer of 300m between Residential & Urban Development and Cropping & Horticulture, or a vegetated buffer of 30m. The existing buffer zones and current farming operations are deemed to be sufficient in reducing the likelihood of any conflicts arising from the plantation.

Any future development on the proposed rezoning site should be planned and designed to not inhibit existing normal farming practices in order to minimise risk of incompatibility and the resulting potential conflict. When considering potential conflict between residential and agricultural land uses, it is important to recognise that all agricultural activities should be following effective and practical measures to protect the surrounding environment in accordance with the Protection of the Environment Operations Act 1997 (POEO) and industry specific guidelines, including legislative guidelines covering the use and handling of agricultural chemicals, and work health and safety.

The LUCRA has concluded that the subject site located at Lot 261 DP 1262316 & Lot 11 DP 807867, Rankin Drive Bangalow, NSW, as shown in Appendices 1 and 2 of this report, is considered suitable for the proposed rezoning planning proposal, subject to the following recommendations:

1. The existing vegetated buffer between Hinterland Way and the subject site to be retained and maintained. The vegetated buffer to be a minimum width of 5m, with foliage from the base to the crown to ensure the vegetation is sufficient in trapping and minimising any chemical spray drift and dust from the farming operation entering the proposed rezoning site.
2. Effective communication between neighbours and agricultural land users and any future residents in the proposed rezoned site to be encouraged to ensure that residents are aware of the practices occurring on surrounding agricultural land, particularly the macadamia plantation, to minimise the risk of conflict.

5 LIMITATIONS

Any conclusions presented in this report are relevant to the site condition at the time of inspection and legislation enacted as at date of this report. Actions or changes to the site after time of inspection or in the future will void this report as will changes in relevant legislation.

The findings of this report are based on the objectives and scope of work outlined in Section 1. HMC Environmental has performed the services in a manner consistent with the normal level of care and expertise exercised by members of the environmental assessment profession. No warranties or guarantees expressed or implied, are given. This report does not comment on any regulatory issues arising from the findings, for which a legal opinion should be sought. This report relates only to the objectives and scope of work stated and does not relate to any other works undertaken for the client. The report and conclusions are based on the information obtained at the time of the assessment.

The land uses, buffers, and potential conflicts were determined based on the activities described in the scope of work. Additional site information held by the client, regulatory authorities or in the public domain, which was not provided to HMC Environmental or was not sourced by HMC Environmental under the scope of work, may identify additional land uses, and/or potential conflicts. The information sources referenced have been used to determine the land use and potential conflict.

Whilst HMC Environmental has used reasonable care to avoid reliance on data and information that is inaccurate and unsuitable, HMC Environmental is not able to verify the accuracy or completeness of all information and data made available. Further land use/activities may exist at the sites, which were not identified in the LUCRA, and which may not be expected at the site or surrounding land. If additional certainty is required, additional land use/activities investigations or desktop studies, should be commissioned.

The results of this assessment are based upon site inspections and fieldwork conducted by HMC Environmental personnel and information provided by the client. All conclusions regarding the property area are the professional opinions of the HMC Environmental personnel involved with the project, subject to the qualifications made above. HMC Environmental assume no responsibility or liability for errors in any data obtained from regulatory agencies, information from sources outside of HMC Environmental, or developments resulting from situations outside the scope of this project.

SIGNATURE

This report has been prepared by Mark Tunks of HMC Environmental Consulting Pty Ltd.



.....

24 June 2022
Completion Date

Mark Tunks
Principal

6 REFERENCES

Byron Shire Council, 2014, *Byron Shire Development Control Plan 2014*, Chapter B6 – Buffers and Minimising Land Use Conflict, NSW.

Darney, R., 2021, *Planning Proposal For Amendment of Byron Local Environmental Plan 2014 Lot 261, D.P. 1262316, and Lot 11, D.P. 807867 Rankin Drive, Bangalow Prepared by: Ray Darney January 2021*

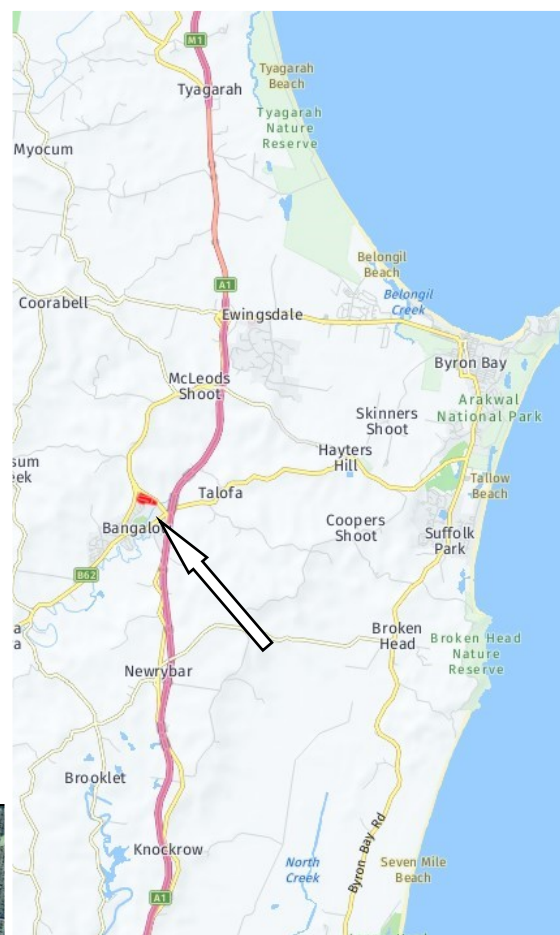
DPI, 2007, *Living and working in Rural Areas – a handbook for managing land use conflicts on the NSW North Coast*. Department of Primary Industries et al, NSW.

DPI, 2020, *Macadamia plant protection guide 2020-21*, Department of Primary Industries, NSW.

Planning Guidelines Separating Agricultural and Residential Uses, Queensland, Department of Natural Resources, 1997.

7 APPENDICES

Appendix 1 Location Map



**Figure 1 - Surrounding Area - Arrow pointing to investigation area within Bangalow, NSW
(Source: Nearmap, 2022)**

Appendix 2 Property Boundaries



Figure 2 – Subject Site (Source: Nearmap, 2022)

Appendix 3 Existing Zoning

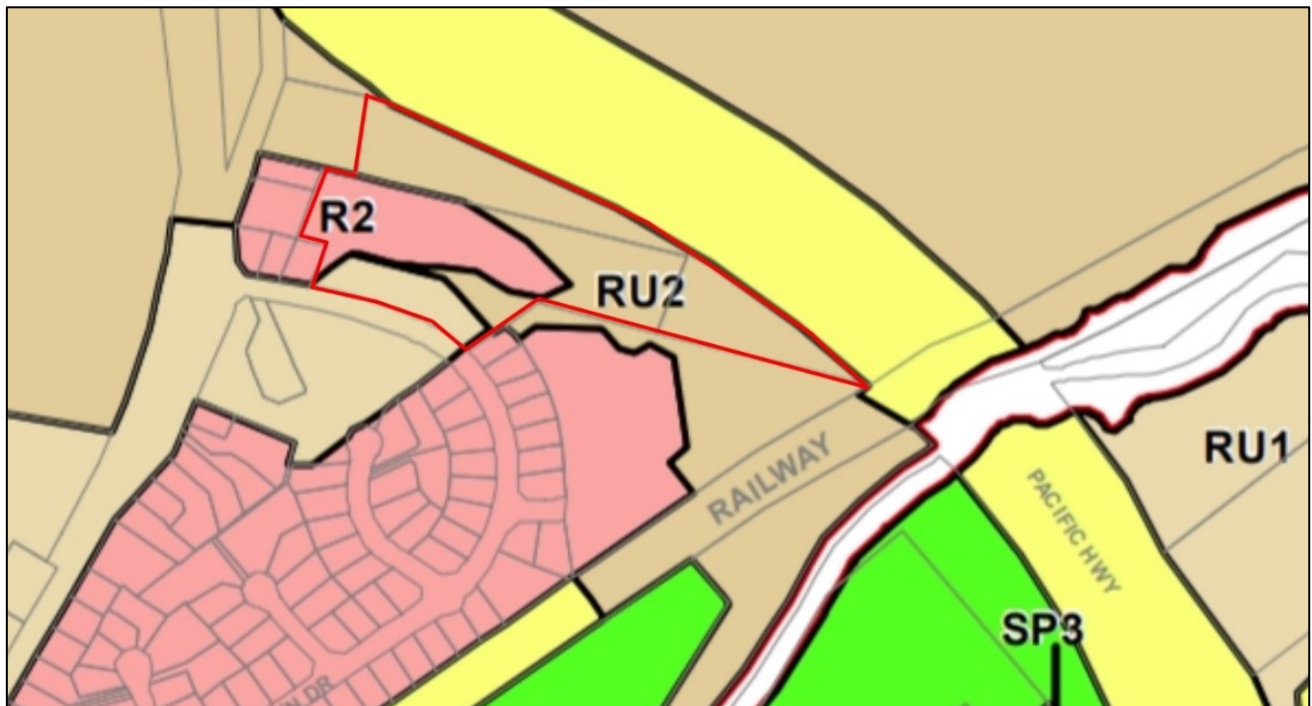
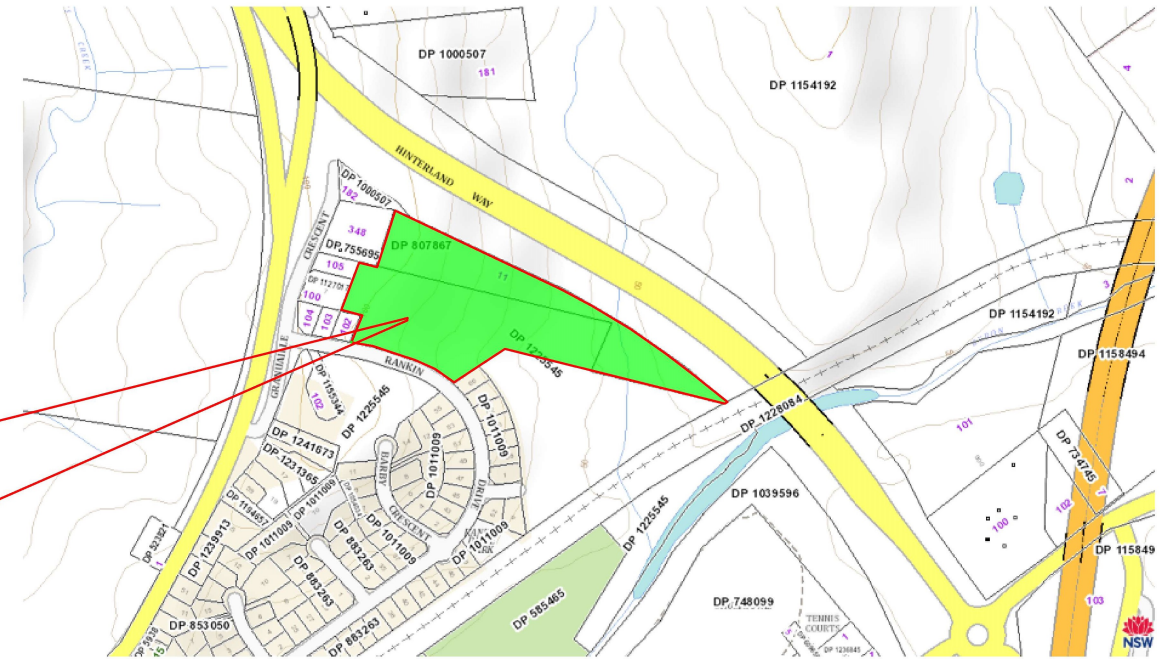
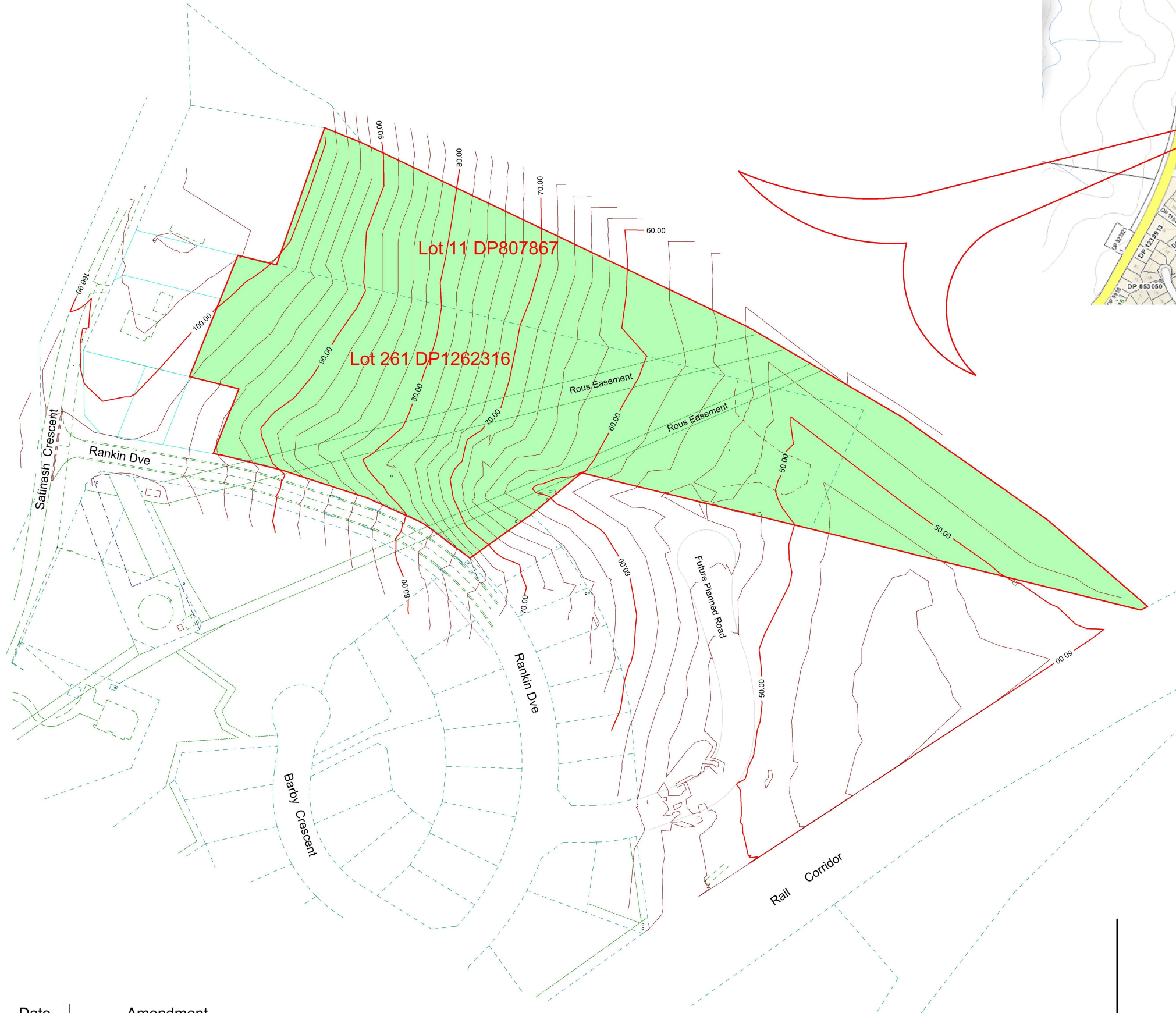


Figure 3 - Existing Zoning (Byron LEP 2014)

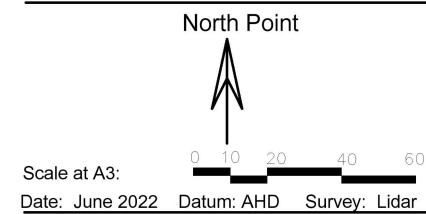
Appendix 4 Proposed Plans

SEE FOLLOWING PAGE



Site Locality Plan

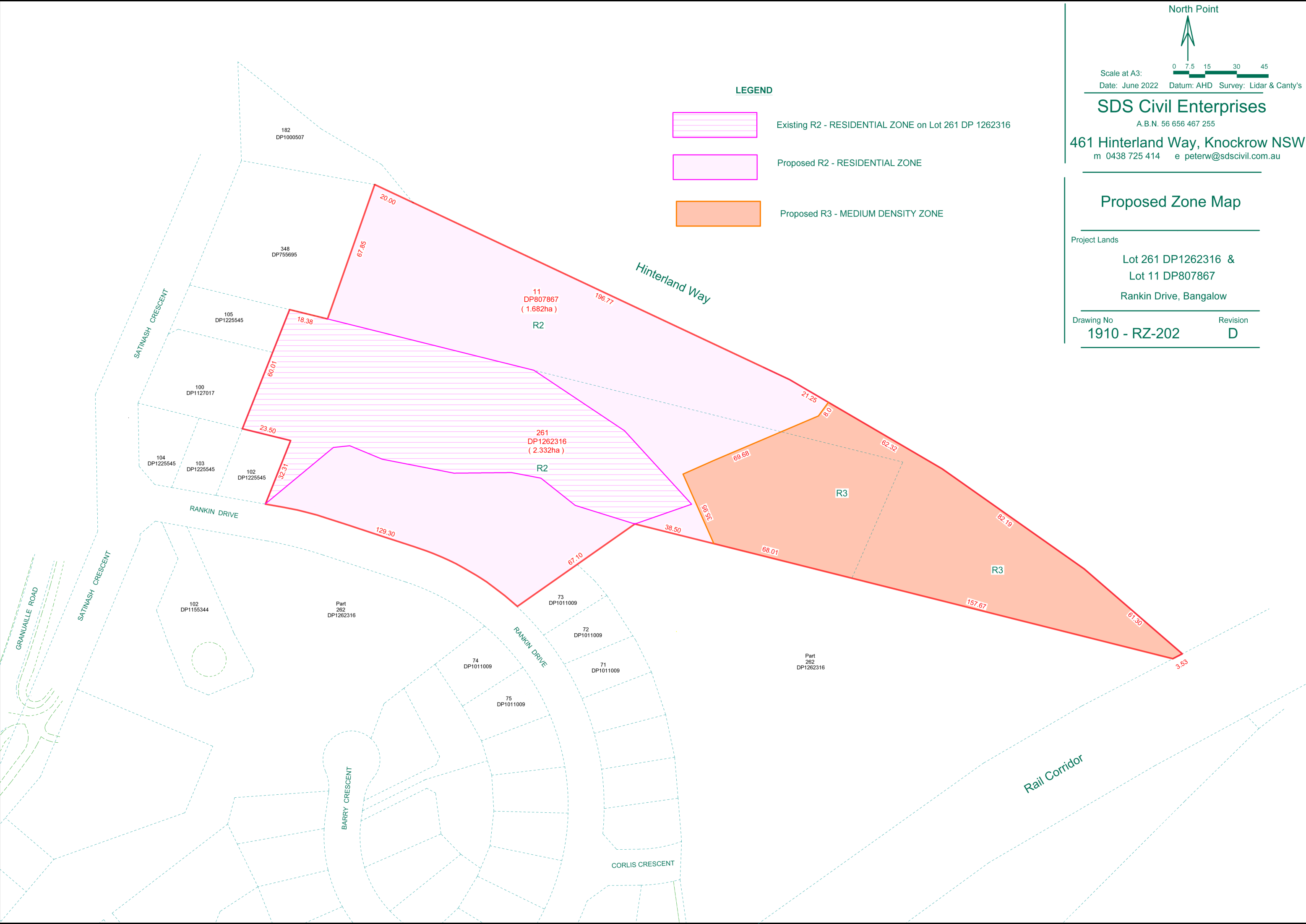
Rev	Date	Amendment
A	Aug20	Client Review Amendments
B	June 2022	Updated Lot / DP Description, Revised Site Boundary
C		
D		
E		
F		
G		



SDS Civil Enterprises
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Client	Instant Steel Pty Ltd	
Project	Land Rezoning Submission Lot 261 DP1262316 & Lot 11 DP807867 Rankin Drive, Bangalow	
Drawing Title	Site Location Details & Contours	
Drawing No	1910 - RZ1	Revision B
Drawing Issue Status / Purpose	Planning Application	



North Point



Scale at A3:
Date: June 2022 Datum: AHD Survey: Lidar & Canty's

SDS Civil Enterprises

A.B.N. 56 656 467 255

461 Hinterland Way, Knockrow NSW
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Proposed Zone Map

Project Lands

Lot 261 DP1262316 &
Lot 11 DP807867
Rankin Drive, Bangalow

Drawing No Revision
1910 - RZ-202 D

Appendix 5 Aerial Photograph showing Existing Buffers

SEE FOLLOWING PAGE

**LAND USE
CONFLICT RISK
ASSESSMENT**

SETBACKS

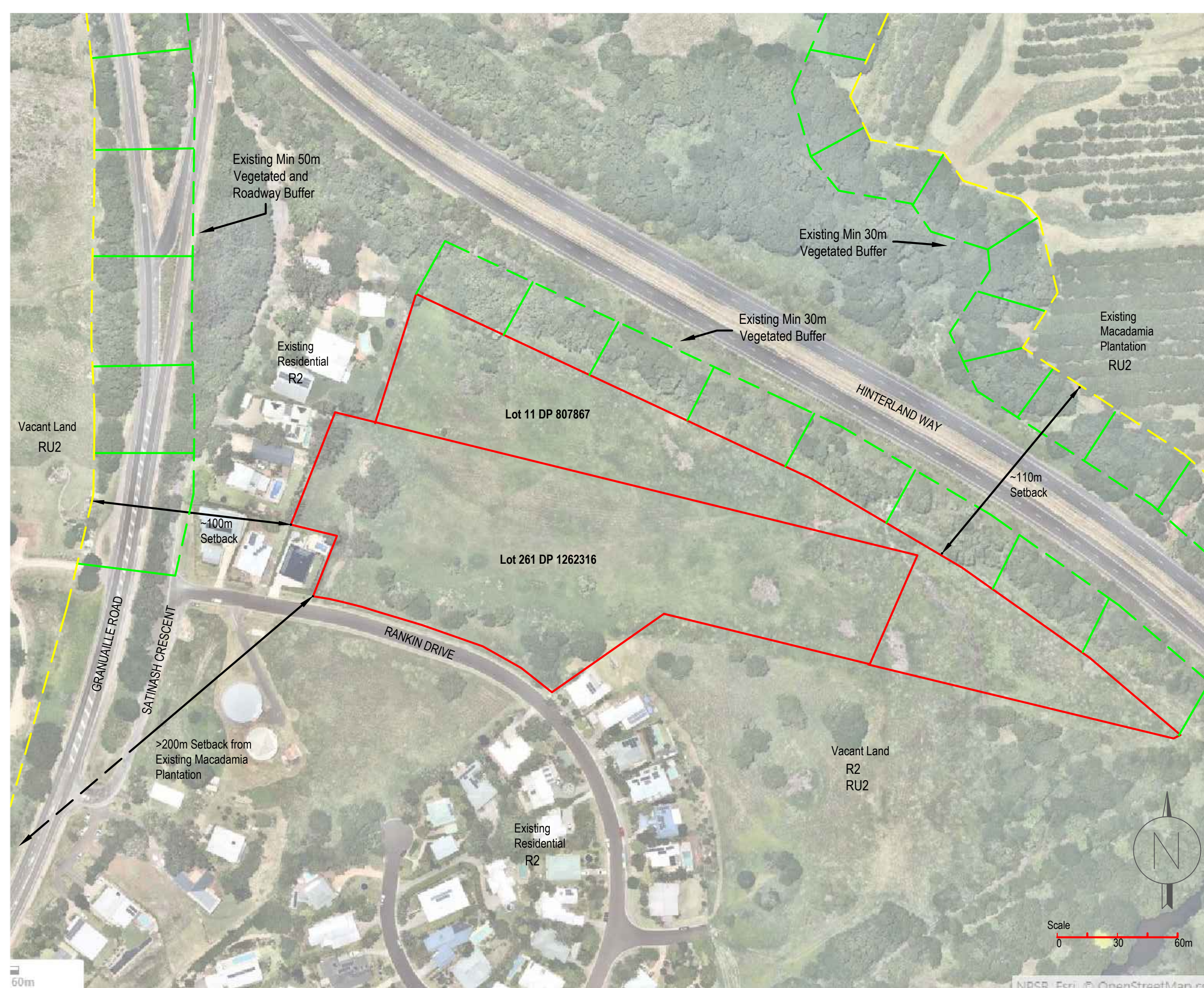
-  Subject Property
-  Agricultural Activities
-  Buffer Zones

Lot 11 DP 807867
Lot 261 DP 1262316
68 Rankin Drive
Bangalow

JOB: HMC2022.1062.02
DATE: June 2022
VERSION: 20.06.2022

DRAWN: MF
BASE: BSC GIS


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Appendix 6 Site Photos



Photo 1– View east and downslope over subject site.



Photo 2 – View south-east and downslope across subject site.



Photo 3 - View west and upslope across subject site.



Photo 4 – View south-east showing stockpile of camphor logs.



Photo 5 – View south-west showing un-named stream.



Photo 6 – View west showing un-named stream and subject site.