PORT MACQUARIE-HASTINGS
COUNCIL

Development Assessment Panel

Business Paper

date of meeting: Thursday 2 September 2021

location: Via Skype

time: 2:00pm

Note: *Council is distributing this agenda on the strict understanding that the publication and/or announcement of any material from the Paper before the meeting not be such as to presume the outcome of consideration of the matters thereon.*

Development Assessment Panel

CHARTER

1.0 OBJECTIVES

To assist in managing Council's development assessment function by providing independent, transparent and expert determinations of development applications that fall outside of staff delegations.

2.0 KEY FUNCTIONS

- To review development application reports and conditions. The focus of the Panel's review is to be on those issues raised in submissions received following exhibition of development applications;
- To determine development applications where there are 3 or more unique submissions or where an application is outside of staff delegations;
- To refer development applications to Council for determination where necessary;
- To provide a forum for objectors and applicants to make submissions on applications before the Development Assessment Panel (DAP);
- To maintain transparency in the determination of development applications.

Delegated Authority of Panel

Pursuant to Section 377 of the Local Government Act, 1993 delegation to:

- Determine development applications under Part 4 of the Environmental Planning and Assessment Act 1979 having regard to the relevant environmental planning instruments, development control plans and Council policies.
- Vary, modify or release restrictions as to use and/or covenants created by Section 88B instruments under the Conveyancing Act 1919 in relation to development applications for subdivisions being considered by the panel.
- Determine Koala Plans of Management under State Environmental Planning Policy 44 - Koala Habitat Protection associated with development applications being considered by the Panel.

Noting the trigger to escalate decision making to Council as highlighted in section 5.2.

3.0 MEMBERSHIP

3.1 Voting Members

- Three (3) independent external members will be selected for each scheduled DAP meeting from an appointed pool of members. One of the independent external members to be the Chairperson. Independent members will be rostered onto meeting on a rotational basis where possible.
- Group Manager Development Assessment (alternate - Director Development and Environment or Development Assessment Planning Coordinator).

The independent external members shall have expertise in one or more of the following areas:

planning, architecture, heritage, the environment, urban design, economics, traffic and transport, law, engineering, government and public administration.

3.2 Non-Voting Members

Not applicable.

3.3 Obligations of members

- Members must act faithfully and diligently and in accordance with this Charter.
- Members must comply with Council's Code of Conduct.
- Except as required to properly perform their duties, DAP members must not disclose any confidential information (as advised by Council) obtained in connection with the DAP functions.
- Members will have read and be familiar with the documents and information provided by Council prior to attending a DAP meeting.
- Members must act in accordance with Council's Workplace Health and Safety Policies and Procedures.
- External members of the Panel are not authorised to speak to the media on behalf of Council. Council officers that are members of the Committee are bound by the existing operational delegations in relation to speaking to the media.

3.4 Member Tenure

The independent external members will be appointed for the term of Four (4) years or until such time as an expression of interest process to source Panel members is completed for the proceeding four (4) year term.

3.5 Appointment of members

- A pool of independent external members (including the Chair) shall be appointed by the Chief Executive Officer following an external Expression of Interest process. Previous Panel members are eligible to be reappointed on the Panel following this expression of interest process.
- Independent members will be rostered on to Panel meetings on a rotational basis where possible to suit Panel member availability and Panel operational needs.
- Staff members on the Panel shall be appointed by the Chief Executive Officer.

4.0 TIMETABLE OF MEETINGS

- The Development Assessment Panel will generally meet on the 1st and 3rd Thursday each month at 2.00pm at the Port Macquarie offices of Council.
- Special Meetings of the Panel may be convened by the Director Development and Environment with three (3) days' notice.

5.0 MEETING PRACTICES

5.1 Meeting Format

- At all meetings of the Panel the Chairperson shall occupy the Chair and preside. The Chair will be responsible for keeping of order at meetings.
- Meetings shall be open to the public.
- The Panel will hear from an applicant and objectors or their representatives. Speakers are required to register to speak by close of business on the day prior to the Panel meeting.
- The Panel shall have the discretion to ask the applicant and objectors questions relating to the proposal and their submission. There is no 'right of reply' for an objector or applicant.
- Where there are a large number of persons making submissions with common interests, the Panel shall have the discretion to hear a representative of those persons rather than multiple persons with the same interest.
- Council assessment staff will be available at Panel meetings to provide technical assessment advice and assistance to the Panel.
- Where considered necessary, the Panel will conduct site inspections prior to the meeting.

5.2 Decision Making

- Decisions are to be made by consensus. Where consensus is not possible on any item, that item is to be referred to Council for a decision.
- All development applications involving a proposed variation to a development standard greater than 10% under Clause 4.6 of the Local Environmental Plan will be considered by the Panel and recommendation made to the Council for a decision.

5.3 Quorum

Three (3) members must be present at a meeting to form a quorum.

5.4 Chairperson and Deputy Chairperson

Independent Chair (alternate - independent member).

5.5 Secretariat

- The Director Development and Environment is to be responsible for ensuring that the Panel has adequate secretariat support. The secretariat will ensure that the

business paper and supporting papers are circulated at least three (3) days prior to each meeting. Minutes shall be appropriately approved and circulated to each member within three (3) weeks of a meeting being held.

- The format of and the preparation and publishing of the Business Paper and Minutes shall be similar to the format for Ordinary Council Meetings.

5.6 Recording of decisions

Minutes will be limited to the recording of decisions only and how each member votes for each item before the Panel.

6.0 CONVENING OF "OUTCOME SPECIFIC" WORKING GROUPS

Not applicable.

7.0 CONFIDENTIALITY AND CONFLICT OF INTEREST

- Members of the Panel must comply with the applicable provisions of Council's Code of Conduct. It is the personal responsibility of members to comply with the standards in the Code of Conduct and regularly review their personal circumstances with this in mind.
- Panel members must declare any conflict of interest at the start of each meeting or before discussion of a relevant item or topic. Details of any conflicts of interest are to be appropriately minuted. Where members are deemed to have a real or perceived conflict of interest, it may be appropriate they be excused from deliberations on the issue where the conflict of interest may exist. A Panel meeting may be postponed where there is no quorum.

8.0 LOBBYING

All members and applicants are to adhere to Council's Lobbying policy. Outside of scheduled Development Assessment Panel meetings, applicants, their representatives, Councillors, Council staff and the general public are not to lobby Panel members via meetings, telephone conversations, correspondence and the like. Adequate opportunity will be provided at Panel inspections or meetings for applicants, their representatives and the general public to make verbal submissions in relation to Business Paper items.

9.0 CONDUCT AT MEETINGS

All parties in attendance at a DAP meeting shall conduct themselves respectfully ie. not disrupt the conduct of the meeting, not interject, act courteously and with compassion and

empathy and sensitivity and will not insult, denigrate or make defamatory or personal reflections on or impute improper motives to the DAP, Council staff or other members of the public.

Development Assessment Panel

ATTENDANCE REGISTER

Member	18/03/21	15/04/21	17/06/21	01/07/21	09/08/21	
David Crofts	✓	✓	✓	✓	✓	
Michael Mason	✓	✓	✓			
Chris Gee		✓		✓	✓	
Tony McNamara	✓		✓	✓	✓	
Dan Croft (Group Manager Development Assessment) Grant Burge (acting)	✓	✓	✓	✓	✓	

Key: ✓ = Present
A = Absent With Apology
X = Absent Without Apology

Meeting Dates for 2021

21/01/2021	Function Room	2:00pm
11/02/2021	Committee Room	2:00pm
25/02/2021	Committee Room	2:00pm
18/03/2021	Committee Room	2:00pm
1/04/2021	Function Room	2:00pm
15/04/2021	Function Room	2:00pm
6/05/2021	Function Room	2:00pm
20/05/2021	Committee Room	2:00pm
3/06/2021	Function Room	2:00pm
17/06/2021	Function Room	2:00pm
1/07/2021	Function Room	2:00pm
15/07/2021	Function Room	2:00pm
19/08/2021	Function Room	2:00pm
2/09/2021	Function Room	2:00pm
16/09/2021	Function Room	2:00pm
7/10/2021	Function Room	2:00pm
21/10/2021	Function Room	2:00pm
4/11/2021	Committee Room	2:00pm
18/11/2021	Committee Room	2:00pm
2/12/2021	Function Room	2:00pm
16/12/2021	Function Room	2:00pm

Development Assessment Panel Meeting

Thursday 2 September 2021

Items of Business

PORT MACQUARIE HASTINGS COUNCIL

Item: **01**

Subject: **ACKNOWLEDGEMENT OF COUNTRY**

"I acknowledge that we are gathered on Birpai Land. I pay respect to the Birpai Elders both past and present. I also extend that respect to all other Aboriginal and Torres Strait Islander people present."

Item: **02**

Subject: **APOLOGIES**

RECOMMENDATION

That the apologies received be accepted.

Item: **03**

Subject: **CONFIRMATION OF PREVIOUS MINUTES**

RECOMMENDATION

That the Minutes of the Development Assessment Panel Meeting held on 19 August 2021 be confirmed.

PRESENT

Members:

David Crofts (Independent Chair)
Chris Gee (Independent Member)
Tony McNamara (Independent Member)
Group Manager Development Assessment (Dan Croft)

Other Attendees:

Development Engineering Coordinator (Grant Burge)
Development Assessment Planning Coordinator (Pat Galbraith-Robertson)
Development Assessment Planner (Chris Gardiner)

The meeting opened at 4:30pm.

01 ACKNOWLEDGEMENT OF COUNTRY

The Acknowledgement of Country was delivered.

02 APOLOGIES

Nil.

03 CONFIRMATION OF MINUTES

CONSENSUS:

That the Minutes of the Development Assessment Panel Meeting held on 1 July 2021 be confirmed.

04 DISCLOSURES OF INTEREST

There were no disclosures of interest presented.

05 DA2018 - 555.2 MODIFICATION TO HOME BUSINESS (HAIR AND BEAUTY SALON), LOT 246 DP 828767, NO. 10 SPINDRIFT ROW, PORT MACQUARIE

Speakers:
Don Johanson (Opposing the application)
Sarah Younger (Opposing the application)
Julia Thompson (Applicant)

CONSENSUS:

That DA 2018 – 555.2 for Modification to Home Business (Hair and Beauty Salon) at Lot 246, DP 828767, No. 10 Spindrift Row, Port Macquarie, be determined by granting consent subject to the recommended modified conditions and as amended below:

- Additional condition F(10) to read: '*A minimum of two car parking spaces be available on the site for customers during operational hours'*

06 GENERAL BUSINESS

Nil.

The meeting closed at 5:02pm.

Item: **04**

Subject: **DISCLOSURES OF INTEREST**

RECOMMENDATION

That Disclosures of Interest be presented

DISCLOSURE OF INTEREST DECLARATION

Name of Meeting:	
Meeting Date:	
Item Number:	
Subject:	
I, the undersigned, hereby declare the following interest: ☐ **Pecuniary:** Take no part in the consideration and voting and be out of sight of the meeting. ☐ **Non-Pecuniary – Significant Interest:** Take no part in the consideration and voting and be out of sight of the meeting. ☐ **Non-Pecuniary – Less than Significant Interest:** May participate in consideration and voting.	
For the reason that:	
Name: **Signed:**	**Date:**
Please submit to the Governance Support Officer at the Council Meeting.	

(Refer to next page and the Code of Conduct)

Pecuniary Interest

4.1 A pecuniary interest is an interest that you have in a matter because of a reasonable likelihood or expectation of appreciable financial gain or loss to you or a person referred to in clause 4.3.

4.2 You will not have a pecuniary interest in a matter if the interest is so remote or insignificant that it could not reasonably be regarded as likely to influence any decision you might make in relation to the matter, or if the interest is of a kind specified in clause 4.6.

4.3 For the purposes of this Part, you will have a pecuniary interest in a matter if the pecuniary interest is:

(a) your interest, or
(b) the interest of your spouse or de facto partner, your relative, or your partner or employer, or
(c) a company or other body of which you, or your nominee, partner or employer, is a shareholder or member.

4.4 For the purposes of clause 4.3:

(a) Your "relative" is any of the following:
  i) your parent, grandparent, brother, sister, uncle, aunt, nephew, niece, lineal descendant or adopted child
  ii) your spouse's or de facto partner's parent, grandparent, brother, sister, uncle, aunt, nephew, niece, lineal descendant or adopted child
  iii) the spouse or de facto partner of a person referred to in paragraphs (i) and (i)
(b) "de facto partner" has the same meaning as defined in section 21C of the *Interpretation Act 1987*.

4.5 You will not have a pecuniary interest in relation to a person referred to in subclauses 4.3(b) or (c)

(a) if you are unaware of the relevant pecuniary interest of your spouse, de facto partner, relative, partner, employer or company or other body, or
(b) just because the person is a member of, or is employed by, a council or a statutory body, or is employed by the Crown, or
(c) just because the person is a member of, or a delegate of a council to, a company or other body that has a pecuniary interest in the matter, so long as the person has no beneficial interest in any shares of the company or body.

Non-Pecuniary

5.1 Non-pecuniary interests are private or personal interests a council official has that do not amount to a pecuniary interest as defined in clause 4.1 of this code. These commonly arise out of family or personal relationships, or out of involvement in sporting, social, religious or other cultural groups and associations, and may include an interest of a financial nature.

5.2 A non-pecuniary conflict of interest exists where a reasonable and informed person would perceive that you could be influenced by a private interest when carrying out your official functions in relation to a matter.

5.3 The personal or political views of a council official do not constitute a private interest for the purposes of clause 5.2.

5.4 Non-pecuniary conflicts of interest must be identified and appropriately managed to uphold community confidence in the probity of council decision-making. The onus is on you to identify any non-pecuniary conflict of interest you may have in matters that you deal with, to disclose the interest fully and in writing, and to take appropriate action to manage the conflict in accordance with this code.

5.5 When considering whether or not you have a non-pecuniary conflict of interest in a matter you are dealing with, it is always important to think about how others would view your situation.

Managing non-pecuniary conflicts of interest

5.6 Where you have a non-pecuniary conflict of interest in a matter for the purposes of clause 5.2, you must disclose the relevant private interest you have in relation to the matter fully and in writing as soon as practicable after becoming aware of the non-pecuniary conflict of interest and on each occasion on which the non-pecuniary conflict of interest arises in relation to the matter. In the case of members of council staff other than the Chief Executive Officer, such a disclosure is to be made to the staff member's manager. In the case of the Chief Executive Officer, such a disclosure is to be made to the mayor.

5.7 If a disclosure is made at a council or committee meeting, both the disclosure and the nature of the interest must be recorded in the minutes on each occasion on which the non-pecuniary conflict of interest arises. This disclosure constitutes disclosure in writing for the purposes of clause 5.6.

5.8 How you manage a non-pecuniary conflict of interest will depend on whether or not it is significant.

5.9 As a general rule, a non-pecuniary conflict of interest will be significant where it does not involve a pecuniary interest for the purposes of clause 4.1, but it involves:

a) a relationship between a council official and another person who is affected by a decision or a matter under consideration that is particularly close, such as a current or former spouse or de facto partner, a relative for the purposes of clause 4.4 or another person from the council official's extended family that the council official has a close personal relationship with, or another person living in the same household
b) other relationships with persons who are affected by a decision or a matter under consideration that are particularly close, such as friendships and business relationships. Closeness is defined by the nature of the friendship or business relationship, the frequency of contact and the duration of the friendship or relationship.
c) an affiliation between the council official and an organisation (such as a sporting body, club, religious, cultural or charitable organisation, corporation or association) that is affected by a decision or a matter under consideration that is particularly strong. The strength of a council official's affiliation with an organisation is to be determined by the extent to which they actively participate in the management, administration or other activities of the organisation.
d) membership, as the council's representative, of the board or management committee of an organisation that is affected by a decision or a matter under consideration, in circumstances where the interests of the council and the organisation are potentially in conflict in relation to the particular matter
e) a financial interest (other than an interest of a type referred to in clause 4.6) that is not a pecuniary interest for the purposes of clause 4.1
f) the conferral or loss of a personal benefit other than one conferred or lost as a member of the community or a broader class of people affected by a decision.

5.10 Significant non-pecuniary conflicts of interest must be managed in one of two ways:

a) by not participating in consideration of, or decision making in relation to, the matter in which you have the significant non-pecuniary conflict of interest and the matter being allocated to another person for consideration or determination, or
b) if the significant non-pecuniary conflict of interest arises in relation to a matter under consideration at a council or committee meeting, by managing the conflict of interest as if you had a pecuniary interest in the matter by complying with clauses 4.28 and 4.29.

5.11 If you determine that you have a non-pecuniary conflict of interest in a matter that is not significant and does not require further action, when disclosing the interest you must also explain in writing why you consider that the non-pecuniary conflict of interest is not significant and does not require further action in the circumstances.

5.12 If you are a member of staff of council other than the Chief Executive Officer, the decision on which option should be taken to manage a non-pecuniary conflict of interest must be made in consultation with and at the direction of your manager. In the case of the Chief Executive Officer, the decision on which option should be taken to manage a non-pecuniary conflict of interest must be made in consultation with and at the direction of the mayor.

5.13 Despite clause 5.10(b), a councillor who has a significant non-pecuniary conflict of interest in a matter, may participate in a decision to delegate consideration of the matter in question to another body or person.

5.14 Council committee members are not required to declare and manage a non-pecuniary conflict of interest in accordance with the requirements of this Part where it arises from an interest they have as a person chosen to represent the community, or as a member of a non-profit organisation or other community or special interest group, if they have been appointed to represent the organisation or group on the council committee.

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SPECIAL DISCLOSURE OF PECUNIARY INTEREST DECLARATION

This form must be completed using block letters or typed.
If there is insufficient space for all the information you are required to disclose, you must attach an appendix which is to be properly identified and signed by you.

By *[insert full name of councillor]*	
In the matter of *[insert name of environmental planning instrument]*	
Which is to be considered at a meeting of the *[insert name of meeting]*	
Held on *[insert date of meeting]*	

PECUNIARY INTEREST	
Address of the affected principal place of residence of the councillor or an associated person, company or body (*the **identified land)***	
Relationship of identified land to councillor *[Tick or cross one box.]*	□ The councillor has interest in the land (e.g. is owner or has other interest arising out of a mortgage, lease, trust, option or contract, or otherwise). □ An associated person of the councillor has an interest in the land. □ An associated company or body of the councillor has interest in the land.
MATTER GIVING RISE TO PECUNIARY INTEREST[1]	
Nature of land that is subject to a change in zone/planning control by proposed LEP *(the **subject land***[2] *[Tick or cross one box]*	□ The identified land. □ Land that adjoins or is adjacent to or is in proximity to the identified land.
Current zone/planning control *[Insert name of current planning instrument and identify relevant zone/planning control applying to the subject land]*	
Proposed change of zone/planning control *[Insert name of proposed LEP and identify proposed change of zone/planning control applying to the subject land]*	
Effect of proposed change of zone/planning control on councillor or associated person *[Tick or cross one box]*	□ Appreciable financial gain. □ Appreciable financial loss.

[If more than one pecuniary interest is to be declared, reprint the above box and fill in for each additional interest]

Councillor's Signature: …… Date: ……..

This form is to be retained by the council's Chief Executive Officer and included in full in the minutes of the meeting

Last Updated: 3 June 2019

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Important Information

This information is being collected for the purpose of making a special disclosure of pecuniary interests under clause 4.36(c) of the Model Code of Conduct for Local Councils in NSW (the Model Code of Conduct).

The special disclosure must relate only to a pecuniary interest that a councillor has in the councillor's principal place of residence, or an interest another person (whose interests are relevant under clause 4.3 of the Model Code of Conduct) has in that person's principal place of residence.

Clause 4.3 of the Model Code of Conduct states that you will have a pecuniary interest in a matter because of the pecuniary interest of your spouse or your de facto partner or your relative or because your business partner or employer has a pecuniary interest. You will also have a pecuniary interest in a matter because you, your nominee, your business partner or your employer is a member of a company or other body that has a pecuniary interest in the matter.

"Relative" is defined by clause 4.4 of the Model Code of Conduct as meaning your, your spouse's or your de facto partner's parent, grandparent, brother, sister, uncle, aunt, nephew, niece, lineal descendant or adopted child and the spouse or de facto partner of any of those persons.

You must not make a special disclosure that you know or ought reasonably to know is false or misleading in a material particular. Complaints about breaches of these requirements are to be referred to the Office of Local Government and may result in disciplinary action by the Chief Executive of the Office of Local Government or the NSW Civil and Administrative Tribunal.

This form must be completed by you before the commencement of the council or council committee meeting at which the special disclosure is being made. The completed form must be tabled at the meeting. Everyone is entitled to inspect it. The special disclosure must be recorded in the minutes of the meeting.

[1] Clause 4.1 of the Model Code of Conduct provides that a pecuniary interest is an interest that a person has in a matter because of a reasonable likelihood or expectation of appreciable financial gain or loss to the person. A person does not have a pecuniary interest in a matter if the interest is so remote or insignificant that it could not reasonably be regarded as likely to influence any decision the person might make in relation to the matter, or if the interest is of a kind specified in clause 4.6 of the Model Code of Conduct.
[2] A pecuniary interest may arise by way of a change of permissible use of land adjoining, adjacent to or in proximity to land in which a councillor or a person, company or body referred to in clause 4.3 of the Model Code of Conduct has a proprietary interest

Item: **05**

Subject: **DA2020 - 1100.1 DEMOLITION OF DWELLING AND CONSTRUCTION OF DUAL OCCUPANCY WITH TORRENS TITLE SUBDIVISION AND JETTY AT LOT 47 DP 246284, NO 29 FRANCIS STREET, PORT MACQUARIE**

Report Author: Development Assessment Planner, Benjamin Roberts

Applicant:	**Collins W Collins**
Owner:	**P Markov and S L Kinloch**
Estimated Cost:	**$900,000**
Parcel no:	**6915**

Alignment with Delivery Program

4.3.1 Undertake transparent and efficient development assessment in accordance with relevant legislation.

RECOMMENDATION

That DA2020 - 1100.1 for a demolition of dwelling and construction of dual occupancy with Torrens title subdivision and jetty at Lot 47, DP 246284, No. 29 Francis Street, Port Macquarie, be determined by granting consent subject to the recommended conditions.

Executive Summary

This report considers a development application for demolition of dwelling and construction of dual occupancy with Torrens title subdivision and additional boat ramp and jetty at the subject site and provides an assessment of the application in accordance with the Environmental Planning and Assessment Act 1979.

Following exhibition of the application, three (3) submissions were received.

The application has been amended during assessment in response to issues raised by assessment staff. The amended plans **(Attachments 4 and 5)** were provided to submitters and any additional comments sought over a further two-week period.

The application was considered by the Development Assessment Panel on 17 June 2021. The application was deferred at this meeting with the following resolution:

> *"That because of the apparent dominance of the two double garages on the streetscape, DA2020 - 1100 be deferred to provide the applicant an opportunity to amend the plans to address the Panel's concerns and reduce streetscape impacts."*

Amended plans and supporting documentation **(Attachment 3)** was received on 17 August 2021. The amended plans incorporate the following changes:

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- Conversion of the double garage of dwelling 2 to a single garage and carport.
- Extension of fencing along the southern side boundary.
- Landscaping along the edges of both driveways and side boundaries.
- Positioning of mailbox at the front of the property.

The changes are considered to be minor and re-notification of the amended proposal not necessary.

The site is considered suitable for the proposed development, as amended, and the proposal adequately addresses relevant planning controls as justified. The development is not considered to be contrary to the public's interest and will not result a significant adverse social, environmental or economic impact.

This report recommends that the development application be approved subject to the attached conditions (**Attachment 1**).

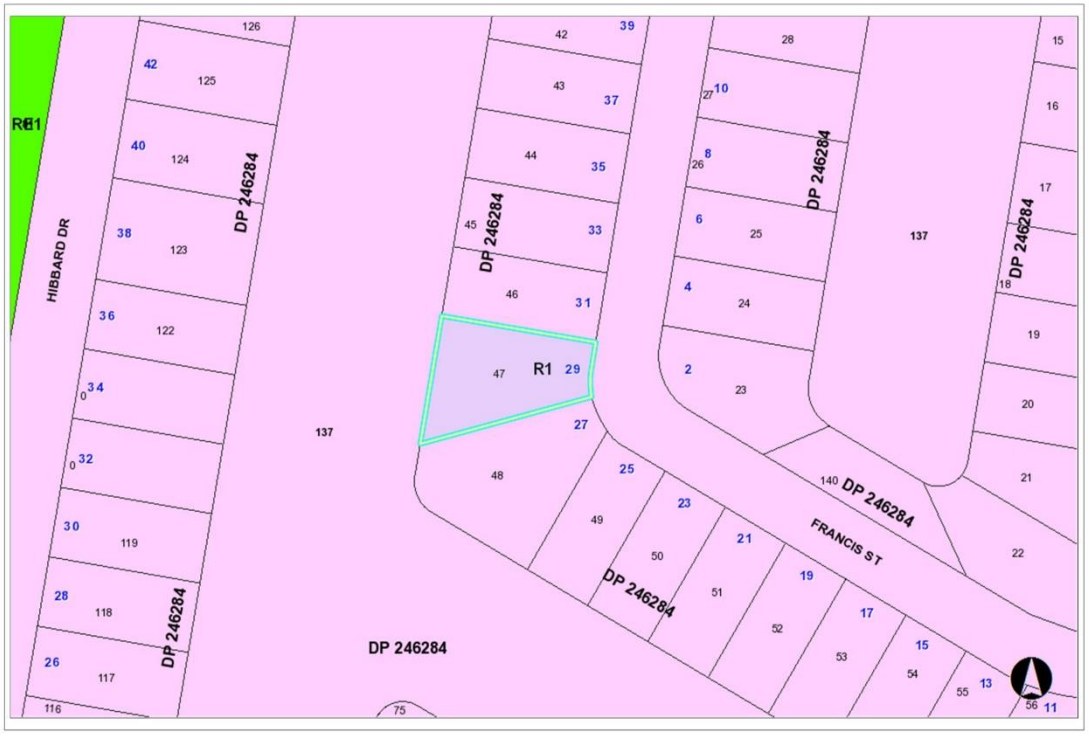
The reason for the application being referred to Council's Development Assessment Panel (DAP) is because three (3) or more objections to the proposal were received. A copy of the DAP Charter outlining the delegations and functions of the DAP is available on Council's website.

1. BACKGROUND

Existing Sites Features and Surrounding Development

The site has an area of 1029m^2. The site contains an existing two-storey dwelling with an existing jetty/pontoon and boat ramp. The site is relatively flat upon the building footprint area before falling away toward the canal/water at the rear.

The site is zoned R1 General Residential in accordance with the Port Macquarie-Hastings Local Environmental Plan 2011, as shown in the following zoning plan:



The existing subdivision pattern and location of existing development within the locality is shown in the following aerial photograph:

2. DESCRIPTION OF DEVELOPMENT

Key aspects of the proposal include the followiang:

- Demolition of the existing dwelling.

- Construction of new two detached two storey dwellings and a new additional jetty/pontoon and boat ramp.
- Torrens title subdivision.

Refer to **Attachment 4 and 5** at the end of this report for plans of the proposed development.

Application Chronology

- 18 December 2020 - Application lodged.
- 23 December 2020 to 25 January 2021 - Public exhibition via neighbour notification.
- 19 January 2021 - Essential Energy comments received.
- 12 February 2021 - Additional information request to applicant.
- 22 March 2021 - Additional information and revised plans lodged.
- 27 April 2021 - Changes to revetment wall proposed and revised plans received.
- 28 April 2021 - Revised plans provided to previous objectors (2 weeks for further comment provided).
- 31 May 2021 - Shadow comparison plans provided by applicant.
- 7 June 2021 - Revised plans with AHD levels from survey provided by applicant.
- 17 June 2021 - Deferred at Development Assessment Panel meeting.
- 17 August 2021 - Amended plans and supporting documentation lodged.

3. STATUTORY ASSESSMENT

Section 4.15(1) Matters for Consideration

In determining the application, Council is required to take into consideration the following matters as are relevant to the development that apply to the land to which the development application relates:

(a) The provisions (where applicable) of:
(i) Any Environmental Planning Instrument

State Environmental Planning Policy (Koala Habitat Protection) 2020

Clause 5 - This SEPP applies to the Port Macquarie-Hastings Local Government Area.

Clause 7 - The site is not under a Koala Plan of Management and the land has an area less than 1 hectare including adjoining land in the same ownership. No further consideration of this policy is necessary.

State Environmental Planning Policy No. 55 – Remediation of Land

Following an inspection of the site and a search of Council records, the subject land is not identified as being potentially contaminated and is suitable for the intended use.

State Environmental Planning Policy (Coastal Management) 2018

The site is located within a coastal use and coastal environment area.

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In accordance with clause 7, this SEPP prevails over the Port Macquarie-Hastings LEP 2011 in the event of any inconsistency.

Having regard to clauses 13 and 14 of the SEPP the proposed development is not considered likely to result in any of the following:

a) any adverse impact on integrity and resilience of the biophysical, hydrological (surface and groundwater) and ecological environment;
b) any adverse impacts coastal environmental values and natural coastal processes;
c) any adverse impact on marine vegetation, native vegetation and fauna and their habitats, undeveloped headlands and rock platforms;
d) any adverse impact on Aboriginal cultural heritage, practices and places;
e) any adverse impacts on the cultural and built environment heritage;
f) any adverse impacts the use of the surf zone;
g) any adverse impact on the visual amenity and scenic qualities of the coast, including coastal headlands;
h) overshadowing, wind funneling and the loss of views from public places to foreshores; and
i) any adverse impacts on existing public open space and safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability.

In accordance with Clause 15 the proposal is not likely to cause increased risk of coastal hazards on that land or other land.

The bulk, scale and size of the proposed development is compatible with the surrounding coastal and built environment. The site is predominately cleared and located within an area zoned for residential purposes.

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

BASIX certificates have been submitted demonstrating that the proposal will comply with the requirements of the SEPP. It is recommended that a condition be imposed to ensure that the commitments are incorporated into the development and certified at Occupation Certificate stage.

State Environmental Planning Policy (Infrastructure) 2007

Clause 45 - Development in proximity to electricity infrastructure - referral to Essential Energy required for any of the following:

(a) the penetration of ground within 2m of an underground electricity power line or an electricity distribution pole or within 10m of any part of an electricity tower,
(b) development carried out:
    (i) within or immediately adjacent to an easement for electricity purposes (whether or not the electricity infrastructure exists), or
    (ii) immediately adjacent to an electricity substation, or
    (iii) within 5m of an exposed overhead electricity power line,
(c) installation of a swimming pool any part of which is:
    (i) within 30m of a structure supporting an overhead electricity transmission line, measured horizontally from the top of the pool to the bottom of the structure at ground level, or
    (ii) within 5m of an overhead electricity power line, measured vertically upwards from the top of the pool

The site inspection revealed underground power within proximity to the site however, the exact location of the underground lines is unknown. The application was referred to Essential Energy for comment having regard to the new driveway works proposed. Essential Energy raised no safety concerns from the proposed development.

Port Macquarie-Hastings Local Environmental Plan 2011

The proposal is consistent with the LEP having regard to the following:

- Clause 2.2 - The subject site is zoned R1 General Residential. In accordance with clause 2.3(1) and the R1 zone landuse table, dual occupancies (detached) and ancillary jetty and boat ramp are a permissible landuse with consent.
- Clause 2.3(2) - The objectives of the R1 zone are as follows:
    - *To provide for the housing needs of the community.*
    - *To provide for a variety of housing types and densities.*
    - *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*

  – The proposal is consistent with the zone objectives as it is a permissible landuse and consistent with the established residential locality. The proposal contributes to the range of housing options in the locality.
- Clause 2.6 - The land may be subdivided with development consent and Torrens title subdivision of the dual occupancy is proposed.
- Clause 2.7 - The demolition of the existing dwelling requires consent as it does not fit within the provisions of SEPP (Exempt and Complying) 2008.
- Clause 4.1 - The lot for proposed dwelling 1 is 611m^2 which is over the minimum lot size standard being (450m²) while the lot for dwelling 2 is 419m^2 which is under the minimum lot size standard being (450m²). Clause 4.1A allows an integrated housing type application whereby construction and subdivision are included in the one application. When both construction and subdivision are included in the one application, clause 4.1A allows the minimum lot size standard to be varied/reduced.

  The intent of the clause is to encourage housing diversity without compromising residential amenity. This overall assessment shows that the development will have limited impact on adjoining properties. The surrounding area also contains a mixture of low and medium to high density residential development. This proposal will be consistent with such a density.
- Clause 4.3 - The proposed maximum overall height of the building above ground level is 8.177m and complies with the standard height limit of 8.5m applying to the site.
- Clause 4.4 - The floor space ratio of the proposal is 0.5:1 and complies with the maximum 0.65:1 floor space ratio applying to the site.
- Clause 5.10 – The site does not contain or adjoin any known heritage items or sites of significance.
- Clause 7.1 - The site is mapped as potentially containing class 3 acid sulfate soils. The proposed development does not include any excavation extending more than 1m below the natural surface level and therefore no adverse impacts are expected to occur.

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- Clause 7.3 - The site is land within a mapped "flood planning area" (land subject to flood discharge of 1:100 annual recurrence interval flood event, plus the applicable climate change allowance and relevant freeboard). In this regard the following comments are provided which incorporate consideration of the objectives of Clause 7.3, Council's Flood Policy 2015, the NSW Government's *Flood Prone Lands Policy* and the NSW Government's *Floodplain Development Manual* (2005):
    - The proposal is compatible with the flood hazard of the land taking into account projected changes as a result of climate change;
    - The proposal will not result in a significant adverse effect on flood behaviour that would result in detrimental increases in the potential flood affectation of other development or properties;
    - The proposal incorporates measures to minimise & manage the flood risk to life and property associated with the use of land. Conditions have been recommended in relation to minimum floor levels and engineering of the structures to withstand flood forces.
    - The proposal is not likely to significantly adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses;
    - The proposal is not likely to result in unsustainable social and economic costs to the community as a consequence of flooding.
    - Standard free board levels and flood engineering requirements are recommended. Refer to consent conditions.
- Clause 7.13 - Satisfactory arrangements are in place for provision of essential services including water supply, electricity supply, sewer infrastructure, stormwater drainage and suitable road access to service the development.

(ii) Any draft instruments that apply to the site or are on exhibition

No draft instruments apply.

(iii) Any Development Control Plan in force

Port Macquarie-Hastings Development Control Plan 2013

DCP 2013: Part B - General Provisions - B2: Environmental Management			
DCP Objective	**Development Provisions**	**Proposed**	**Complies**
3	a) Development must comply with Council's Developments, Public Place & Events - Waste Minimisation and Management Policy.	Satisfactory arrangements can be put in place for storage and collection of waste. Standard condition recommended for construction waste management.	Yes
Cut and Fill Regrading			
4	a) Development shall not exceed a maximum cut of 1.0m and fill of 1.0m	The extension of the revetment wall will require fill	No*

	measured vertically above the ground level (existing) at a distance of 1.0m outside the perimeter of the external walls of the building (This does not apply to buildings where such cut and fill is fully retained within or by the external walls of the building).	of more than 1m in height at the rear.	
5	a) A certified practicing structural engineer must certify any retaining wall greater than 1.0m.	Condition recommended requiring certification of the proposed extension of the revetment/retaining wall.	Yes
	b) Where a combination of a fence and a wall is proposed to be greater than 1.2m high: – be a maximum combined height of 1.8m above existing property boundary level; – be constructed up to the front boundary for a maximum length of 6.0m or 30% of the street frontage, whichever is less; – the fence component has openings which make it not less than 25% transparent; and – provide a 3m x 3m splay for corner sites, and – provide a 900mm x 900mm splay for vehicle driveway entrances.	No front fence retaining wall combination proposed.	N/A
Tree Management – Private Land			
11	a) Pruning must be undertaken in accordance with Australian Standard AS 4373 - Pruning of Amenity Trees.	No pruning proposed.	N/A
	b) An application for the removal of a tree listed in Table 1 must be accompanied by an Arborist's report stating that the tree: – is dangerous; or – is dying and remedial pruning would not improve the deteriorated condition of the tree; or	A number of exotic trees are proposed to be removed as part of the development. None of the trees are identified in table 1. No Arborist report required.	N/A

	– has a history of branch fall (documented or photographic evidence to be provided); or – is structurally unsound or; – diseased. – Advice on the requirement of an arborist report associated with a tree removal permit can be obtained from Council's Tree Assessment staff. – The requirement for an arborist report for tree removal associated with a development application will be determined on merit by Council's Development Assessment.		
	c) Where a tree listed in Table 1 is approved for removal it must be compensated with 2 x koala habitat trees. Significant large-scale development will require an advanced size koala food tree or habitat tree (primary Koala browse species) that meets AS2303:2015 Tree Stock for Landscape Use. The compensation tree is to be planted in a suitable location as determined by the Director of Development and Environment or their delegate.	N/A	N/A
	g) Any pruning or removal of any tree on private land must be undertaken in accordance with Council's tree management specifications.	Capable of compliance.	Yes

DCP 2013: Part B - General Provision - B3: Hazards Management			
Flooding			
19	a) Development must comply with Council's Floodplain Management Plan and Flood Policies.	See comments under Clause 7.3 of the LEP. The proposal is consistent with the Flood Policy and appropriate conditions have been	Yes

		recommended requiring minimum floor levels to be achieved and engineering for flood forces.	

DCP 2013: Part B- General Provisions- B4: Transport, Traffic Management, Access and Car Parking			
DCP Objective	**Development Provisions**	**Proposed**	**Complies**
Parking Provision			
24	a) Off-street Parking is provided in accordance with Table 3: - 1 parking space per each dwelling.	Double garage provided to dwelling 1. Single garage and carport provided to dwelling 2. Also space within each driveway.	Yes
Parking Layout			
28	c) Parking spaces shall generally be behind the building line but may be located between the building line and the street when: − it is stacked parking in the driveway; or − it can be demonstrated that improvements to the open space provided will result; and − the spaces are screened (densely landscaped or similar) from the street by a landscaping with a minimum width of 3.0m for the entire length of the parking area.	Garages located behind the building line.	Yes
	d) Parking design and layout is provided in accordance with AS/NZS 2890.1 - Parking facilities - Off-street car parking.	Satisfactory parking design and layout.	Yes
34	a) All parking and manoeuvring spaces must be designed to avoid concentrations of water runoff on the surface.	Capable of being managed and will be addressed in detail during assessment of the section 68 application.	Yes
	b) Council will not permit the discharge of stormwater directly into kerbing and guttering or table drains for any development other than that of a minor nature.	Dwellings will be required to connect to the stormwater drainage in the street. Details will be provided as part of the section 68 application.	Yes

DCP 2013: Part B - General Provisions - B5: Social Impact Assessment and Crime Prevention			
DCP Objective	**Development Provisions**	**Proposed**	**Complies**
Crime Prevention			
43	a) The development addresses the generic principles of crime prevention: − Casual surveillance and sightlines; − Land use mix and activity generators; − Definition of use and ownership; − Basic exterior building design; − Lighting; − Way-finding; and − Predictable routes and entrapment locations; − as described in the Crime Prevention Through Environmental Design (CPTED) principles.	No concealment or entrapment areas proposed. Adequate casual surveillance available.	Yes

DCP 2013: Part C - Development Specific Provisions - C1: Low Density Residential Development			
DCP Objective	**Development Provisions**	**Proposed**	**Complies**
Front Setbacks			
44	a) Dwellings may incorporate an articulation zone to a street frontage at no less than 3m from property boundary. The following building elements are permitted within the articulation zone: − an entry feature or portico; − a balcony, deck, patio, pergola, terrace or verandah;	A front porch/entry pergola with supporting posts setback 4m.	Yes

	- a window box treatment; - a bay window or similar feature; - an awning or other feature over a window; - a sun shading feature. b) These building elements should not extend above the eave gutter line, other than a pitched roof to an entry feature or portico that has the same pitch as the roof on the dwelling house.		
	c) The primary road front setback shall be: Classified road = any frontage 6.0m Primary frontage = 4.5m Secondary frontage = 3.0m Ancillary Lane = 2.0m Large lot residential and rural zones = 10.0m	5.526m setback to garage of dwelling 2.	Yes
45	a) A garage, carport or car parking space should: - be at least 1m behind the building line, where the dwelling(s) has a setback from a front boundary of 4.5m or more, or - be at least 5.5m from a front boundary, where the dwelling(s) has a setback of less than 4.5m.	Garages are setback greater than the minimum 5.5m and at least 1m behind the building line.	Yes
	b) The total width of the garage/carport openings should not be more than 6m and not more than 50 per cent of the width of the building.	5m wide garage door/carport openings proposed to each dwelling. Garage width of Unit 1 is 56.5% of building width. Garage/carport width of Unit 2 is 62.5% of building width.	Yes No* No*
	c) Driveway crossovers are no greater than 5.0m in width.	Crossovers are less than 5m in width.	Yes

	d) Where a dual occupancy or attached dwelling is proposed on a corner lot a garage and driveway is provided on each road frontage.	N/A	N/A
Side and Rear Setbacks			
46	a) A minimum rear boundary setback of 4m is to be provided to dwellings (including verandahs, patios and decks).	10m setback to rear boundary.	Yes
	b) A minimum rear boundary setback of 900mm applies to sheds and swimming pools subject to achieving minimum required private open space area.	N/A	N/A
	c) Council may consider varying rear setback requirements where it is demonstrated that the private open space could achieve better solar access between the building and the side setback. In that instance, one side setback should be a minimum 4m in width (for an equivalent length of rear boundary, behind building line) and the rear setback may be reduced to 900mm.	N/A	N/A
47	a) Ground floors (being <1m above existing ground level) should be setback a minimum of 900mm from side boundaries.	North ground floor side setback = 1.1m minimum. South ground floor side setback = 1.1m minimum.	Yes Yes
	b) First floors and above (including single storey with floor level >1m) should be setback a minimum of 3m from the side boundary, or reduced down to 900mm where it can be demonstrated that the adjoining property's primary living rooms and principal private open space areas are not adversely overshadowed for more than 3hrs between 9am - 3pm on 21 June.	North first floor side setback = 1.1m. Shadow diagrams provided demonstrate that the adjoining property's (No 31 Francis Street) primary living rooms and principal private open space areas are not adversely overshadowed for more than 3 hrs between 9am - 3pm on 21 June.	Yes

		South first floor side setback = 2.834m minimum at corner of Bed 2 of dwelling 1. The primary living area (kitchen and dining room) of the adjacent dwelling at No 27 Francis Street are located in the south-western portion of the dwelling and are not adversely overshadowed for more than 3 hrs between 9am - 3pm on 21 June. The primary open space area of this adjacent dwelling is considered to be the directly accessible covered patio area off the living room and swimming pool area and its surrounds. The shadow diagrams provided demonstrate that the patio area is not adversely impacted. The swimming pool area is partly shadowed but for no more than 3 hrs between 9am - 3pm on 21 June. The shadow diagrams also demonstrate a comparison example of a building set at 3m along the entire south boundary for direct comparison to the proposed shadows.	Yes
	c) First floors and above should have building walls that step in and out at least every 12m by a minimum of 500mm articulation. Where first floors and above are setback >3m, wall articulation is not required.	First floors walls facing side boundaries are provided with adequate articulation or wall lengths less than 12m.	Yes
Private Open Space			
48.	a) All dwellings should have a minimum area of private open space of 35m2, which includes a principal private open space area with:	Both dwellings are provided with >35m^2 directly accessible open space areas which comprise a minimum 4m x 4m area.	Yes

	− a minimum dimension of 4m x 4m, and − a maximum grade of 5% for minimum 4m x 4m of the total open space requirement, and − direct accessibility from a ground floor living area and orientated to maximise use.		
	b) Private open space may include clothes drying areas and garbage storage.	Noted	Yes
Public Domain and Fencing			
49	a) Front fences built forward of the building line for the primary road frontage should be detailed on the development application plans.	No front fencing proposed.	N/A
	b) Solid Front fences up to 1.2m high should be: − Setback 1.0m from the front boundary, and − Suitably landscaped to reduce visual impact, and − Provide a 3m x 3m splay for corner sites.	N/A	N/A
	b) Front fences proposed to be more than 1.2m high should be a maximum of 1.8m in height, above existing front property boundary level, and either: − Include landscaped recesses having minimum dimensions of 1.8m long x 900mm deep which occupy no less than 50% of the total length of the fence, or − be erected up to the front boundary for a maximum length of 6.0m or 50% of the street frontage,	N/A	N/A
	c) have openings which make it not less than 25%	N/A	N/A

	transparent (no individual opening more than 30mm wide);		
	d) provide a 3m x 3m splay for corner sites, and	N/A	N/A
	e) provide a 900mm x 900mm splay for vehicle driveway entrances.	N/A	N/A
50	a) For tennis courts or other similar areas, chain wire fences should be black or dark green plastic coated mesh.	None proposed.	N/A
	b) Solid fences enclosing these facilities should not be permitted over 1.8m.	N/A	N/A
Bulk and Scale			
51	a) Direct views between indoor living rooms and principal private open space of adjacent dwellings, including proposed dwellings approved on adjoining lots, including possible dwellings on future lots, should be obscured or screened where: − Ground and first floor (and above) indoor living room windows are within a 9m radius. − Direct views between principal private open space areas where within a 12m radius. − Direct views between indoor living rooms of dwellings into the principal area of private open space of other dwellings within a 12m radius.	The primary living and open space areas are positioned on the ground floor with the existing 1.8m boundary fencing providing appropriate privacy protection to adjoining dwellings. The rumpus rooms proposed on the first floors of both dwellings face each other internally and are provided with high light windows. Windows on the first floors facing adjacent dwellings serve either bedroom or bathroom windows. While not required it is noted that highlight windows or screening has been incorporated into the north facing windows of dwelling 2. In response to submissions privacy screening was also added to the south facing first floor window of bedroom 2 of dwelling 1 and to the north facing first floor window of bedroom 2 of dwelling 2.	Yes
	b) A balcony, deck, patio, pergola, terrace or verandah	No direct views to adjacent dwelling's private	Yes

	should have a privacy screen where there are direct views of: − Indoor living room windows of adjacent dwellings, including proposed dwellings approved on adjoining lots within 9m radius; or − Principal areas of private open space of adjacent dwellings, including proposed dwellings approved on adjoining lots within a 12m radius.	open space from proposed first floor decks.	
	c) Privacy protection is not required for: − Any Indoor living room windows with a sill height of greater than 1.5m above the finished floor level of that room or where fixed non-openable translucent glass is installed to the same height.	N/A	N/A
	d) Direct views described above may be reduced or obscured by one of the following measures (details to be submitted with the development application): − 1.8m high fence or wall between ground-floor level windows or between a dwelling and principal private open space − Screening of minimum 1.7m height, that has 25% openings (max), with no individual opening more than 30mm wide, is permanently fixed and is made of durable materials. − A window, the whole of which has translucent glass and is not able to be opened.	No privacy screening required.	N/A

Water Recreation Structure (Boat Launching Ramp, Jetty and Mooring)			
53	a) The design of any jetty or boating structure will require engineering certification.	Noted. Standard condition recommended in this regard.	Yes
54	a) Mooring piles are to be set at a level no lower than the level which ensures that the floating structure is retained during the design 1:100 year flood event.	Condition recommended confirming this requirement.	Yes
	b) The width of a jetty walkway leading to a platform should not be greater than 1.0 metres.	The width of the walkway is less than 1m.	Yes
	c) The area of a platform at the end of a walkway should not exceed 16m^2.	10.8m^2.	Yes
	d) The overall length of a jetty when measured from the existing revetment wall should not exceed 17 metres.	14.4m long.	Yes
	e) Boating ramps should have a maximum overall width of 3 metres and a maximum overall length of 10.0 metres when measured from the existing revetment wall unless associated with a boatshed where the boat ramp should not exceed 2.7m in width.	The boat ramp is 3m wide and approximately 4m long.	Yes
	f) Pontoons moored at right angles to the revetment wall should not extend beyond a point 17 metres from the wall.	Condition recommended confirming this requirement.	Yes
	g) Pile cut off levels should not be lower than RL3.0 metres AHD.	Condition recommended confirming this requirement.	Yes
	h) Fixed jetties may only extend to a point 7 metres from the revetment wall.	Condition recommended confirming this requirement.	Yes
	i) Any extension beyond a point 7 metres from the revetment wall is to be by way of a pivoting walkway to a floating pontoon.	Condition recommended confirming this requirement.	Yes
	j) The deck of the jetty is to be above and not resting on the revetment wall and the top surface is not to be above RL 1.4m AHD.	Condition recommended confirming this requirement.	Yes

	k) Pontoons moored parallel to the revetment wall should not extend beyond a point 12 metres from it.	The jetty pontoon will be in line with the existing jetty associated with the site at a distance of 14.4m from the lower existing revetment wall.	No but variation considered acceptable.
	l) Floating moorings should be located between 17 metres from the revetment wall.	N/A	N/A
	m) Fixed mooring poles should not be greater than 17 metres from the revetment wall.	N/A	N/A
55	a) Jetties and moorings (both fixed and floating) should be located a minimum of 10m from any jetty or mooring (both fixed and floating) located on any adjacent property.	No jetties exist on the immediately adjacent properties.	N/A
	b) Boat ramps and jetties should be located in such a way that vessels using the boat ramp or moored on a jetty do not project past a line which is a prolongation of the side boundaries of the development site.	Boat ramp is aligned with the property boundary and jetty and pontoon are located so that vessel would not project past the prolongation of the side boundaries.	Yes
	c) For multi dwelling housing and residential flat building development only one boat ramp and one jetty should be permitted, however where such development is carried out on a site with a frontage to a waterway exceeding 25m, then one additional jetty and one additional boat ramp may be permitted.	N/A	N/A
Ancillary Development			
56	a) For ancillary development in R1 General Residential, R2 Low Density Residential, R3 Medium Density Residential, R4 High Density Residential, R5 Large Lot Residential and RU5 Village zones: − The height of an outbuilding or the alterations and additions	No outbuildings are proposed and rainwater tanks are appropriately positioned behind the building line.	Yes

	to an existing outbuilding on a lot should not be more than 4.8m above ground level (existing). − The building should be single storey construction with a maximum roof pitch of 24 degrees. − The maximum area of the building should be 60m2 for lots less than 900m² and maximum of 100m² for larger lots. − Ancillary development that is a garage, or an outbuilding, or a rainwater tank should not be located in front of the main building line with the exception of swimming pools.		

Note: Subdivision provisions of the DCP (except battleaxe handle width) are aimed at the creation of vacant lots (i.e. not lots within an integrated housing proposal such as this) and have therefore been excluded from the above assessment. Servicing requirements are discussed later in this report.

The proposal seeks to vary Development Provision 4 which provides that development shall not exceed a maximum cut of 1.0m and fill of 1.0m measured vertically above the ground level (existing) at a distance of 1.0m outside the perimeter of the external walls of the building. The proposed extension of the revetment wall will be >1m in height to match existing.

The relevant objectives are:

- Minimise the extent of site disturbance caused by excessive cut and fill to the site.
- Ensure there is no damage or instability to adjoining properties caused by excavation or filling.
- Ensure that there is no adverse alteration to the drainage of adjoining properties.
- Ensure the privacy of adjoining dwellings and private open space are protected.
- Ensure that adequate stormwater drainage is provided around the perimeter of buildings and that overflow paths are provided.

Having regard for the development provisions and relevant objectives, the variation is considered acceptable for the following reasons:

- The extension of the revetment wall will match the existing revetment wall.
- Stormwater and drainage can be adequately managed.
- No potential damage or instability to adjoining properties is identified.
- No adverse privacy impacts to adjoining dwellings would result.

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The proposal seeks to vary Development Provision 45 which provides that the total width of the garage openings should not be more than 6m and not more than 50% of the width of the building. The garage width of Unit 1 is 56.5% of building width and the garage/carport width of Unit 2 is 62.5% of building width.

The relevant objectives are:

- To minimise the impact of garages and driveways on the streetscape, on street parking and amenity.
- To minimise the visual dominance of garages in the streetscape.
- To provide safe and functional vehicular access.

Having regard for the development provisions and relevant objectives, the variation is considered acceptable for the following reasons:

- There is some established character in the street. Immediately adjoining to the north is a double garage positioned out front representing more than 50% of the building width. Further along the street there are examples of double garages out front which represent more than 50% of the building width.
- The front entry porch/pergola feature to dwelling 2 aids in reducing the visual impact and dominance of the garages on the streetscape. Amendments were made during original assessment to incorporate an entry porch and push the garage to dwelling 2 slightly further back following concerns with streetscape impacts from the garages being positioned forward of the building line.
- A reduction in driveways widths undertaken during assessment has also provided space /opportunity for landscaping between the two driveways which will aid in reducing streetscape impact/dominance of the garages.
- The garage of dwelling 1 is setback approximately 9m from the front boundary and at an angle to the street which aids in reducing the streetscape impact/dominance of that garage door.
- Both of the two dwellings have upper floor levels which reduce the perceptible dominance of the garage doors.
- The garage doors are compliant with the 5m width provision.
- The most recent amendments which included the conversion of a double garage to dwelling 2 to a single garage and carport, fencing along the southern side boundary, landscaping along driveway and side boundaries and positioning of mailbox at the front all aid in further minimising the visual dominance of the garages upon the streetscape.

Based on the above assessment, the variations proposed to the provisions of the DCP are considered acceptable and the relevant objectives have been satisfied. Cumulatively, the variations do not amount to an adverse impact or a significance that would justify refusal of the application.

(iiia) Any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4

No planning agreement has been offered or entered into relating to the site.

(iv) Any matters prescribed by the Regulations

Demolition of buildings AS 2601 - Clause 92

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Demolition of the existing dwelling is capable of compliance with the Australian Standard. A suitable consent condition is recommended to re-inforce this requirement.

(b) The likely impacts of that development, including environmental impacts on both the natural and built environments, social and economic impacts in the locality

Context and setting
The proposal will be unlikely to have any adverse impacts to existing adjoining properties and satisfactorily addresses the public domain.

The proposal is considered to be consistent with other residential development in the locality and adequately addresses planning controls for the area.

There are no adverse impacts on existing view sharing.

There are no adverse privacy impacts.

There are no adverse overshadowing impacts. The proposal does not prevent adjoining properties from receiving 3 hours of sunlight to private open space and primary living areas on 21 June.

Access, transport and traffic
The proposal will be unlikely to have any adverse impacts in terms access, transport and traffic. The existing road network will satisfactorily cater for any increase in traffic generation as a result of the development. During assessment the width of the proposed driveways was reduced to help retain some space on the frontage for on street parking.

Water Supply
Service available – details required with S.68 application. Appropriate conditions recommended.

Sewer
Service available – details required with S.68 application. Appropriate conditions recommended.

Stormwater
Service available – details required with S.68 application. Appropriate conditions recommended.

Other Utilities
Telecommunication and electricity services are available to the site.

Heritage
This site does not contain or adjoin any known heritage item or site of significance.

Other land resources
No adverse impacts anticipated. The site is within an established urban context and will not sterilise any significant mineral or agricultural resource.

Water cycle
The proposed development will be unlikely to have any adverse impacts on water resources and the water cycle.

Soils
The proposed development will be unlikely to have any adverse impacts on soils in terms of quality, erosion, stability and/or productivity subject to a standard condition requiring erosion and sediment controls to be in place prior to and during construction.

Air and microclimate
The construction and/or operations of the proposed development will be unlikely to result in any adverse impacts on the existing air quality or result in any pollution.

Flora and fauna
Construction of the proposed development will not require any removal/clearing of any significant vegetation and therefore will be unlikely to have any significant adverse impacts on biodiversity or threatened species of flora and fauna. Section 5A of the Act is considered to be satisfied.

Waste
Satisfactory arrangements are in place for proposed storage and collection of waste and recyclables. No adverse impacts anticipated.

Energy
The proposal includes measures to address energy efficiency and will be required to comply with the requirements of BASIX.

Noise and vibration
No adverse impacts anticipated. Condition recommended to restrict construction to standard construction hours.

Bushfire
The site is not identified as being bushfire prone.

Safety, security and crime prevention
The proposed development will be unlikely to create any concealment/entrapment areas or crime spots that would result in any identifiable loss of safety or reduction of security in the immediate area.

Social impacts in the locality
Given the nature of the proposed development and its' location the proposal is unlikely to result in any adverse social impacts.

Economic impact in the locality
No adverse impacts. Likely positive impacts can be attributed to the construction of the development and associated flow on effects (ie maintained employment and increased expenditure in the area).

Site design and internal design
The proposed development design satisfactorily responds to the site attributes and will fit into the locality. No adverse impacts likely.

Construction
No potential adverse impacts identified to neighbouring properties with the construction of the proposal.

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Cumulative impacts
The proposed development is not expected to have any adverse cumulative impacts on the natural or built environment or the social and economic attributes of the locality.

(c) The suitability of the site for the development

The proposal will fit into the locality and the site attributes are conducive to the proposed development.

Site constraints of flooding have been adequately addressed and appropriate conditions of consent recommended.

(d) Any submissions made in accordance with this Act or the Regulations

Three (3) written submissions were received following public exhibition of the application. Copies of the written submissions have been provided separately to members of the DAP.

Key issues raised in the submissions received and comments are provided as follows:

Submission Issue/Summary	Planning Comment/Response
Privacy concerns.	Refer to comments in Development Control Plan (DCP) assessment table of this report surrounding privacy controls.
Overshadowing impacts.	Refer to comments in Development Control Plan (DCP) assessment table of this report surrounding overshadowing controls.
Noise and dust impacts from demolition of the existing dwelling.	Demolition of the existing dwelling is capable of compliance with the Australian Standard. A suitable consent condition is recommended to re-inforce this requirement.
The proposal is too large and out of character with the surrounding built environment.	The proposal meets the adopted planning controls and is consistent with other established two storey dwellings within the immediate locality. The floor space ratio is below the maximum 0.65:1 ratio floor area to site area.
Bulk and scale impacts upon adjoining properties.	The principle planning controls in this regard are the maximum building height and floor space ratio. The proposal is below the maximum permissible for both. It is considered that the proposal is of a scale that is sufficiently consistent with other two storey dwellings within the immediate

Submission Issue/Summary	Planning Comment/Response
	and wider locality.
The garages dominate the streetscape and the variation sought to the DCP controls should not be supported.	Refer to comments in Development Control Plan (DCP) assessment table of this report surrounding garage width variation sought. The application was also amended during assessment to incorporate a front porch forward of the garages which assist with reducing the perceived impacts to the streetscape.
The driveways on the corner will create an adverse traffic safety impact and result in a loss of available on-street parking.	Given the low speed environment no adverse traffic safety concerns were identified. The application was amended during assessment which included a slight change to driveway locations and a reduction in their widths to retain space for on street parking areas outside adjoining properties.

(e) The Public Interest

The proposed development satisfies relevant planning controls and will not adversely impact on the wider public interest.

Ecologically Sustainable Development and Precautionary Principle
Ecologically sustainable development requires the effective integration of economic and environmental considerations in decision-making processes.
The four principles of ecologically sustainable development are:

- the precautionary principle,
- intergenerational equity,
- conservation of biological diversity and ecological integrity,
- improved valuation, pricing and incentive mechanisms.

The principles of ESD require that a balance needs to be struck between the man-made development and the need to retain the natural vegetation. Based on the assessment provided in the report and with recommended conditions of consent, it is considered an appropriate balance has been struck.

Climate change
The proposal is not considered to be vulnerable to any risks associated with climate change.

4. DEVELOPMENT CONTRIBUTIONS APPLICABLE

- The proposal incorporates an additional residential component (i.e another dwelling) and therefore development contributions will be required towards augmentation of town water supply and sewerage system head works under Section 64 of the Local Government Act 1993.

- The proposal incorporates an additional residential component (i.e another dwelling) and therefore development contributions will be required in accordance with Section 7.11 of the Environmental Planning and Assessment Act 1979

towards roads, open space, community cultural services, emergency services and administration buildings.

–

- A copy of the contributions estimate is included as **Attachment 2**.

–

5. CONCLUSION AND STATEMENT OF REASON

The application has been assessed in accordance with Section 4.15 of the Environmental Planning and Assessment Act 1979.

Issues raised during assessment and public exhibition of the application have been considered in the assessment of the application. Where relevant, conditions have been recommended to manage the impacts attributed to these issues.

The site is considered suitable for the proposed development and the proposal adequately addresses relevant planning controls. The development is not considered to be contrary to the public's interest and will not result a significant adverse social, environmental or economic impact. It is recommended that the application be approved, subject to the recommended conditions of consent provided in the attachment section of this report.

Attachments

1⇩. DA2020 - 1100.1 Draft consent conditions
2⇩. DA2020 - 1100.1 Contributions
3⇩. DA2020 - 1100.1 Covering letter to revised plans - Michelle Love
4⇩. DA2020 - 1100.1 Revised Plans
5⇩. DA2020 - 1100.1 Comparison front perspectives

FOR USE BY PLANNERS/SURVEYORS TO PREPARE LIST OF PROPOSED CONDITIONS

NOTE: THESE ARE DRAFT ONLY

DA NO: 2020/1100 **DATE: 19/08/2021**

PRESCRIBED CONDITIONS

The development is to be undertaken in accordance with the prescribed conditions of Part 6 - Division 8A of the *Environmental Planning & Assessment Regulations* 2000.

A – GENERAL MATTERS

(1) (A001) The development is to be carried out in accordance with the plans and supporting documents set out in the following table, as stamped and returned with this consent, except where modified by any conditions of this consent.

Plan / Supporting Document	Reference	Prepared by	Date
Statement of Environmental Effects	D4354	Collins W Collins	November 2020
Development plans as stamped	Dwg No: D4354 Sheets 1, 3 to 16, 18 to 21 Issue V	Collins W Collins	29 July 2021
Draft subdivision plan	Dwg No: D4354 Sheet 17 Issue V	Collins W Collins	29 July 2021
BASIX Certificates	1151409S_02 1151428S_02	Collins W Collins	9 December 2020

In the event of any inconsistency between conditions of this development consent and the plans/supporting documents referred to above, the conditions of this development consent prevail.

(2) (A002) No building or subdivision work shall commence until a Construction Certificate or Subdivision Works Certificate has been issued and the applicant has notified Council of:

a. the appointment of a Principal Certifying Authority; and

b. the date on which work will commence.

Such notice shall include details of the Principal Certifying Authority and must be submitted to Council at least two (2) days before work commences.

(3) (A003) The proponent shall submit an application for a Subdivision Certificate for Council certification with all relevant documentation.

(4) (A008) Any necessary alterations to, or relocations of, public utility services to be carried out at no cost to council and in accordance with the requirements of

the relevant authority including the provision of easements over existing and proposed public infrastructure.

(5) (A009) The development site is to be managed for the entirety of work in the following manner:

1. Erosion and sediment controls are to be implemented to prevent sediment from leaving the site. The controls are to be maintained until the development is complete and the site stabilised with permanent vegetation;
2. Appropriate dust control measures;
3. Building equipment and materials shall be contained wholly within the site unless approval to use the road reserve has been obtained. Where work adjoins the public domain, fencing is to be in place so as to prevent public access to the site;
4. Building waste is to be managed via an appropriate receptacle;
5. Toilet facilities are to be provided on the work site at the rate of one toilet for every 20 persons or part of 20 persons employed at the site.
6. Building work being limited to the following hours, unless otherwise permitted by Council;
   - Monday to Saturday from 7.00am to 6.00pm
   - No work to be carried out on Sunday or public holidays

   The builder to be responsible to instruct and control his sub-contractors regarding the hours of work.

(6) (A011) The design and construction of all public infrastructure works shall be in accordance with Council's adopted AUSPEC Specifications.

(7) (A091) All parts of the structure below the applicable Flood Planning Level (1 in 100 flood level including climate change plus the relevant freeboard) shall be constructed from flood compatible materials compliant with the ABCB Standard for Construction of Buildings in Flood Hazard Areas. Consideration should also be given to the relevant provisions contained with the Hawkesbury-Nepean Floodplain Management Steering Committee document *Reducing Vulnerability of Buildings to Flood Damage (2007).* For the purpose of this requirement, the 1 in 100 year flood level including climate change may be assumed to be RL3.63m AHD.

(8) Jetty pile cut off levels must not be lower than the 1 in 100 year flood event including any applicable climate change allowance plus 500mm freeboard. For the purpose of this requirement, the 1 in 100 year flood level including climate change may be assumed to be RL 3.63m AHD.

(9) The width of a jetty walkway leading to a platform should not be greater than 1.0 metres.

(10) Payment of the annual occupation fee for boating structures as set out in Council's Management Plan, due on 1 July each year.

(11) Pontoons moored at right angles to the revetment wall are not to extend beyond a point 17 metres from the wall.

(12) The waterway structures shall not to be modified, extended or changed without the prior approval of Council.

(13) Fixed jetties may only extend to a point 7m from the revetment wall. Any extension beyond a point 7m from the revetment wall is to be by way of a pivoting walkway to a floating pontoon.

(14) The deck of the jetty is to be above and not resting on the revetment wall and the top surface is not to be above RL 1.4m AHD. No load is to be imparted to the revetment wall.

(15) Fixed mooring poles shall not be greater than 17m from the revetment wall.

B – PRIOR TO ISSUE OF A CONSTRUCTION CERTIFICATE OR SUBDIVISION WORKS CERTIFICATE

(1) (B001) Prior to release of the Construction Certificate, approval pursuant to Section 68 of the Local Government Act, 1993 to carry out water supply, stormwater and sewerage works is to be obtained from Port Macquarie-Hastings Council. The following is to be clearly illustrated on the site plan to accompany the application for Section 68 approval:

- Position and depth of the sewer (including junction)
- Stormwater drainage termination point
- Easements
- Water main
- Proposed water meter location

(2) (B003) Submission to the Principal Certifying Authority prior to the issue of a Subdivision Works Certificate detailed design plans for the following works associated with the developments. Public infrastructure works shall be constructed in accordance with Port Macquarie-Hastings Council's current AUSPEC specifications and design plans are to be accompanied by AUSPEC DQS:

1. Sewerage reticulation. Provision to each lot of a separate sewer line to Council's main. Council records indicate that the development site has an existing sewer junction connected to the 150mm AC sewer main running parallel with the eastern boundary of the development lot. The sewer junction shall be capped off with an approved fitting in conjunction with demolition works and Council notified to carry out an inspection prior to backfilling of this work.
2. Water supply plans shall include hydraulic plans for internal water supply services and associated works in accordance with AS 3500, Plumbing Code of Australia and Port Macquarie-Hastings Council Policies. Each dwelling shall be provided with a separate metered water connection with the meters being located on the road frontage. Engineering plans are required to show all existing and proposed water services to the lot.
3. Stormwater systems.

(3) (B006) An application pursuant to Section 138 of the Roads Act, 1993 to carry out works required by the Development Consent on or within public road is to be submitted to and obtained from Port Macquarie-Hastings Council prior to release of the Construction Certificate.

Such works include, but not be limited to:

- Civil works
- Traffic management
- Work zone areas
- Hoardings
- Concrete foot paving
- Footway and gutter crossing
- Functional vehicular access

(4) (B010) Payment to Council, prior to the issue of a Construction or Subdivision Certificate (whichever occurs first) of the Section 7.11 contributions set out in the "Notice of Payment – Developer Charges" schedule attached to this consent unless deferral of payment of contributions has been approved by Council. The contributions are levied, pursuant to the Environmental Planning and Assessment Act 1979 as amended, and in accordance with either the provisions of the following plans (as amended) or a Planning Agreement:

- Port Macquarie-Hastings Administration Building Contributions Plan 2007
- Hastings S94 Administration Levy Contributions Plan 2003
- Port Macquarie-Hastings Open Space Contributions Plan 2018
- Hastings S94 Major Roads Contributions Plan 2004
- Port Macquarie-Hastings Community Cultural and Emergency Services Contributions Plan 2005

The plans may be viewed on Council's website or during office hours at the Council Chambers located on the corner of Burrawan and Lord Streets, Port Macquarie, 9 Laurie Street, Laurieton, and High Street, Wauchope.

The attached "Notice of Payment" is valid for the period specified on the Notice only. The contribution amounts shown on the Notice are subject to adjustment in accordance with CPI increases adjusted quarterly and the provisions of the relevant plans. Payments can only be made using a current "Notice of Payment" form. Where a new Notice of Payment form is required, an application in writing together with the current Notice of Payment application fee is to be submitted to Council.

(5) (B011) Prior to the issue of Construction or Subdivision Certificate (whichever occurs first), a Compliance Certificate under Section 307 of the Water Management Act 2000 must be obtained from the Water Authority.

Note1: Port Macquarie-Hastings Council is defined as a Water Supply Authority under section 64 of the Local Government Act 1993. As part of the Notice of Requirements of the Water Authority under Section 306 of the Water Management Act 2000, the payment of a cash contribution is required, prior to the issue of a Construction or Subdivision Certificate (whichever occurs first), of the Section 64 contributions, as set out in the "Notice of Payment – Developer Charges" schedule attached to and included as part of this consent unless deferral of payment of contributions has been approved by Council. The contributions are levied in accordance with either the provisions of the relevant Section 64 Development Servicing Plan or a Planning Agreement.

Note 2: A Section 307 Compliance Certificate issued by the Water Authority at the construction certificate stage only relates to the payment of contributions in accordance with the Development Servicing Plan or a Planning Agreement. A further Compliance Certificate may be required for other water management works prior to occupation or the issue of an Occupation or Subdivision Certificate relating to the development.

Note 3: The Water Authority will accept payment of the equivalent amount of contributions under Section 608 of the Local Government Act 1993.

(6) (B038) Footings and/or concrete slabs of buildings adjacent to sewer lines or stormwater easements are to be designed so that no loads are imposed on the infrastructure. Detailed drawings and specifications prepared by a practising chartered professional civil and/or structural engineer are to be submitted to the Principal Certifying Authority with the application for the Construction Certificate.

(7) (B071) Prior to the issue of any Construction Certificate, the provision of water and sewer services to the land are to be approved by the relevant Water Authority and relevant payments received.

(8) (B067) The floor level of all habitable areas is to be a minimum of 500mm above the 1 in 100 year flood level including the applicable climate change allowance. For the purpose of this requirement, the 1 in 100 year flood level including climate change may be assumed to be RL3.63m AHD. The floor level of all habitable areas must therefore be at or above 4.13m AHD. Prior to release of the Construction Certificate floor levels satisfying this requirement shall be clearly illustrated on the plans.

(9) (B068) The floor level of all non-habitable areas is to be at or above the 1 in 20 year flood level. For the purpose of this requirement, the 1 in 20 year flood level may be assumed to be RL2.38m AHD. Prior to release of the Construction Certificate floor levels satisfying this requirement shall be clearly illustrated on the plans.

(10) Prior to release of the Construction Certificate a practising chartered professional structural engineer is to provide certification to the PCA that the jetty is designed so that all structural members are capable of withstanding flood forces and the impact of any debris (carried by floodwaters) likely to occur for a range of floods up to and including the 1 in 100 year flood including climate change and the relevant freeboard level of 500mm. For the purpose of this requirement, the 1 in 100 year flood level including climate change may be assumed to be RL 3.63m AHD. Velocities to be adopted for the calculation of forces created by flood waters and debris loading shall be at least three (3) times the velocities for a 1 in 100 year flood including climate change plus freeboard. For the purpose of this requirement, the velocity for the 1 in 100 flood including climate change may be assumed to be 0.21m/s.

(11) (B039) Detailed drawings and specifications prepared by a professional engineer for all retaining walls supporting:

i. earthworks that are more than 600mm above or below ground level (existing); or

ii. located within 1m of the property boundaries; or

iii. earthworks that are more than 1m above or below ground level (existing) in any other location;

are to be submitted to the Principal Certifying Authority with the application for Construction Certificate.

(12) Submission and approval from Council of the detailed engineering design plans for the pontoon/jetty prepared and certified by a qualified civil and/or structural engineer, with such plans to include details of:

a. Footings

b. Pier and/or concrete slabs as required

c. Framework

d. Decking and handrail

e. Level based on Australian Height Datum (AHD including 1SLW and 1SHW tide levels).

C – PRIOR TO ANY WORK COMMENCING ON SITE

(1) (C004) Prior to works commencing an application being made to the electricity and telecommunications service providers. Services are required to be underground.

(2) (C013) Where a Vertical Inspection Shaft (VIS) exists within a property, access to the VIS shall be made available at all times. Before during and after construction, the VIS must not be buried, damaged or act as a stormwater collection pit. No structures, including retaining walls, shall be erected within 1.0 metre of the sewer manhole or located so as to prevent access to the manhole.

D – DURING WORK

(1) (D001) Development works on public property or works to be accepted by Council as an infrastructure asset are not to proceed past the following hold points without inspection and approval by Council. Notice of required inspection must be given 24 hours prior to inspection, by contacting Council's Customer Service Centre on (02) 6581 8111. You must quote your Construction Certificate number and property description to ensure your inspection is confirmed:

a. when trenches are open, stormwater/water/sewer pipes and conduits jointed and prior to backfilling;

b. prior to the pouring of concrete for sewerage works and/or works on public property;

c. during construction of sewer infrastructure;

All works at each hold point shall be certified as compliant in accordance with the requirements of AUSPEC Specifications for Provision of Public Infrastructure and any other Council approval, prior to proceeding to the next hold point.

(2) (D006) A copy of the current stamped approved construction plans must be kept on site for the duration of site works and be made available upon request to either the Principal Certifying Authority or an officer of the Council.

(3) (D029) The demolition of any existing structure shall be carried out in accordance with Australian Standard AS 2601: The Demolition of Structures. No demolition materials shall be burnt or buried on site. The person responsible for the demolition works shall ensure that all vehicles leaving the site carrying demolition materials have their loads covered and do not track soil or waste materials onto the road. Should the demolition works obstruct or inconvenience pedestrian or vehicular traffic on an adjoining public road or reserve, separate application shall be made to Council to enclose the public place with a hoarding fence.

Should asbestos be present, its removal shall be carried out in accordance with the National OH&S Committee – Code of Practice for Safe Removal of Asbestos and Code of Practice for the Management and Control of Asbestos in Workplaces.

(4) Marine grade, Type "SR" or equivalent cement to be used in concrete work in the tidal zone.

E – PRIOR TO OCCUPATION OR THE ISSUE OF OCCUPATION CERTIFICATE / SUBDIVISION CERTIFICATE

(1) (E001) The premises shall not be occupied or used in whole or in part until an Occupation Certificate has been issued by the Principal Certifying Authority.

(2) (E034) Prior to occupation or the issuing of the Occupation Certificate provision to the Principal Certifying Authority of documentation from Port Macquarie-Hastings Council being the local roads authority certifying that all matters required by the approval issued pursuant to Section 138 of the Roads Act have been satisfactorily completed.

(3) (E044) The applicant will be required to submit prior to occupation or the issue of the Occupation Certificate, certification by a Registered Surveyor that the development has met the necessary flood planning levels specified in this consent.

(4) (E051) Prior to occupation or the issuing of any Occupation Certificate a section 68 Certificate of Completion shall be obtained from Port Macquarie-Hastings Council.

(5) (E053) All works relating to public infrastructure shall be certified by a practicing Civil Engineer or Registered Surveyor as compliant with the requirements of AUSPEC prior to issue of Occupation/Subdivision Certificate or release of the security bond, whichever is to occur first.

(6) (E056) A Certificate of Compliance under the provisions of Section 307 of the Water Management Act must be obtained prior to the issue of any occupation or subdivision certificate. The application for the certificate is to include an acceptable Work-As-Executed plan for water and sewer mains and services from a Professional Engineer or Registered Surveyor.

(7) (E058) Written confirmation being provided to the Principal Certifying Authority (PCA) from any properly qualified person (eg the builder), stating that all commitments made as part of the BASIX Certificate have been completed in accordance with the certificate.

(8) (E068) Prior to the issue of a subdivision or occupation certificate (whichever occurs first), evidence to the satisfaction of the Certifying Authority from the electricity and telecommunications providers that satisfactory services arrangements have been made to the lots or dwellings (including street lighting and fibre optic cabling where required).

(9) (E195) The subdivision certificate shall not be issued until such time that the dwellings associated with this development are substantially commenced (as determined by Council) or where a strata management statement, or restriction as to user, prohibits any dwelling on each lot other than the dwelling approved as part of this consent.

(10) Mooring piles are to be painted white above RL 1.0 AHD. Timber mooring piles are to be fitted with a steel collar at the top of to restrain splitting.

F – OCCUPATION OF THE SITE

(1) (F004) The dwellings are approved for permanent residential use and not for short term tourist and visitor accommodation.

(2) The use of the jetty shall be such as to prohibit the encroaching of any boat, when moored beyond the projection of the property boundaries.

Developer Charges - Estimate

Applicants Name: Collins W Collins
Property Address: 29 Francis Street, Port Macquarie
Lot & Dp: Lot(s):47,DP(s):246284
Development: DA 2020/1100 - Dual occupancy and Torrens Title subdivision

PORT MACQUARIE HASTINGS

Water and Sewerage Headworks Levies are levied under S64 of the LGA Act & S306 of the Water Management Act 2000.
Other contributions are levied under Section 7.11 of the Environmental Planning and Assessment Act and Council's Contribution Plans.

	Levy Area	Units	Cost		Estimate
1	Water Supply	0.8	$10,419.00	Per ET	$8,335.20
2	Sewerage Scheme Port Macquarie	1	$3,953.00	Per ET	$3,953.00
3	Since 1.7.04 - Major Roads - Port Macquarie - Per ET	1	$7,810.00	Per ET	$7,810.00
4	Since 31.7.18 - Open Space - Port Macquarie - Per ET	1	$5,754.00	Per ET	$5,754.00
5	Commenced 3 April 2006 - Com, Cul and Em Services CP - Port Macquarie	1	$4,725.00	Per ET	$4,725.00
6	Com 1.3.07 - Administration Building - All areas	1	$930.00	Per ET	$930.00
7	N/A				
8	N/A				
9	N/A				
10	N/A				
11	N/A				
12	N/A				
13	N/A				
14	N/A				
15	Admin General Levy - Applicable to Consents approved after 11/2/03		2.2% S94 Contribution		$422.80
16					
17					
18					
	Total Amount of Estimate (Not for Payment Purposes)				**$31,930.00**

NOTES: These contribution rates apply to new development and should be used as a guide only.
Contributions will be determined in conjunction with a Development Application (DA) or Complying Development Application (CDA).
DAs will be subject to the contributions plans in force at the time of issue of the Consent and for CDCs at time of lodgement.
Contribution Rates are adjusted quarterly in line with the CPI.

DATE OF ESTIMATE: **8-Jun-2021**

Estimate Prepared By Ben Roberts

This is an ESTIMATE ONLY - NOT for Payment Purposes

ins W Collins, 29 Francis Street, Port Macquarie, 8-Jun-2021.xls

PORT MACQUARIE-HASTINGS COUNCIL

Love Project Management
PO Box 161 Wauchope NSW 2446 Phone: 0400953101
ABN: 26 108 622 745

Mr Ben Roberts
Port Macquarie – Hastings Council
Sent via email

16th August, 2021

Dear Mr Roberts,

RE: DA2020 - 1100.1 for 29 Francis Street, Port Macquarie
CWC Ref D4354

Reference is made to the abovementioned development application and the proposal for the demolition of the existing dwelling, construction of two separate dwellings, new jetty and torrens subdivision.

Please find attached amended plans.

The design of the development has been amended with regard to the streetscape to address the matters raised during the Development Assessment Panel meeting of 17th June 2021. It is noted that the matter was recommended for approval, and the Panel determined to defer the matter for the following reason:

"that because of the apparent dominance of the two double garages on the streetscape, DA 2020-1100 for demolition of dwelling and construction of dual occupancy with Torrens title subdivision and jetty at Lot 47, DP 246284, No. 29 Francis Street, Port Macquarie, be deferred to provide the applicant an opportunity to amend the plans to address the Panel's concerns and reduce streetscape impacts" .

Upon examining the proposal and the subject land, a number of pertinent matters were identified. These included:

- The subject land is 1029m2 in area and has significant capacity to accommodate the development proposal.
- The height of the proposal is below the permitted maximum building height;
- The floor space ratio of the proposal is less than the permitted maximum floor space ratio;
- The Council's assessment of the proposal noted that the "*surrounding area also contains a mixture of low and medium to high density residential development. This proposal will be consistent with such a density*".

Council's Development Control Plan 2013 sets out the guidelines to be utilised by both Council and property owners to guide development designs. In regard to the proposal, it is noted that the design of the proposed dual occupancy was compliant with the following provisions:

- Garages are located behind the building line;
- Building elements permitted within the articulation zone and the design includes an entry porch with supporting posts setback just over 4.5m;

- The front building setback for both dwellings is setback greater than Council's requirements;
- Garages are setback greater than Council's requirement and behind the front building line;
- Driveway crossovers are less than Council's maximum permitted;
- Side and Rear setbacks are compliant with Council's requirements;

The only design guideline setout in Council's DCP which the dual occupancy development did not achieve in regards to the numeric provisions is the matter of the garage widths not being greater than 50% of the total building width at the front of the property. The relevant objectives of this matter are as follows:

45. Objective

- *To minimise the impact of garages and driveways on the streetscape, on street parking and amenity.*
- *To minimise the visual dominance of garages in the streetscape.*
- *To provide safe and functional vehicular access.*

Development Provisions

a) *A garage, carport or car parking space should:*

- *be at least 1m behind the building line, where the dwelling(s) has a setback from a front boundary of 4.5m or more, or*
- *be at least 5.5m from a front boundary, where the dwelling(s) has a setback of less than 4.5m.*

Note: The distance to the garage/carport or parking space may be measured to the entry point of the garage/carport or parking space or front posts or walls.

b) *The total width of the garage/carport openings should not be more than 6m and not more than 50 per cent of the width of the building.*

c) *Driveway crossovers are no greater than 5.0m in width.*

d) *Where a dual occupancy or attached dwelling is proposed on a corner lot a garage and driveway is provided on each road frontage.*

As discussed above, the development provisions are complied with in regards to the garage being at least 1m behind the building line, and being at least 5.5m from the front property boundary. In addition, the total width of the garage openings is less than 6m, and the driveway crossovers are not greater than 5m in width. This is not a corner allotment, and therefore item (d) does not apply.

Thus, the only matter that is not compliant is part of item (b) such that the garage openings are more than 50% of the width of the building.

Whilst this is a minor variation, particularly having regard to the compliance with all other listed development provisions, the objectives of this item are considered as follows, with regard to the amended plans (Revision V).

The compliance of this design with the relevant objectives was noted in the Council report, and these items still stand in regards to the amended plans, such that:

- There is an established character in the street such that the double garage adjoining to the north of the subject land represents greater than 50% of the building width, and there are also double garages in Francis Street which represent more than 50% of the building width, thus there is an established streetscape which is consistent with the proposal;
- The garage of dwelling 1 is at an angle to the street frontage and this reduces any visual dominance of the garage to the streetscape;

The amended plans have incorporated a number of design elements to minimise the visual presence of the garage doors even further.

This includes:

(a) Converting the double garage for Dwelling 2 to a single garage and carport. This halves the visual bulk of the double garage and provides for a view from the street through to the landscaped area along the northern side boundary.

(b) Fencing along the southern side boundary has been incorporated into the design. This ensures pedestrians and motorists approaching the building from the entrance of Francis Street, will be significantly blocked from any view of the garage door, and rather will be presented with a view of the proposal that is dominated by the upper floor area of the building. Thus, the view presented will be of the upper part of the residential development.

(c) Landscaping along the edges of both driveways and side boundaries ensures the motorists and pedestrians have limited views of the garage doors.

(d) The position of the mailbox at the front of the property also provides a solid screening element to this lower floor area, again minimising visual opportunities for a view of the garage doors.

These design elements have ensured that the proposed dual occupancy development provides for limited viewing of the garage doors, both by reducing the width of garage doors at the front of the property by a quarter of what was previously proposed (double garage

converted to single garage and carport), and providing both solid and landscaped screening of the remaining garage doors via fencing / mailbox details and landscape screening.

A comparison of the previous proposal and the amended streetscape has been provided to assist all parties in visualising the impact of the amendments, as shown in the following extract from the plans:

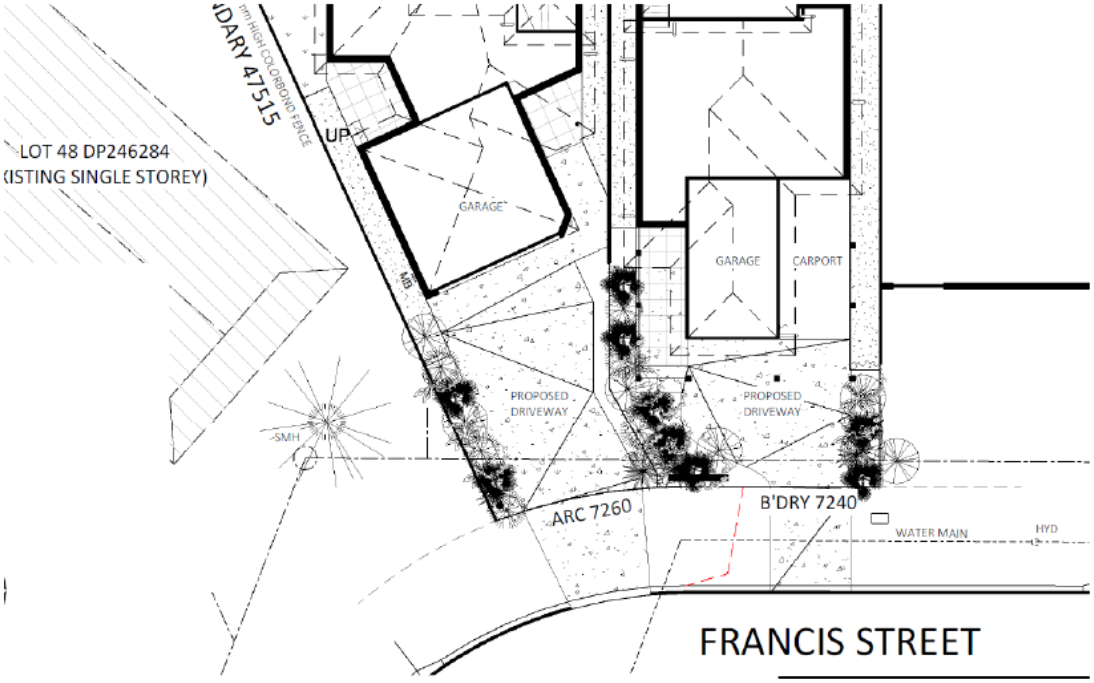
Figure 1: Plan Set Extract showing previous Streetscape plan (top image) and Amended Streetscape plan (lower image)

Rev U

Rev V

The landscaping, fencing and solid mailbox elements at the street frontage are shown in the following plan extract.

Figure 2: Plan Extract showing Landscaped Street frontage



Having regard to the narrowness of the street frontage, it is noted that there is very limited opportunity for pedestrians or motorists to be impacted by the garage doors proposed for this property, considering the amendment now provides for a only a double garage and single garage door, with extensive screening, greater than required setbacks, the double garage being at an angle to the street frontage which minimises any visibility, and the fencing, landscaping and other design elements discussed above.

For these reasons, it is considered that the design has been amended to minimise any visual dominance of the garage doors on the streetscape, and the proposal, as amended, should be approved.

Regards

Michelle Love
Registered Planner

CURRENT REVISION + NOTES

Date:	Description:	Issue:	Drawn:
29.07.21	UPDATED GARAGE	V	DC, DP

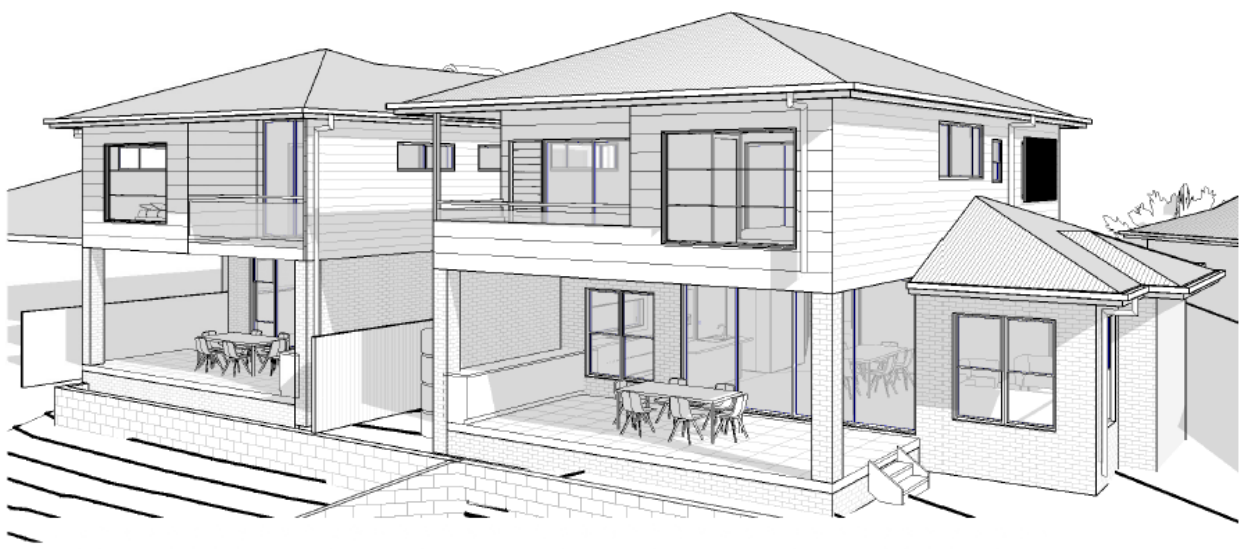
DUAL OCCUPANCY - TORRENS

LOT No: 47 **DP No:** 246284

STREET: 29 FRANCIS STREET, PORT MACQUARIE

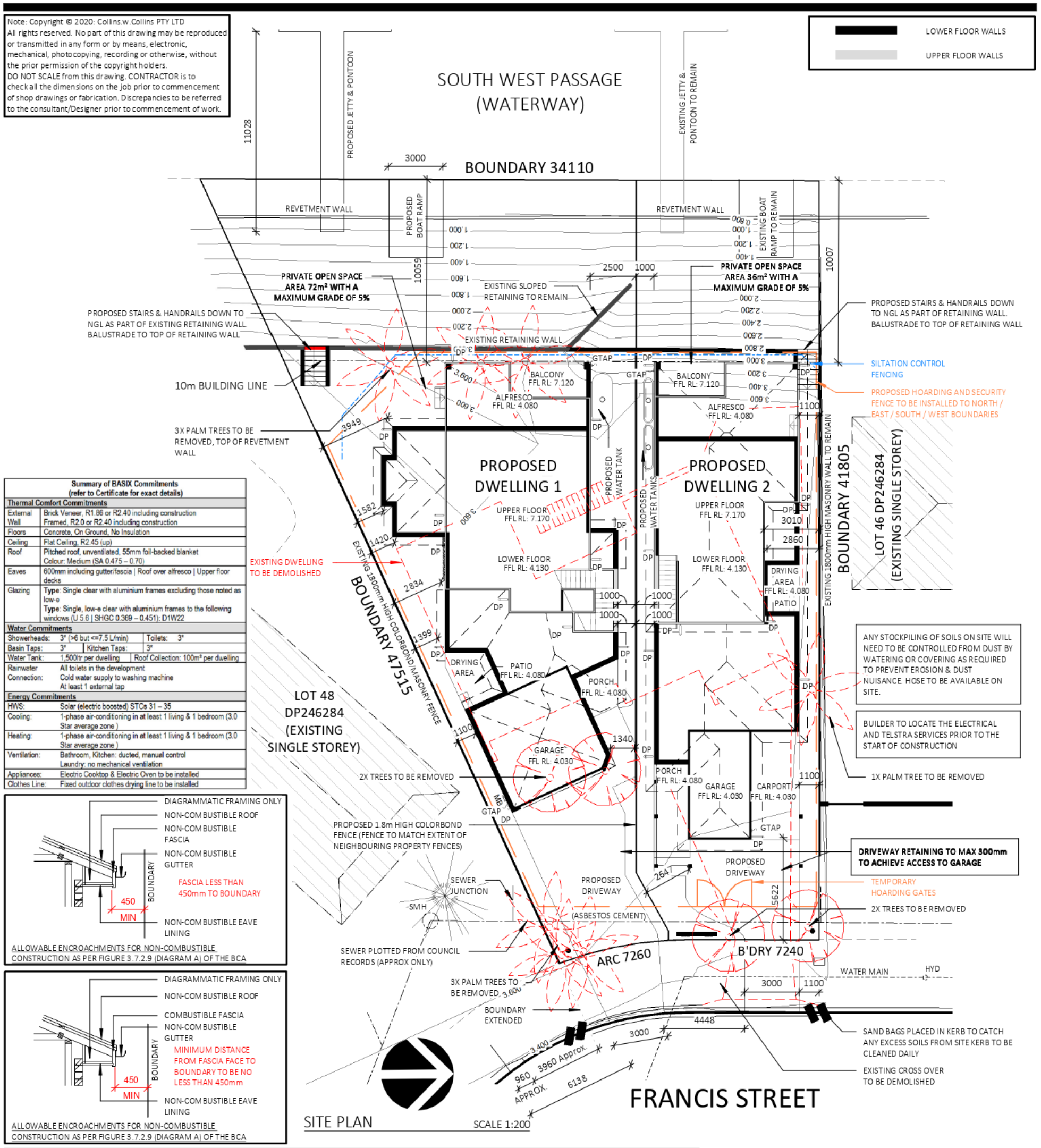
CWC JOB #: D4354

CONTENTS



collinswcollins PTY LTD
Building Designers

89A lord street (PO Box 5667), Port Macquarie NSW 2444 | Shop 17 Centrepoint Arcade, Taree NSW 2430 T: 02 6583 4411 F: 02 6583 9820 WWW. COLLINSWCOLLINS.COM.AU



Summary of BASIX Commitments (refer to Certificate for exact details)			
Thermal Comfort Commitments			
External Wall	Brick Veneer, R1.86 or R2.40 including construction Framed, R2.0 or R2.40 including construction		
Floors	Concrete, On Ground, No Insulation		
Ceiling	Flat Ceiling, R2.45 (up)		
Roof	Pitched roof, unventilated, 55mm foil-backed blanket Colour: Medium (SA 0.475 – 0.70)		
Eaves	600mm including gutter/fascia | Roof over alfresco | Upper floor decks		
Glazing	**Type**: Single clear with aluminium frames excluding those noted as low-e **Type**: Single, low-e clear with aluminium frames to the following windows (U 5.6 | SHGC 0.369 – 0.451): D1W22		
Water Commitments			
Showerheads:	3* (>6 but <=7.5 L/min)	Toilets:	3*
Basin Taps:	3* Kitchen Taps:		3*
Water Tank:	1,500ltr per dwelling	Roof Collection: 100m² per dwelling	
Rainwater Connection:	All toilets in the development Cold water supply to washing machine At least 1 external tap		
Energy Commitments			
HWS:	Solar (electric boosted) STCs 31 – 35		
Cooling:	1-phase air-conditioning in at least 1 living & 1 bedroom (3.0 Star average zone)		
Heating:	1-phase air-conditioning in at least 1 living & 1 bedroom (3.0 Star average zone)		
Ventilation:	Bathroom, Kitchen: ducted, manual control Laundry: no mechanical ventilation		
Appliances:	Electric Cooktop & Electric Oven to be installed		
Clothes Line:	Fixed outdoor clothes drying line to be installed		

SITE INFORMATION & LEGEND

NOTE: CONTOURS AND SPOT LEVELS ARE INDICATIVE ONLY AND FINAL SITE LEVELS COMPLETED BY A REGISTERED SURVEYOR IS RECOMMENDED BEFORE START OF CONSTRUCTION.

SITE AREA:	= 1029m²
HABITABLE AREA (including garages)	= 520.4m²
FSR (as per LEP)	= 50.6%
BUSHFIRE AFFECTED	= NO
APPROX 530m² HARDSTAND AREA	

	SILTATION CONTROL IN ACCORDANCE WITH COUNCIL POLICY E1 AND THE ADOPTED AUSPEC STANDARD
	SEWER LINE
GTAP	GARDEN TAP LOCATION
DP°	DOWN PIPE LOCATION
	SITE HOARDING FENCING
	FALL OF BATTER

PLEASE REFER TO THE "SUMMARY OF BASIX COMMITMENTS" ON PAGE 2 FOR FURTHER INFORMATION. PLEASE REFER TO THE BASIX CERTIFICATES FOR EXACT DETAILS.

ALL LEVELS WERE COMPLETED BY COASTAL SURVEY SOLUTIONS AND ARE TO AHD. ALL LEVELS AND CONTOURS TO BE CONFIRMED BY BUILDER / SURVEYOR PRIOR TO START OF CONSTRUCTION.

CHECK ALL DIMENSIONS ON SITE. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTS, SPECIFICATIONS, REPORTS, DRAWINGS, ENGINEERING & COUNCIL APPROVALS

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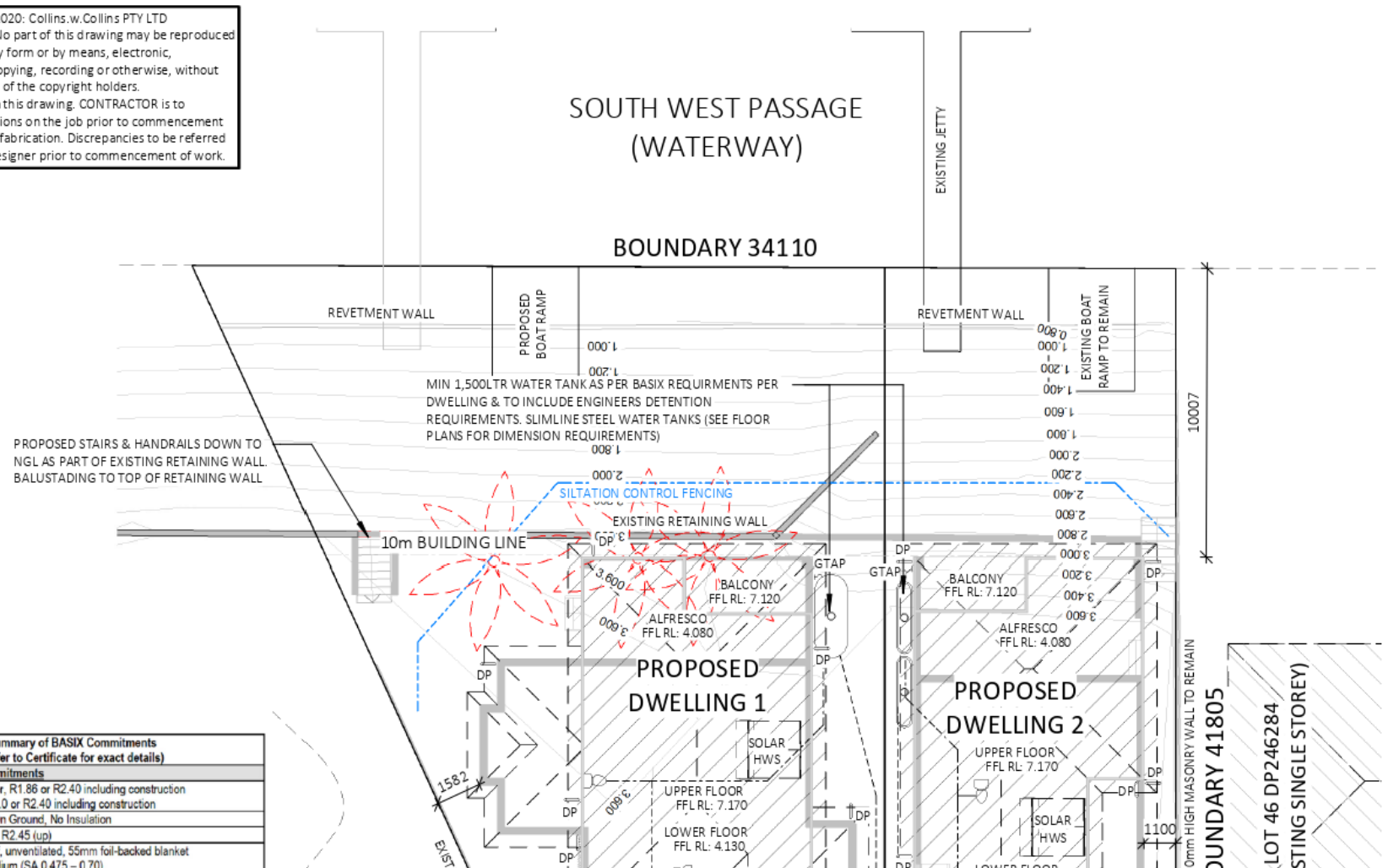
PROJECT:	DUAL OCCUPANCY - TORRENS
LOT No: 47 DP No: 246284	SHEET: 1 OF 23
STREET No: 29	
STREET NAME:	FRANCIS STREET, PORT MACQUARIE
CLIENT:	MARKOV

SITE PLAN

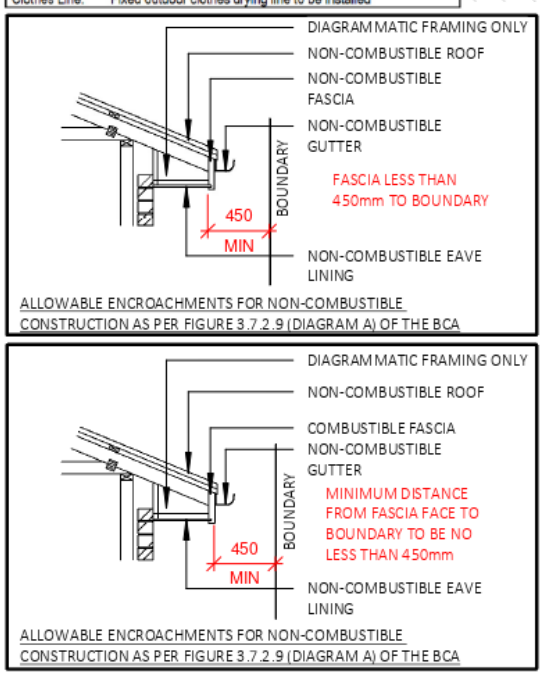
SCALE:	As indicated
SHEET SIZE:	A3
START DATE:	18.12.19
DWG No:	D4354

DRAWING REVISION + NOTES

Date:	Revision Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
10.08.20	CC PLANS	C	MS
04.06.21	SURVEY	T	MS
29.07.21	UPDATED GARAGE	V	DC, DP



Summary of BASIX Commitments (refer to Certificate for exact details)			
Thermal Comfort Commitments			
External Wall	Brick Veneer, R1.86 or R2.40 including construction Framed, R2.0 or R2.40 including construction		
Floors	Concrete, On Ground, No Insulation		
Ceiling	Flat Ceiling, R2.45 (up)		
Roof	Pitched roof, unventilated, 55mm foil-backed blanket Colour: Medium (SA 0.475 – 0.70)		
Eaves	600mm including gutter/fascia | Roof over alfresco | Upper floor decks		
Glazing	**Type**: Single clear with aluminium frames excluding those noted as low-e **Type**: Single, low-e clear with aluminium frames to the following windows (U 5.6 | SHGC 0.369 – 0.451): D1W22		
Water Commitments			
Showerheads:	3* (>6 but <=7.5 L/min)	Toilets:	3*
Basin Taps:	3*	Kitchen Taps:	3*
Water Tank:	1,500ltr per dwelling	Roof Collection:	100m² per dwelling
Rainwater Connection:	All toilets in the development Cold water supply to washing machine At least 1 external tap		
Energy Commitments			
HWS:	Solar (electric boosted) STCs 31 – 35		
Cooling:	1-phase air-conditioning in at least 1 living & 1 bedroom (3.0 Star average zone)		
Heating:	1-phase air-conditioning in at least 1 living & 1 bedroom (3.0 Star average zone)		
Ventilation:	Bathroom, Kitchen: ducted, manual control Laundry: no mechanical ventilation		
Appliances:	Electric Cooktop & Electric Oven to be installed		
Clothes Line:	Fixed outdoor clothes drying line to be installed		



S68 & S138 SITE INFORMATION & LEGEND

STORMWATER NOTE:
STORMWATER/RAINWATER OVERFLOW TO EXISTING KERB OUTLETS

SEWER LINE

GTAP — GARDEN TAP LOCATION

DP° — DOWN PIPE LOCATION

CATCHMENT OF ROOF AREA TO BE DIRECTED TO TANK (TO BE USED AS GUIDE ONLY) :100m² PER DWELLING

PROPOSED TANK LOCATION 1,500 LTRS PER DWELLING AS PER BASIX. REFER TO ENGINEERS DETAILS FOR DETENTION TANK SIZES

PATH OF WATER FLOW FROM D/PIPES TO TANK (TO BE USED AS A GUIDE ONLY)

WATER FLOW FROM TANK TO APPLIANCES (TO BE USED AS A GUIDE ONLY)

LAWN & GARDEN AREA TO BE D1: 70m²; D2: 50m² (AS PER BASIX CERTIFICATE TO BE USED AS A GUIDE ONLY)

ALL LEVELS WERE COMPLETED BY COASTAL SURVEY SOLUTIONS AND ARE TO AHD. ALL LEVELS AND CONTOURS TO BE CONFIRMED BY BUILDER / SURVEYOR PRIOR TO START OF CONSTRUCTION.

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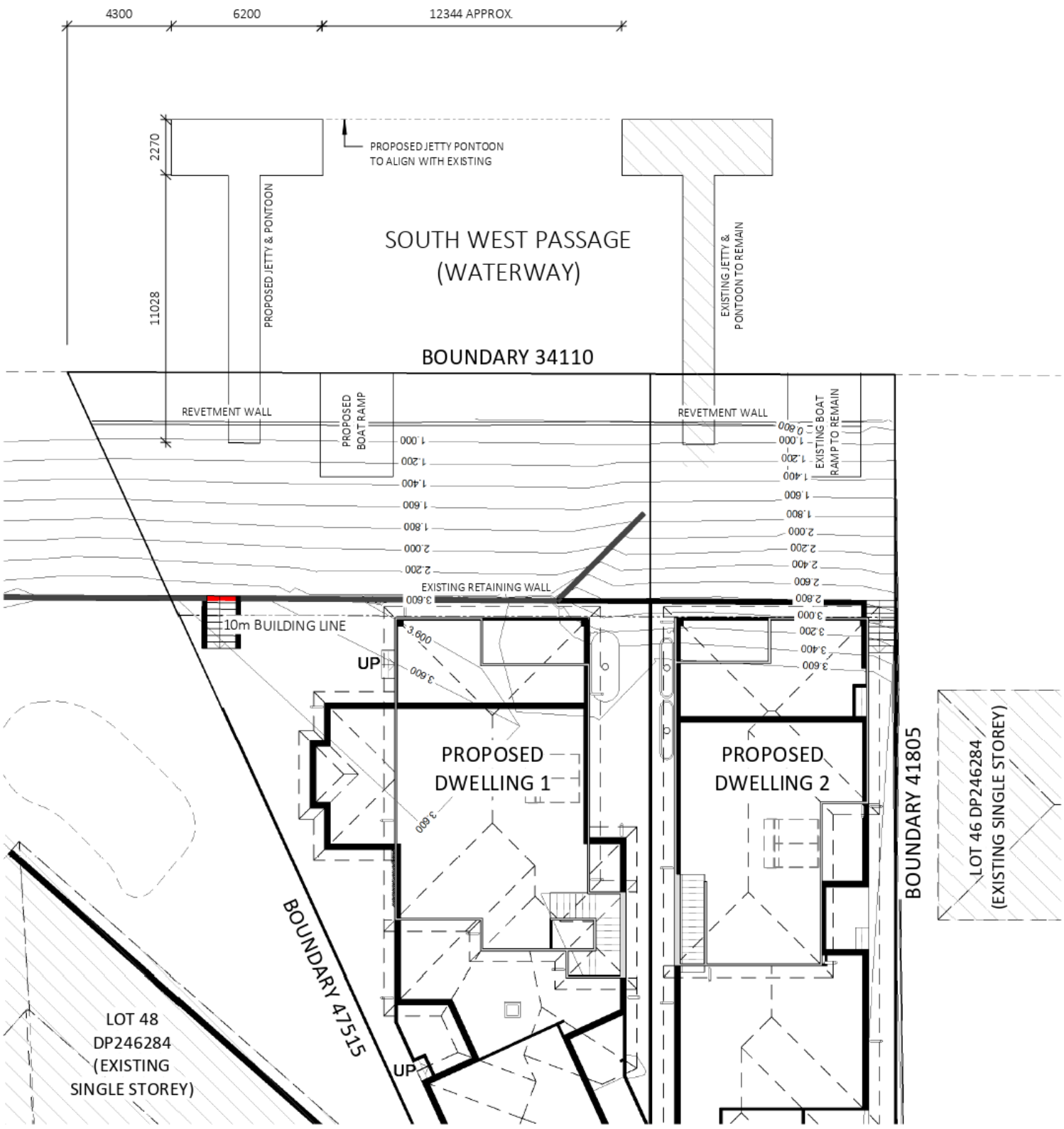
PROJECT: DUAL OCCUPANCY - TORRENS
LOT No: 47 DP No: 246284
STREET No: 29
STREET NAME: FRANCIS STREET, PORT MACQUARIE
CLIENT: MARKOV
SHEET: 2 OF 23

S68 & S138 PLAN

SCALE:	As indicated
SHEET SIZE:	A3
START DATE:	18.12.19
DWG No:	D4354

DRAWING REVISION + NOTES

Date:	Revision Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
10.08.20	CC PLANS	C	MS
04.06.21	SURVEY	T	MS
29.07.21	UPDATED GARAGE	V	DC, DP



JETTY PLAN SCALE 1:200

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PROJECT: DUAL OCCUPANCY - TORRENS		JETTY PLAN	
LOT No: 47 DP No: 246284	SHEET: 3 OF 23	SCALE:	As indicated
STREET No: 29		SHEET SIZE:	A3
STREET NAME: FRANCIS STREET, PORT MACQUARIE		START DATE:	18.12.19
CLIENT: MARKOV		DWG No:	D4354

DRAWING REVISION + NOTES

Date:	Revision Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
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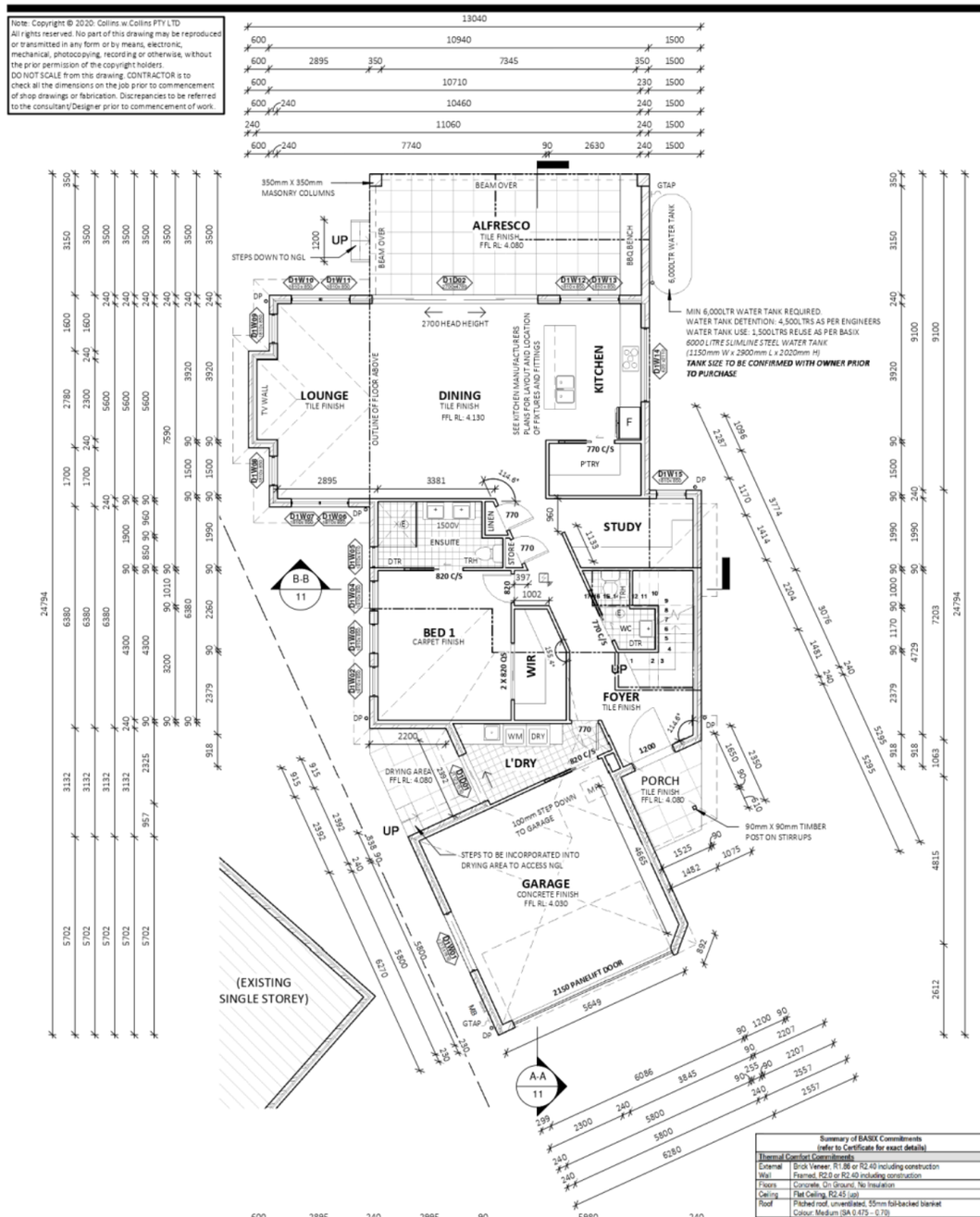
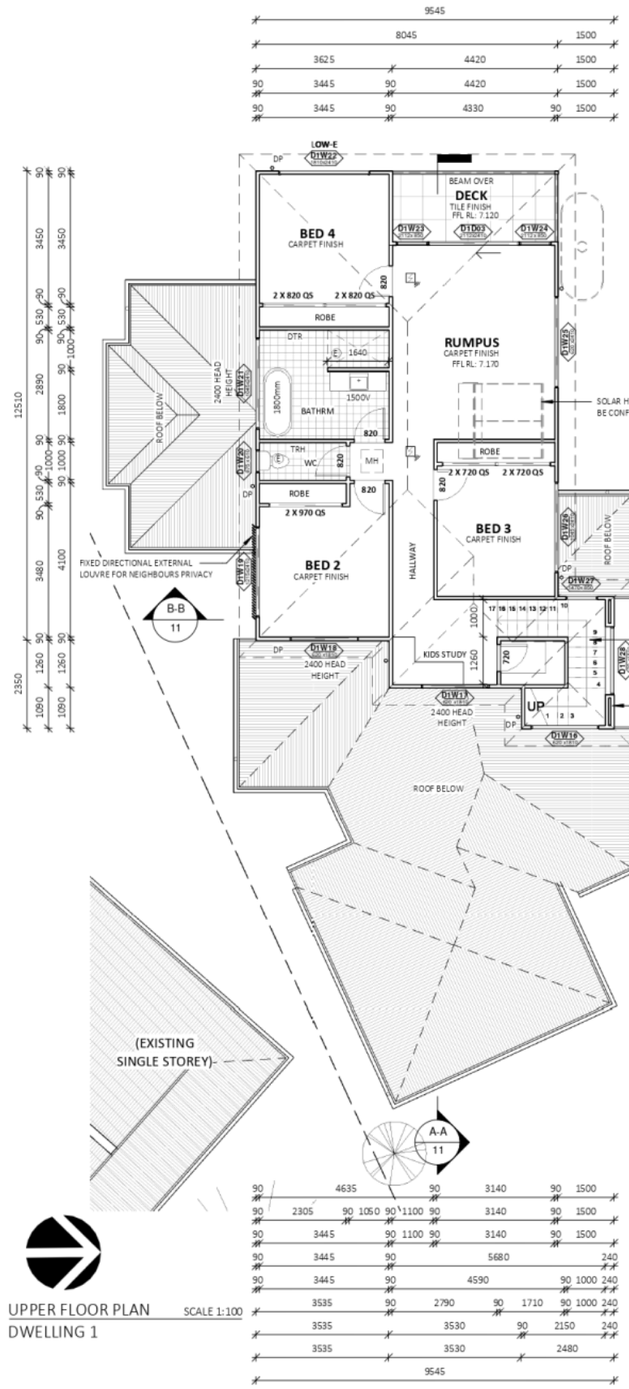


LOWER FLOOR PLAN SCALE 1:100
DWELLING 1



UPPER FLOOR PLAN SCALE 1:100
DWELLING 1

GLAZING SPECIFICATIONS:
WINDOWS SPECIFIED USE NFRC UW & SHGCW VALUES. WINDOWS AS SPECIFIED OR EQUIVALENT MUST BE INSTALLED ON SITE (REFER TO hiathERS CERTIFICATE FOR & GLAZING PAGES FOR DETAILS)

SMOKE ALARMS/DETECTORS:
SMOKE ALARMS TO AS3786 AND SECTION 3.7.5 OF THE NCC BCA VOL 2. ALL ALARMS/DETECTORS ARE TO BE INTERCONNECTED. LOCATIONS ON PLANS ARE INDICATIVE. INSTALLATION TO BE AS PER STANDARDS ABOVE, AND MANUFACTURERS SPECIFICATIONS

CONSTRUCTION NOTES:

STAIRS, HANDRAILS & BALUSTRADE NOTES:
STAIRS TO COMPLY WITH SECTION 3.9.1.2, 3.9.1.3 & SECTION 3.9.1.5 & 3.9.1.4 SLIP RESISTANCE CLASSIFICATION TABLE IN ACCORDANCE WITH AS4586.
HANDRAIL HEIGHTS TO BE NO LESS THAN 1000mm FROM PROPOSED FINISHED FL BALUSTRADE & HANDRAIL TO BE IN ACCORDANCE WITH 3.9.2.3 & 3.9.2.4 OF THE BCA

WINDOW NOTES:
BEDROOM WINDOWS - WHERE THE FLOOR LEVEL OF A BEDROOM IS 2M OR MORE ABOVE THE SURFACE BENEATH, BEDROOM WINDOWS ARE TO COMPLY WITH VOL 2 BCA PART 3.9.2.6.

WINDOWS - WHERE THE FLOOR LEVEL IS 4m OR MORE ABOVE THE SURFACE BENEATH, WINDOWS ARE TO COMPLY WITH VOL 2 BCA PART 3.9.2.7. BARRIER WITH A HEIGHT OF NOT LESS THAN 865mm ABOVE FLOOR IS REQUIRED TO AN OPENABLE WINDOW TO COMPLY WITH VOL 2 BCA PART 3.9.2.6 (c) & 3.9.2.7 (b)

WIND CATEGORY TO BE CONFIRMED PRIOR TO START OF CONSTRUCTION. IF N2 OR HIGHER, ENGAGED PIERS TO BRICKWORK AREA'S ARE TO COMPLY WITH AS 4773.1-2010 & AS 4773.2-2010

*FLOOR AREA MEASURED FROM EXTERNAL FACE
*UPPER FLOOR AREAS EXCLUDE STAIRS & VOIDS
*ROOF AREA MEASURED AS FOOTPRINT ONLY

DWELLING 1 FLOOR AREAS

NAME	AREA
D1 ALFRESCO	28.2 m²
D1 DRYING AREA	6.6 m²
D1 GARAGE	38.3 m²
D1 LOWER FLOOR	139.4 m²
D1 PORCH	4.7 m²
D1 UPPER DECK	8.4 m²
D1 UPPER FLOOR	97.9 m²
TOTAL	323.5 m²

DWELLING 1 ROOF AREAS

Name	Area
D1 LOWER ROOF	112.1 m²
D1 UPPER ROOF	135.5 m²
TOTAL	247.6 m²

LEGEND

SA	SMOKE ALARMS TO AS3786 AND SECTION 3.7.5 OF THE NCC BCA VOL 2. ALL ALARMS/DETECTORS ARE TO BE INTERCONNECTED. LOCATIONS ON PLANS ARE INDICATIVE. INSTALLATION TO BE AS PER STANDARDS ABOVE, AND MANUFACTURERS SPECIFICATIONS
DP*	DOWN PIPE LOCATION TO AS 3500
(E)	MECHANICAL VENTILATION **EXTERNALLY DUCTED** TO NCC 3.8.7.3 & 3.8.7.4
GT	GARDEN TAP LOCATION
LOH	LIFT OFF HINGE
1815	1800mm HIGH x 1500mm WIDE
820	820mm DOOR
MH	ACCESS MAN HOLE
DTR	DOUBLE TOWEL RAIL
TRH	TOILET ROLL HOLDER

CEILING PENETRATION - APPROVED NON-VENTILATED COVER OR SHIELD IS TO BE INSTALLED TO ALL RECESSED LIGHTING AND EXHAUST FANS TO ALLOW INSULATION TO BE CLOSELY INSTALLED TO THE TOP AND SIDES OF THE LIGHT OR EXHAUST FITTING.

PLEASE REFER TO THE "SUMMARY OF BASIX COMMITMENTS" ON PAGE 2 FOR FURTHER INFORMATION. PLEASE REFER TO THE BASIX CERTIFICATES FOR EXACT DETAILS.

CHECK ALL DIMENSIONS ON SITE. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTS, SPECIFICATIONS, REPORTS, DRAWINGS, ENGINEERING & COUNCIL APPROVALS

Summary of BASIX Commitments (refer to Certificate for exact details)

Thermal Comfort Commitments			
External Wall	Brick Veneer: R1.86 or R2.40 including construction Framed: R2.0 or R2.40 including construction		
Floors	Concrete, On Ground, No Insulation		
Ceiling	Flat Ceiling, R2.45 (up)		
Roof	Pitched roof, unventilated, 55mm foil-backed blanket Colour: Medium (SA 0.475 – 0.70)		
Eaves	600mm including gutter/fascia ; Roof over alfresco ; Upper floor decks		
Glazing	Type: Single clear with aluminium frames excluding those noted as low-e		
	Type: Single, low-e clear with aluminium frames to the following windows (U 5.8 ; SHGC 0.369 – 0.451): D1W22		
Water Commitments			
Showerheads:	3* (>6 but <=7.5 L/min)	Toilets: 3*	
Basin Taps:	3*	Kitchen Taps: 3*	
Water Tank:	1,500ltr per dwelling	Roof Collection: 100m² per dwelling	
Rainwater Connection:	All toilets in the development Cold water supply to washing machine At least 1 external tap		
Energy Commitments			
HWS:	Solar (electric boosted) STCs 31 – 35		
Cooling:	1-phase air-conditioning in at least 1 living & 1 bedroom (3.0 Star average zone)		
Heating:	1-phase air-conditioning in at least 1 living & 1 bedroom (3.0 Star average zone)		
Ventilation:	Bathroom, Kitchen: ducted, manual control Laundry: no mechanical ventilation		
Appliances:	Electric Cooktop & Electric Oven to be installed		
Clothes Line:	Fixed outdoor clothes drying line to be installed		

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PROJECT: DUAL OCCUPANCY - TORRENS
LOT No: 47 DP No: 246284
STREET No: 29
STREET NAME: FRANCIS STREET, PORT MACQUARIE
CLIENT: MARKOV
SHEET: 4 OF 23

DWELLING 1 FLOOR PLANS

SCALE:	1 : 100
SHEET SIZE:	A2
START DATE:	18.12.19
DWG No:	D4354

DRAWING REVISION + NOTES

Date:	Revision Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
10.08.20	CC PLANS	C	MS
04.06.21	SURVEY	T	MS
29.07.21	UPDATED GARAGE	V	DC, DP

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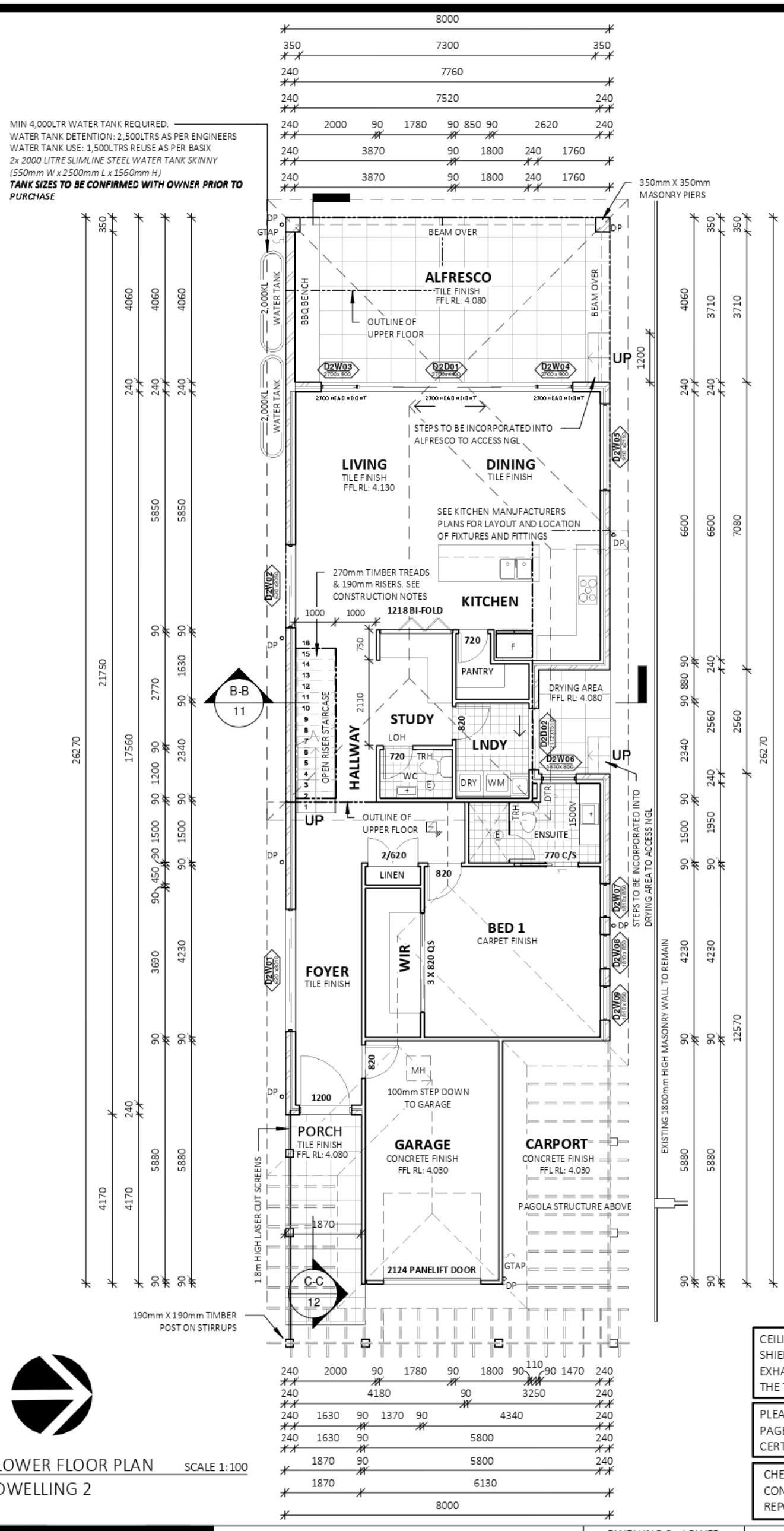

GLAZING SPECIFICATIONS:
WINDOWS SPECIFIED USE NFRC UW & SHGCW VALUES. WINDOWS AS SPECIFIED OR EQUIVALENT MUST BE INSTALLED ON SITE (REFER TO NatHERS CERTIFICATE FOR & GLAZING PAGES FOR DETAILS)

SMOKE ALARMS/DETECTORS:
SMOKE ALARMS TO AS3786 AND SECTION 3.7.5 OF THE NCC BCA VOL 2. ALL ALARMS/DETECTORS ARE TO BE INTERCONNECTED. LOCATIONS ON PLANS ARE INDICATIVE. INSTALLATION TO BE AS PER STANDARDS ABOVE, AND MANUFACTURERS SPECIFICATIONS

CONSTRUCTION NOTES:

STAIRS, HANDRAILS & BALUSTRADE NOTES:
STAIRS TO COMPLY WITH SECTION 3.9.1.2, 3.9.1.3 & SECTION 3.9.1.5 & 3.9.1.4 SLIP RESISTANCE CLASSIFICATION TABLE IN ACCORDANCE WITH AS4586.
HANDRAIL HEIGHTS TO BE NO LESS THAN 1000mm FROM PROPOSED FINISHED FL. BALUSTRADE & HANDRAIL TO BE IN ACCORDANCE WITH 3.9.2.3 & 3.9.2.4 OF THE BCA

WINDOW NOTES:
BEDROOM WINDOWS - WHERE THE FLOOR LEVEL OF A BEDROOM IS 2M OR MORE ABOVE THE SURFACE BENEATH, BEDROOM WINDOWS ARE TO COMPLY WITH VOL 2 BCA PART 3.9.2.6.

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WIND CATEGORY TO BE CONFIRMED PRIOR TO START OF CONSTRUCTION. IF N2 OR HIGHER, ENGAGED PIERS TO BRICKWORK AREA'S ARE TO COMPLY WITH AS 4773.1-2010 & AS 4773 2-2010

*FLOOR AREA MEASURED FROM EXTERNAL FACE
*UPPER FLOOR AREAS EXCLUDE STAIRS & VOIDS
*ROOF AREA MEASURED AS FOOTPRINT ONLY

DWELLING 2 FLOOR AREAS

NAME	AREA
D2 ALFRESCO	32.5 m²
D2 CARPORT	15.8 m²
D2 DRYING AREA	4.5 m²
D2 GARAGE	20.6 m²
D2 LOWER FLOOR	128.9 m²
D2 PORCH	9.7 m²
D2 UPPER DECK	7.0 m²
D2 UPPER FLOOR	91.7 m²
TOTAL	310.7 m²

DWELLING 2 ROOF AREAS

Name	Area
D2 LOWER ROOF	106.3 m²
D2 UPPER ROOF	123.3 m²
TOTAL	229.6 m²

LEGEND

	SMOKE ALARMS TO AS3786 AND SECTION 3.7.5 OF THE NCC BCA VOL 2. ALL ALARMS/DETECTORS ARE TO BE INTERCONNECTED. LOCATIONS ON PLANS ARE INDICATIVE. INSTALLATION TO BE AS PER STANDARDS ABOVE, AND MANUFACTURERS SPECIFICATIONS
DP°	DOWN PIPE LOCATION TO AS 3500
Ⓔ	MECHANICAL VENTILATION **EXTERNALLY DUCTED** TO NCC 3.8.7.3 & 3.8.7.4
GT	GARDEN TAP LOCATION
LOH	LIFT OFF HINGE
1815	1800mm HIGH x 1500mm WIDE
820	820mm DOOR
MH	ACCESS MAN HOLE
DTR	DOUBLE TOWEL RAIL
TRH	TOILET ROLL HOLDER

CEILING PENETRATION - APPROVED NON-VENTILATED COVER OR SHIELD IS TO BE INSTALLED TO ALL RECESSED LIGHTING AND EXHAUST FANS TO ALLOW INSULATION TO BE CLOSELY INSTALLED TO THE TOP AND SIDES OF THE LIGHT OR EXHAUST FITTING.

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LOWER FLOOR PLAN SCALE 1:100
DWELLING 2

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PROJECT: DUAL OCCUPANCY - TORRENS
LOT No: 47 DP No: 246284
STREET No: 29
STREET NAME: FRANCIS STREET, PORT MACQUARIE
SHEET: 5 OF 23
CLIENT: MARKOV

DWELLING 2 - LOWER FLOOR PLAN

SCALE:	1 : 100
SHEET SIZE:	A3
START DATE:	18.12.19
DWG No:	D4354

DRAWING REVISION + NOTES

Date:	Revision Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
10.08.20	CC PLANS	C	MS
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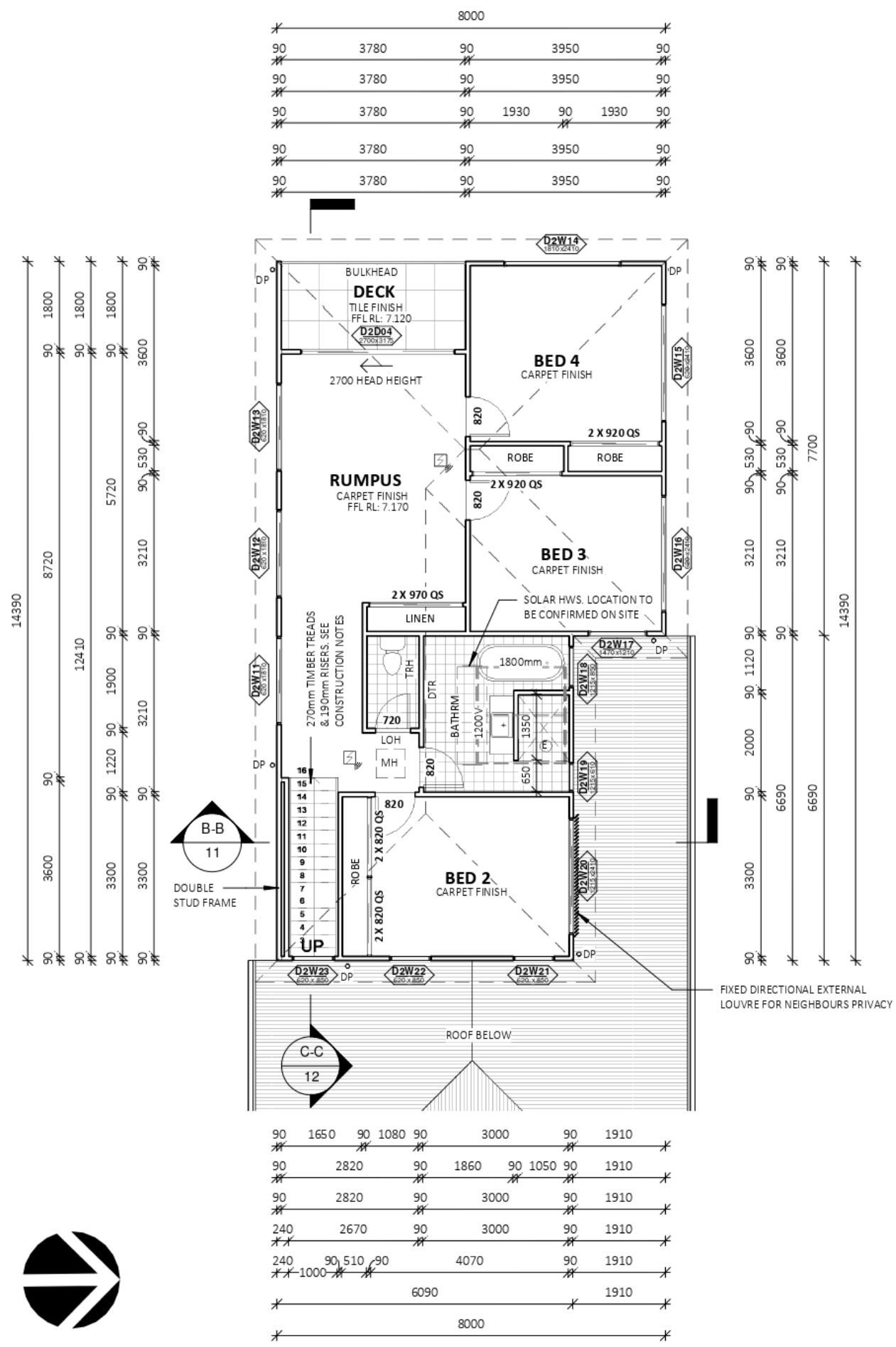

UPPER FLOOR PLAN SCALE 1:100
DWELLING 2

GLAZING SPECIFICATIONS:
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WINDOWS - WHERE THE FLOOR LEVEL IS 4m OR MORE ABOVE THE SURFACE BENEATH, WINDOWS ARE TO COMPLY WITH VOL 2 BCA PART 3.9.2.7. BARRIER WITH A HEIGHT OF NOT LESS THAN 865mm ABOVE FLOOR IS REQUIRED TO AN OPENABLE WINDOW TO COMPLY WITH VOL 2 BCA PART 3.9.2.6 (c) & 3.9.2.7 (b)

WIND CATEGORY TO BE CONFIRMED PRIOR TO START OF CONSTRUCTION. IF N2 OR HIGHER, ENGAGED PIERS TO BRICKWORK AREA'S ARE TO COMPLY WITH AS 4773.1-2010 & AS 4773 2-2010

*FLOOR AREA MEASURED FROM EXTERNAL FACE
*UPPER FLOOR AREAS EXCLUDE STAIRS & VOIDS
*ROOF AREA MEASURED AS FOOTPRINT ONLY

DWELLING 2 FLOOR AREAS

NAME	AREA
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D2 CARPORT	15.8 m²
D2 DRYING AREA	4.5 m²
D2 GARAGE	20.6 m²
D2 LOWER FLOOR	128.9 m²
D2 PORCH	9.7 m²
D2 UPPER DECK	7.0 m²
D2 UPPER FLOOR	91.7 m²
TOTAL	310.7 m²

DWELLING 2 ROOF AREAS

Name	Area
D2 LOWER ROOF	106.3 m²
D2 UPPER ROOF	123.3 m²
TOTAL	229.6 m²

LEGEND

	SMOKE ALARMS TO AS3786 AND SECTION 3.7.5 OF THE NCC BCA VOL 2. ALL ALARMS/DETECTORS ARE TO BE INTERCONNECTED. LOCATIONS ON PLANS ARE INDICATIVE. INSTALLATION TO BE AS PER STANDARDS ABOVE, AND MANUFACTURERS SPECIFICATIONS
DP°	DOWN PIPE LOCATION TO AS 3500
Ⓔ	MECHANICAL VENTILATION **EXTERNALLY DUCTED** TO NCC 3.8.7.3 & 3.8.7.4
GT	GARDEN TAP LOCATION
LOH	LIFT OFF HINGE
1815	1800mm HIGH x 1500mm WIDE
820	820mm DOOR
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DTR	DOUBLE TOWEL RAIL
TRH	TOILET ROLL HOLDER

CEILING PENETRATION - APPROVED NON-VENTILATED COVER OR SHIELD IS TO BE INSTALLED TO ALL RECESSED LIGHTING AND EXHAUST FANS TO ALLOW INSULATION TO BE CLOSELY INSTALLED TO THE TOP AND SIDES OF THE LIGHT OR EXHAUST FITTING.

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CHECK ALL DIMENSIONS ON SITE. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTS, SPECIFICATIONS, REPORTS, DRAWINGS, ENGINEERING & COUNCIL APPROVALS

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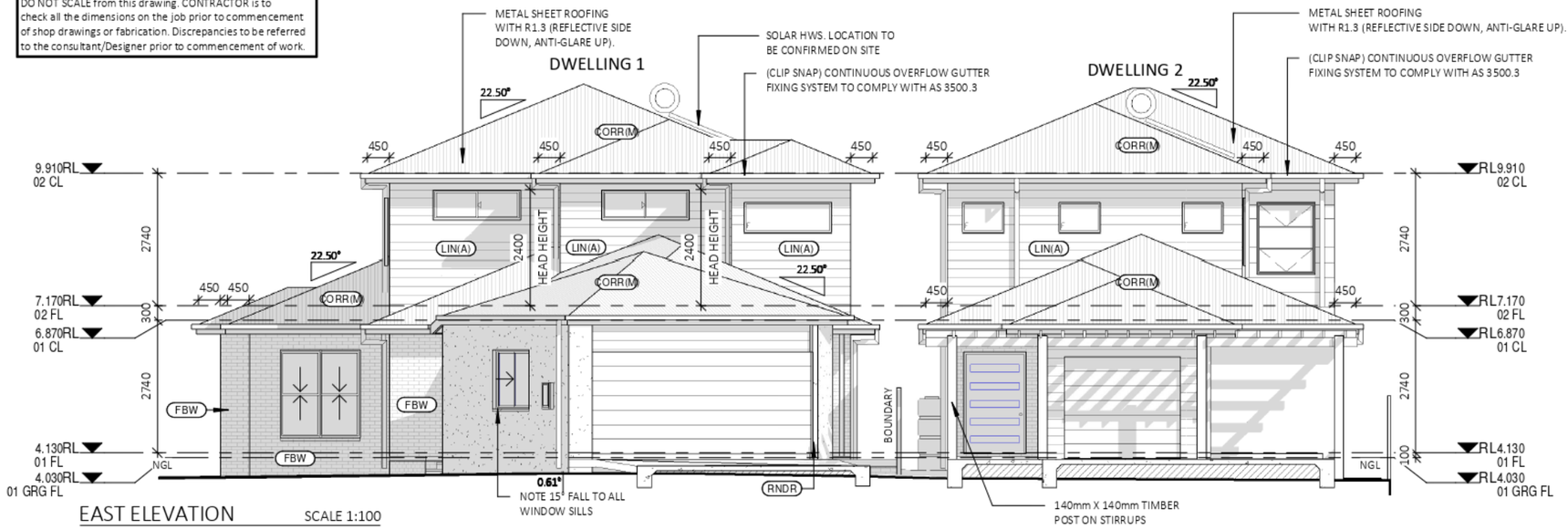
PROJECT:	DUAL OCCUPANCY - TORRENS
LOT No: 47 DP No: 246284	SHEET: 6 OF 23
STREET No: 29	
STREET NAME:	FRANCIS STREET, PORT MACQUARIE
CLIENT:	MARKOV

DWELLING 2 - UPPER FLOOR PLAN

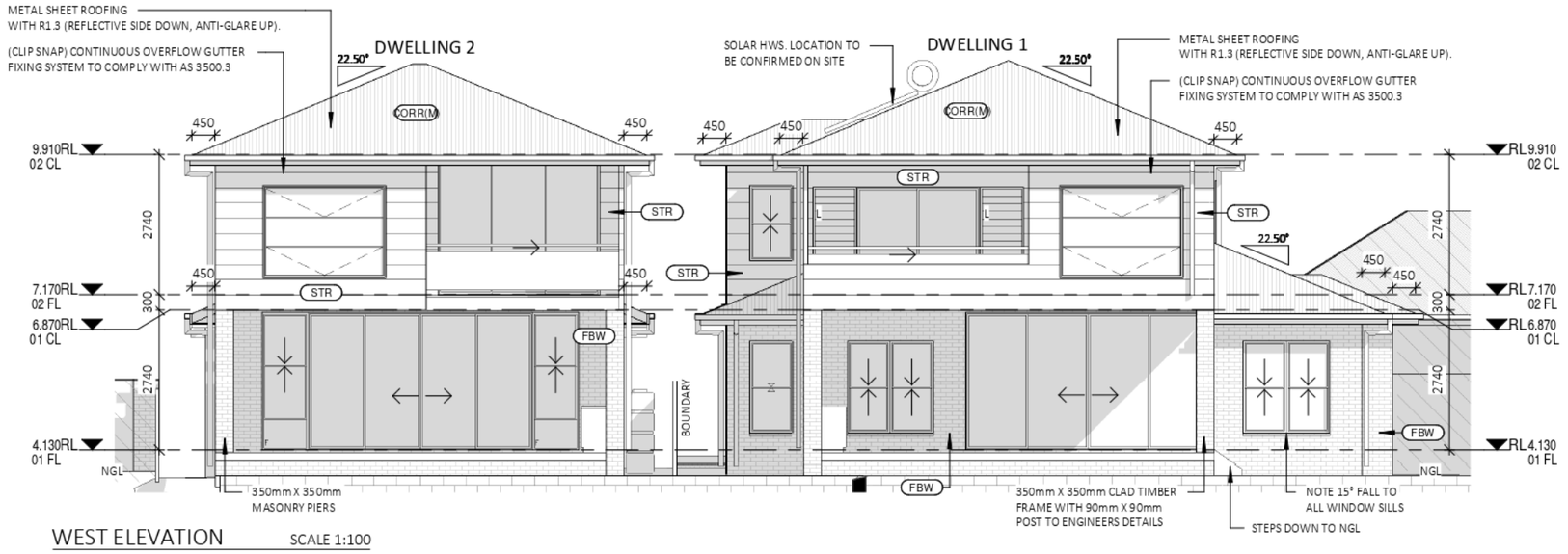
SCALE:	1 : 100
SHEET SIZE:	A3
START DATE:	18.12.19
DWG No:	D4354

DRAWING REVISION + NOTES

Date:	Revision Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
10.08.20	CC PLANS	C	MS
04.06.21	SURVEY	T	MS
29.07.21	UPDATED GARAGE	V	DC, DP



EAST ELEVATION SCALE 1:100



WEST ELEVATION SCALE 1:100

CONSTRUCTION NOTES:

STAIRS, HANDRAILS & BALUSTRADE NOTES:
STAIRS TO COMPLY WITH SECTION 3.9.1.2, 3.9.1.3 & SECTION 3.9.1.5 & 3.9.1.4 SLIP RESISTANCE CLASSIFICATION TABLE IN ACCORDANCE WITH AS4586.
HANDRAIL HEIGHTS TO BE NO LESS THAN 1000mm FROM PROPOSED FINISHED FL. BALUSTRADE & HANDRAIL TO BE IN ACCORDANCE WITH 3.9.2.3 & 3.9.2.4 OF THE BCA

WINDOW NOTES:
BEDROOM WINDOWS - WHERE THE FLOOR LEVEL OF A BEDROOM IS 2M OR MORE ABOVE THE SURFACE BENEATH, BEDROOM WINDOWS ARE TO COMPLY WITH VOL 2 BCA PART 3.9.2.6.

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WIND CATEGORY TO BE CONFIRMED PRIOR TO START OF CONSTRUCTION. IF N2 OR HIGHER, ENGAGED PIERS TO BRICKWORK AREA'S ARE TO COMPLY WITH AS 4773.1-2010 & AS 4773 2-2010

EXTERNAL FINISHES	
LABEL	**MATERIAL DESCRIPTION**
CORR(M)	CORRUGATED METAL SHEET ROOFING (COLOUR: MEDIUM (SA - 0.475 - 0.70)
FBW	SELECTED FACE BRICK
LIN(A)	SCYON LINEA 180mm WIDE CLADDING
RNDR	RENDERED BRICKWORK FINISH
STR	SCYON STRIA 325mm CLADDING

GLAZING SPECIFICATIONS:
WINDOWS SPECIFIED USE NFRC UW & SHGCW VALUES. WINDOWS AS SPECIFIED OR EQUIVALENT MUST BE INSTALLED ON SITE (REFER TO NatHERS CERTIFICATE FOR & GLAZING PAGES FOR DETAILS)

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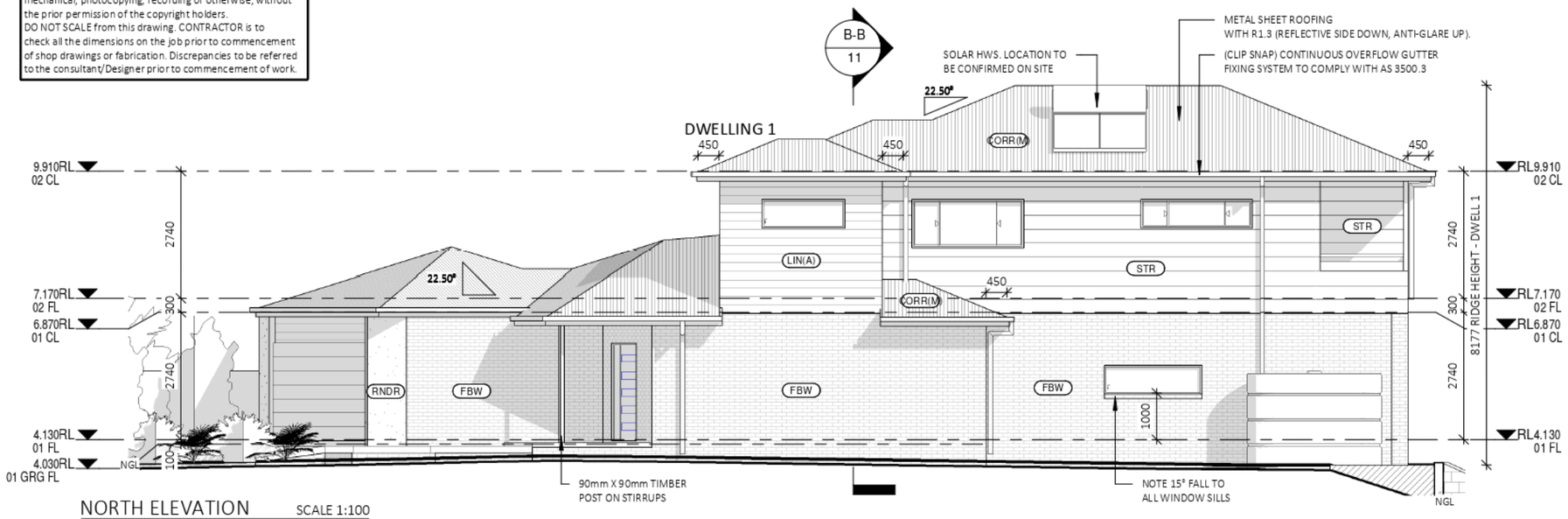
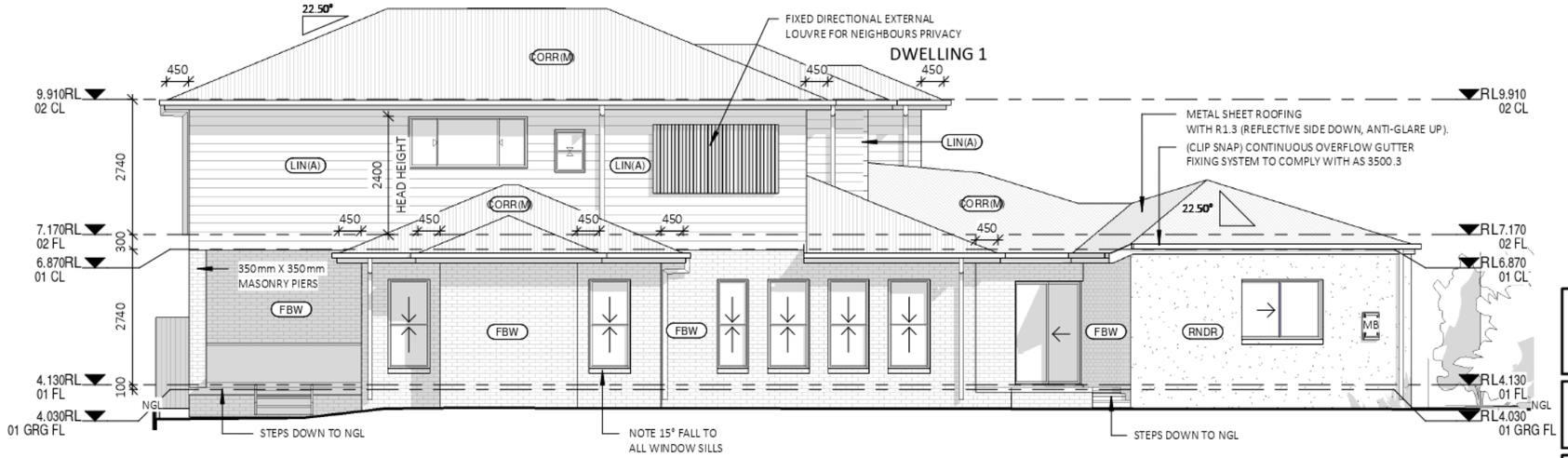
PROJECT: DUAL OCCUPANCY - TORRENS	EAST & WEST ELEVATIONS
LOT No: 47 DP No: 246284	SHEET: 7 OF 23
STREET No: 29	
STREET NAME: FRANCIS STREET, PORT MACQUARIE	SCALE: 1 : 100
	SHEET SIZE: A3
CLIENT: MARKOV	START DATE: 18.12.19
	DWG No: D4354

DRAWING REVISION + NOTES

Date:	Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
10.08.20	CC PLANS	C	MS
15.09.20	D1 UPPER PUSHED BACK	E	MS
27.05.21	SHADOWS	S	MS
04.06.21	SURVEY	T	MS
29.07.21	UPDATED GARAGE	V	DC, DP



NORTH ELEVATION SCALE 1:100
DWELLING 1



SOUTH ELEVATION SCALE 1:100
DWELLING 1

CONSTRUCTION NOTES:

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EXTERNAL FINISHES	
LABEL	**MATERIAL DESCRIPTION**
CORR(M)	CORRUGATED METAL SHEET ROOFING (COLOUR: MEDIUM (SA - 0.475 - 0.70)
FBW	SELECTED FACE BRICK
LIN(A)	SCYON LINEA 180mm WIDE CLADDING
RNDR	RENDERED BRICKWORK FINISH
STR	SCYON STRIA 325mm CLADDING

GLAZING SPECIFICATIONS:
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PROJECT: DUAL OCCUPANCY - TORRENS
LOT No: 47 DP No: 246284
STREET No: 29
STREET NAME: FRANCIS STREET, PORT MACQUARIE
CLIENT: MARKOV
SHEET: 8 OF 23

DWELLING 1 - ELEVATIONS

SCALE:	1 : 100
SHEET SIZE:	A3
START DATE:	18.12.19
DWG No:	D4354

DRAWING REVISION + NOTES

Date:	Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
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27.05.21	SHADOWS	S	MS
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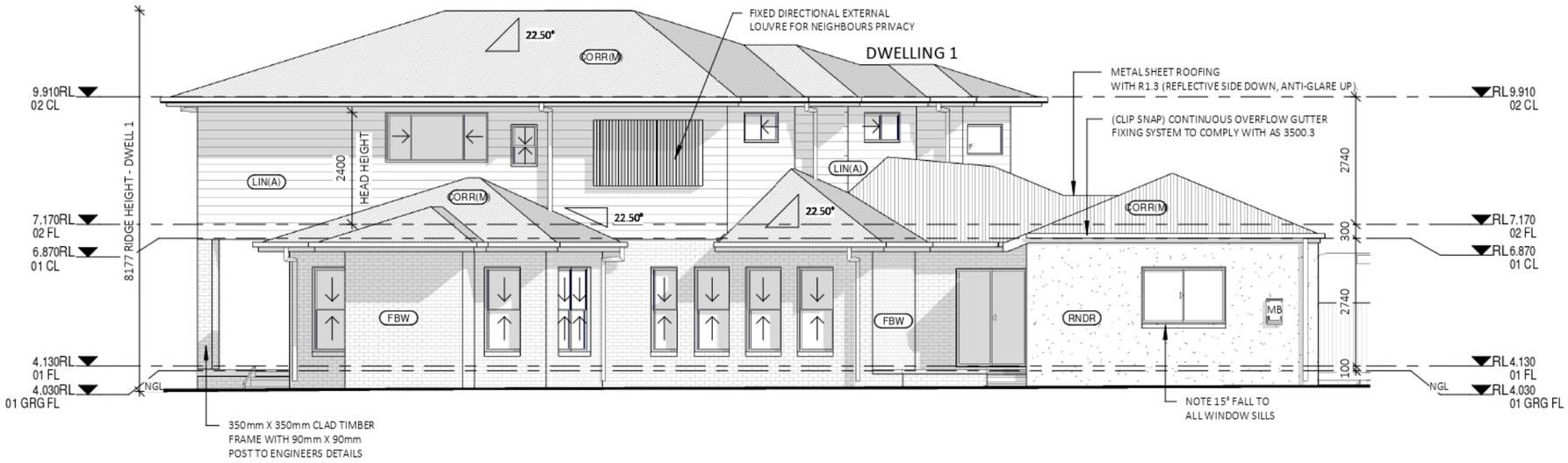

SOUTH EAST SCALE 1:100
ELEVATION DWELLING 1

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Summary of BASIX Commitments (refer to Certificate for exact details)				
Thermal Comfort Commitments				
External Wall	Brick Veneer, R1.86 or R2.40 including construction Framed, R2.0 or R2.40 including construction			
Floors	Concrete, On Ground, No Insulation			
Ceiling	Flat Ceiling, R2.45 (up)			
Roof	Pitched roof, unventilated, 55mm foil-backed blanket Colour: Medium (SA 0.475 – 0.70)			
Eaves	600mm including gutter/fascia | Roof over alfresco | Upper floor decks			
Glazing	**Type**: Single clear with aluminium frames excluding those noted as low-e **Type**: Single, low-e clear with aluminium frames to the following windows (U 5.6 | SHGC 0.369 – 0.451): D1W22			
Water Commitments				
Showerheads:	3* (>6 but <=7.5 L/min)		Toilets:	3*
Basin Taps:	3*	Kitchen Taps:	3*	
Water Tank:	1,500ltr per dwelling		Roof Collection: 100m² per dwelling	
Rainwater Connection:	All toilets in the development Cold water supply to washing machine At least 1 external tap			
Energy Commitments				
HWS:	Solar (electric boosted) STCs 31 – 35			
Cooling:	1-phase air-conditioning in at least 1 living & 1 bedroom (3.0 Star average zone)			
Heating:	1-phase air-conditioning in at least 1 living & 1 bedroom (3.0 Star average zone)			
Ventilation:	Bathroom, Kitchen: ducted, manual control Laundry: no mechanical ventilation			
Appliances:	Electric Cooktop & Electric Oven to be installed			
Clothes Line:	Fixed outdoor clothes drying line to be installed			

EXTERNAL FINISHES	
LABEL	MATERIAL DESCRIPTION
CORR(M)	CORRUGATED METAL SHEET ROOFING (COLOUR: MEDIUM (SA - 0.475 - 0.70)
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PROJECT: DUAL OCCUPANCY - TORRENS
LOT No: 47 DP No: 246284
STREET No: 29
STREET NAME: FRANCIS STREET, PORT MACQUARIE
CLIENT: MARKOV
SHEET: 9 OF 23

DWELLING 1 - ELEVATIONS

SCALE:	1 : 100
SHEET SIZE:	A3
START DATE:	18.12.19
DWG No:	D4354

DRAWING REVISION + NOTES

Date:	Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
10.08.20	CC PLANS	C	MS
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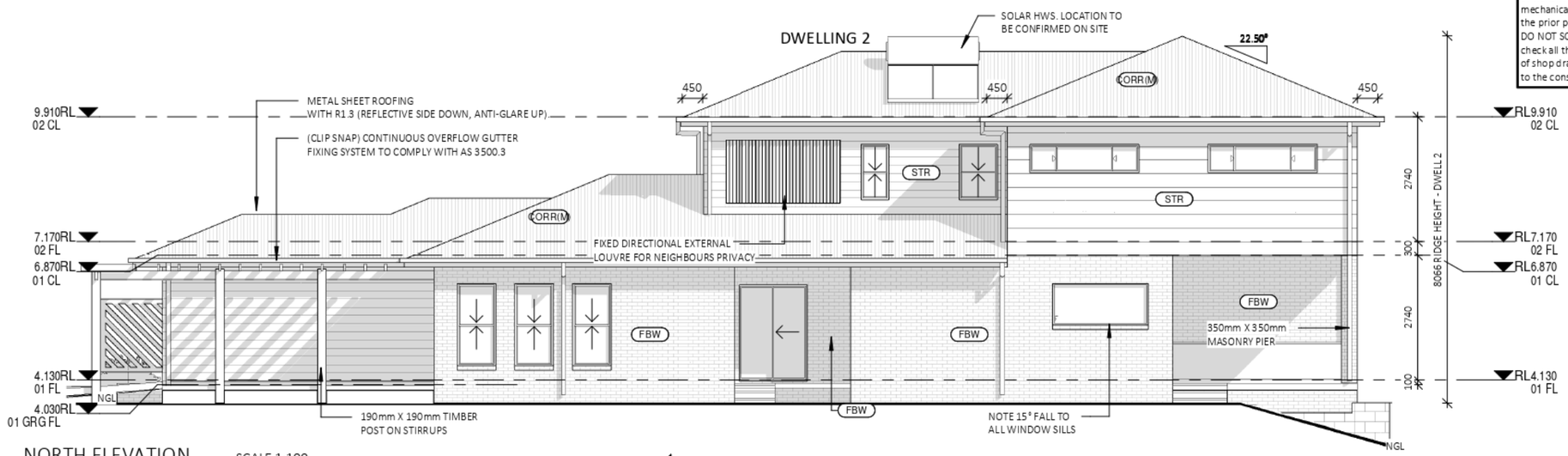
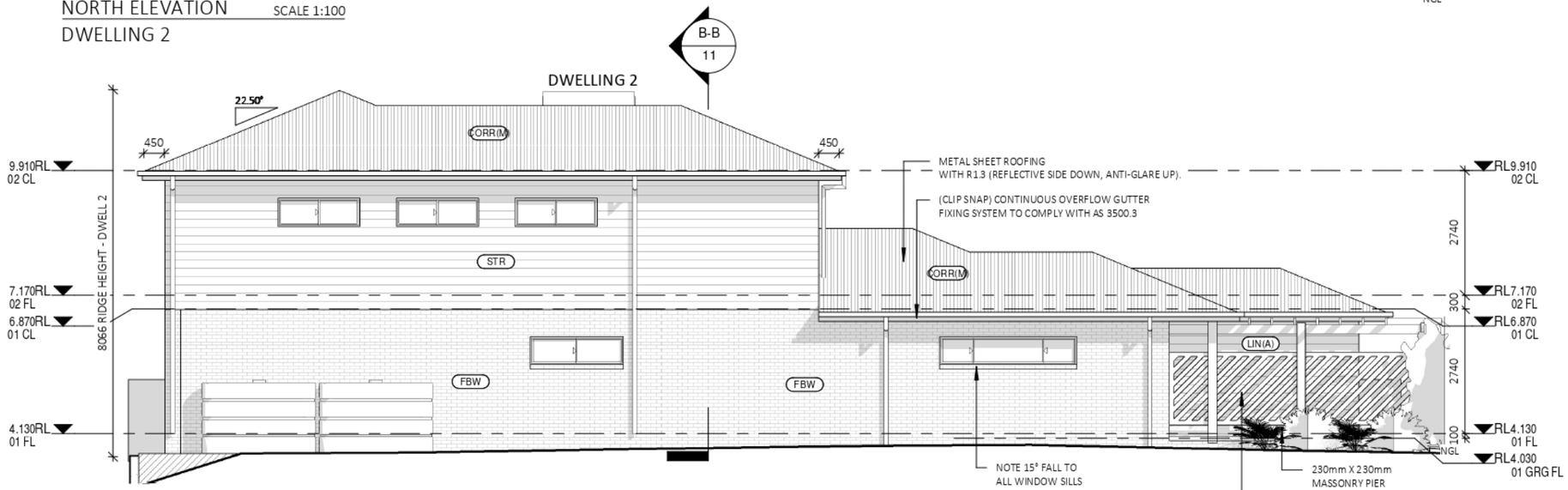
27.05.21	SHADOWS	S	MS
04.06.21	SURVEY	T	MS
29.07.21	UPDATED GARAGE	V	DC, DP



NORTH ELEVATION SCALE 1:100
DWELLING 2



SOUTH ELEVATION SCALE 1:100
DWELLING 2

EXTERNAL FINISHES	
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CONSTRUCTION NOTES:

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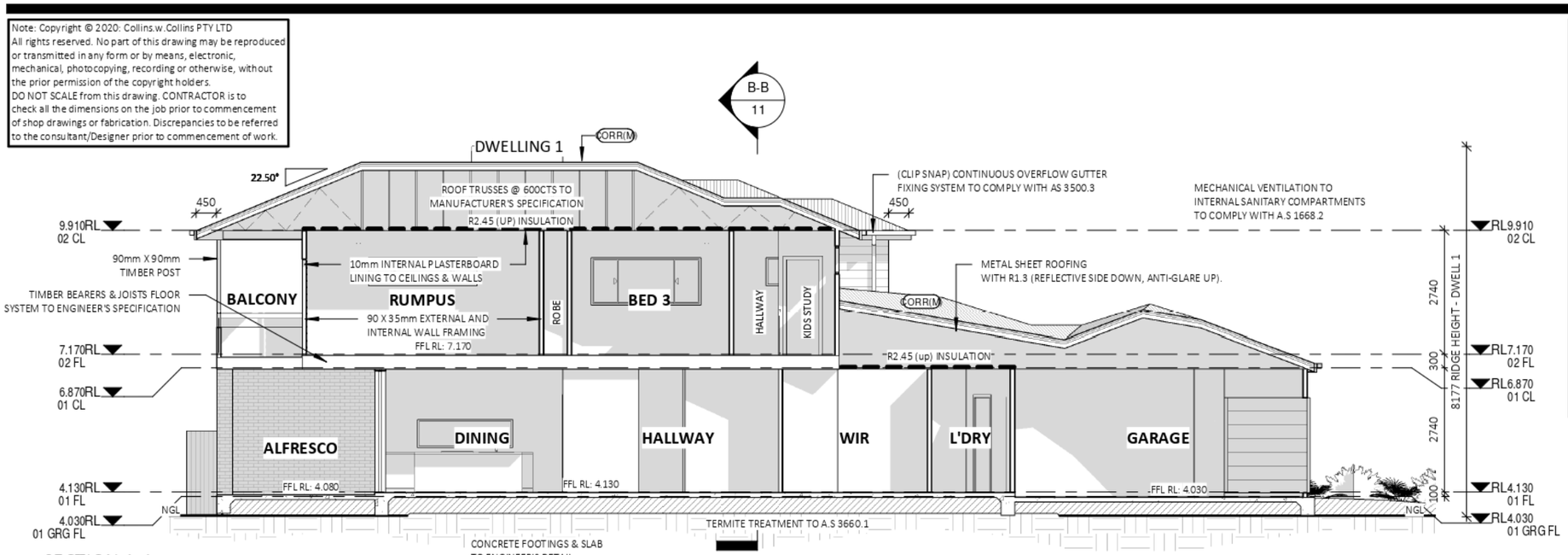
PROJECT: DUAL OCCUPANCY - TORRENS
LOT No: 47 DP No: 246284
STREET No: 29
STREET NAME: FRANCIS STREET, PORT MACQUARIE
CLIENT: MARKOV
SHEET: 10 OF 23

DWELLING 2 - ELEVATIONS

SCALE:	1 : 100
SHEET SIZE:	A3
START DATE:	18.12.19
DWG No:	D4354

DRAWING REVISION + NOTES

Date:	Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
10.08.20	CC PLANS	C	MS
15.09.20	D1 UPPER PUSHED BACK	E	MS
27.05.21	SHADOWS	S	MS
04.06.21	SURVEY	T	MS
29.07.21	UPDATED GARAGE	V	DC, DP



SECTION A-A SCALE 1:100
DWELLING 1

CONSTRUCTION NOTES:

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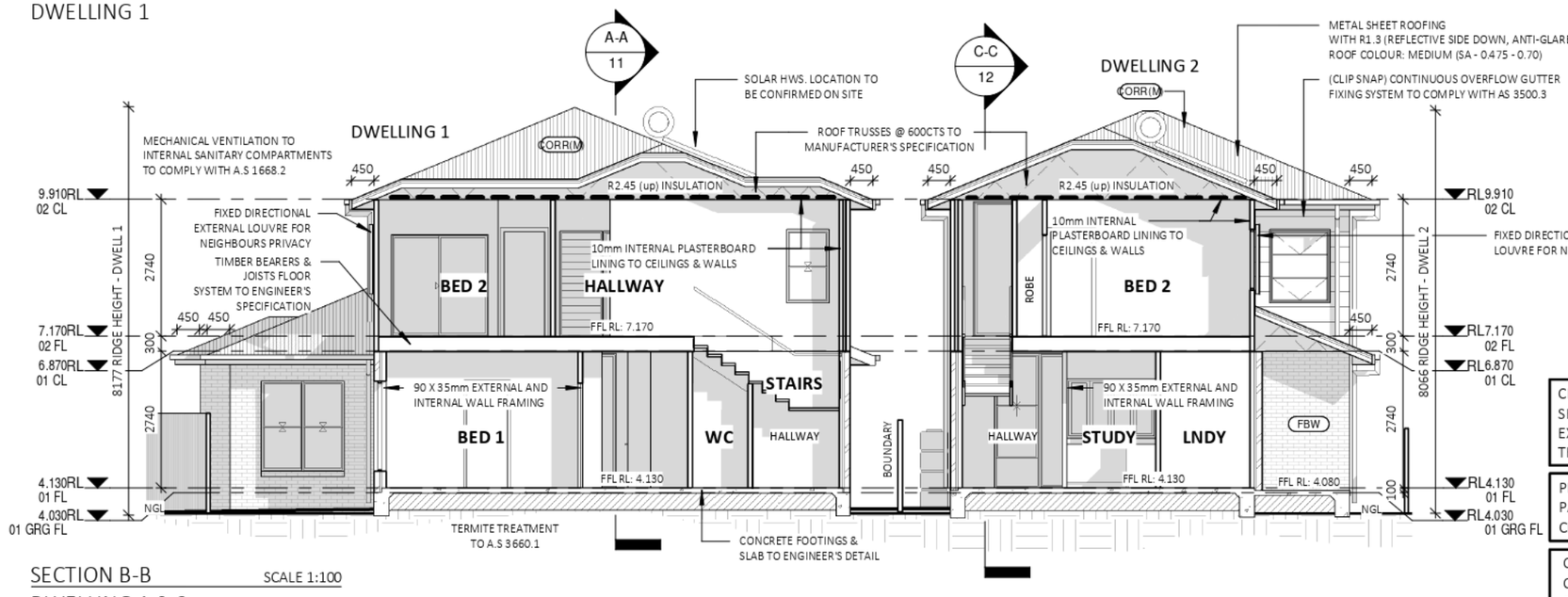

SECTION B-B SCALE 1:100
DWELLING 1 & 2

EXTERNAL FINISHES	
LABEL	**MATERIAL DESCRIPTION**
CORR(M)	CORRUGATED METAL SHEET ROOFING (COLOUR: MEDIUM (SA - 0.475 - 0.70)
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PROJECT: DUAL OCCUPANCY - TORRENS
LOT No: 47 DP No: 246284
STREET No: 29
STREET NAME: FRANCIS STREET, PORT MACQUARIE
CLIENT: MARKOV
SHEET: 11 OF 23

SECTIONS

SCALE:	1 : 100
SHEET SIZE:	A3
START DATE:	18.12.19
DWG No:	D4354

DRAWING REVISION + NOTES

Date:	Description:	Issue:	Drawn:
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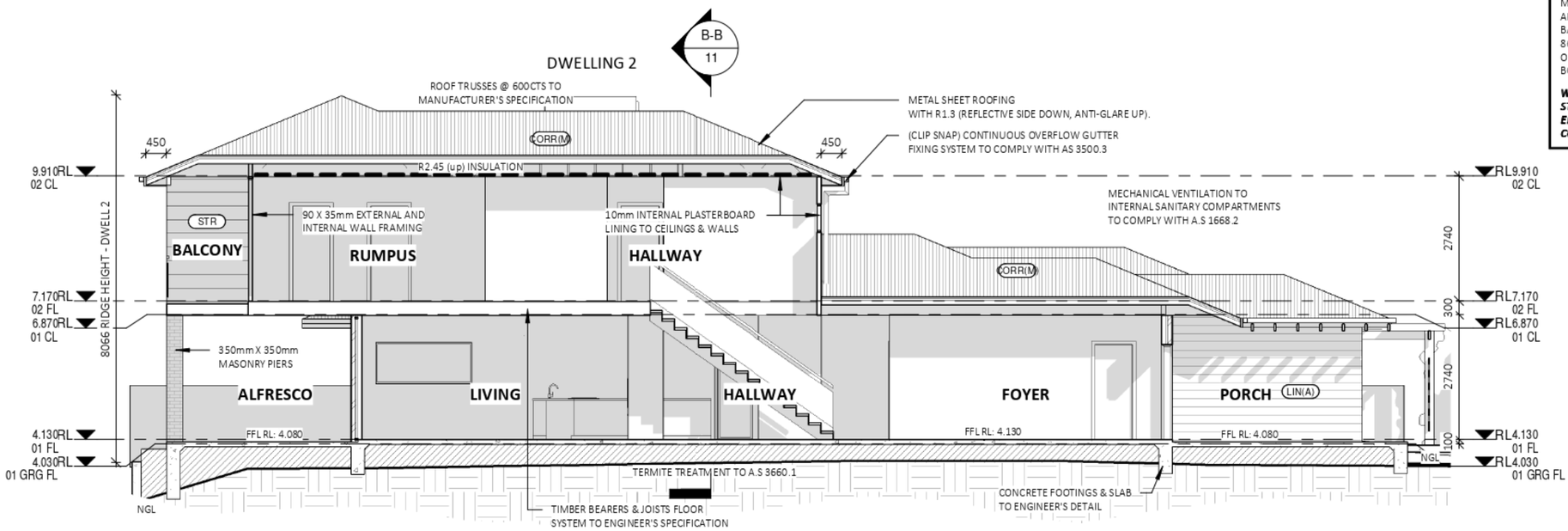

SECTION C-C SCALE 1:100
DWELLING 2

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HANDRAIL HEIGHTS TO BE NO LESS THAN 1000mm FROM PROPOSED FINISHED FL. BALUSTRADE & HANDRAIL TO BE IN ACCORDANCE WITH 3.9.2.3 & 3.9.2.4 OF THE BCA

WINDOW NOTES:
BEDROOM WINDOWS - WHERE THE FLOOR LEVEL OF A BEDROOM IS 2M OR MORE ABOVE THE SURFACE BENEATH, BEDROOM WINDOWS ARE TO COMPLY WITH VOL 2 BCA PART 3.9.2.6.

WINDOWS - WHERE THE FLOOR LEVEL IS 4m OR MORE ABOVE THE SURFACE BENEATH, WINDOWS ARE TO COMPLY WITH VOL 2 BCA PART 3.9.2.7. BARRIER WITH A HEIGHT OF NOT LESS THAN 865mm ABOVE FLOOR IS REQUIRED TO AN OPENABLE WINDOW TO COMPLY WITH VOL 2 BCA PART 3.9.2.6 (c) & 3.9.2.7 (b)

WIND CATEGORY TO BE CONFIRMED PRIOR TO START OF CONSTRUCTION. IF N2 OR HIGHER, ENGAGED PIERS TO BRICKWORK AREA'S ARE TO COMPLY WITH AS 4773.1-2010 & AS 4773 2-2010

Summary of BASIX Commitments (refer to Certificate for exact details)			
Thermal Comfort Commitments			
External Wall	Brick Veneer, R1.86 or R2.40 including construction Framed, R2.0 or R2.40 including construction		
Floors	Concrete, On Ground, No Insulation		
Ceiling	Flat Ceiling, R2.45 (up)		
Roof	Pitched roof, unventilated, 55mm foil-backed blanket Colour: Medium (SA 0.475 – 0.70)		
Eaves	600mm including gutter/fascia | Roof over alfresco | Upper floor decks		
Glazing	**Type**: Single clear with aluminium frames excluding those noted as low-e **Type**: Single, low-e clear with aluminium frames to the following windows (U 5.6 | SHGC 0.369 – 0.451): D1W22		
Water Commitments			
Showerheads:	3* (>6 but <=7.5 L/min)	Toilets:	3*
Basin Taps:	3*	Kitchen Taps:	3*
Water Tank:	1,500ltr per dwelling	Roof Collection: 100m² per dwelling	
Rainwater Connection:	All toilets in the development Cold water supply to washing machine At least 1 external tap		
Energy Commitments			
HWS:	Solar (electric boosted) STCs 31 – 35		
Cooling:	1-phase air-conditioning in at least 1 living & 1 bedroom (3.0 Star average zone)		
Heating:	1-phase air-conditioning in at least 1 living & 1 bedroom (3.0 Star average zone)		
Ventilation:	Bathroom, Kitchen: ducted, manual control Laundry: no mechanical ventilation		
Appliances:	Electric Cooktop & Electric Oven to be installed		
Clothes Line:	Fixed outdoor clothes drying line to be installed		

GLAZING SPECIFICATIONS:
WINDOWS SPECIFIED USE NFRC UW & SHGCW VALUES. WINDOWS AS SPECIFIED OR EQUIVALENT MUST BE INSTALLED ON SITE (REFER TO NatHERS CERTIFICATE FOR & GLAZING PAGES FOR DETAILS)

CEILING PENETRATION - APPROVED NON-VENTILATED COVER OR SHIELD IS TO BE INSTALLED TO ALL RECESSED LIGHTING AND EXHAUST FANS TO ALLOW INSULATION TO BE CLOSELY INSTALLED TO THE TOP AND SIDES OF THE LIGHT OR EXHAUST FITTING.

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EXTERNAL FINISHES	
LABEL	**MATERIAL DESCRIPTION**
CORR(M)	CORRUGATED METAL SHEET ROOFING (COLOUR: MEDIUM (SA - 0.475 - 0.70)
FBW	SELECTED FACE BRICK
LIN(A)	SCYON LINEA 180mm WIDE CLADDING
RNDR	RENDERED BRICKWORK FINISH
STR	SCYON STRIA 325mm CLADDING

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PROJECT: DUAL OCCUPANCY - TORRENS
LOT No: 47 DP No: 246284
STREET No: 29
STREET NAME: FRANCIS STREET, PORT MACQUARIE
SHEET: 12 OF 23
CLIENT: MARKOV

SECTION

SCALE:	1 : 100
SHEET SIZE:	A3
START DATE:	18.12.19
DWG No:	D4354

DRAWING REVISION + NOTES

Date:	Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
10.08.20	CC PLANS	C	MS
15.09.20	D1 UPPER PUSHED BACK	E	MS
08.12.20	WATER TANK SIZES & NOTES	K	MS
04.06.21	SURVEY	T	MS
29.07.21	UPDATED GARAGE	V	DC, DP

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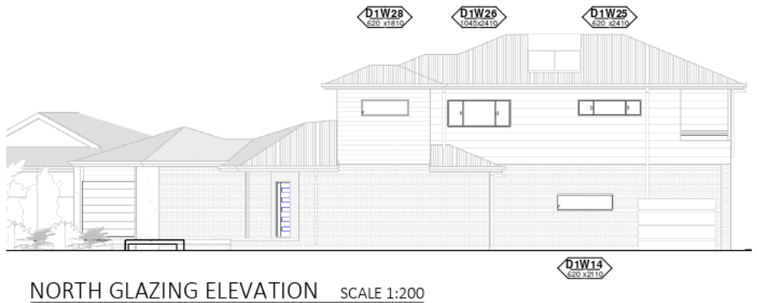

NORTH GLAZING ELEVATION SCALE 1:200
DWELLING 1

EAST GLAZING ELEVATION SCALE 1:200
DWELLING 1

SOUTH GLAZING ELEVATION SCALE 1:200
DWELLING 1

WEST GLAZING ELEVATION SCALE 1:200
DWELLING 1

DWELLING 1 - DOOR GLAZING SCHEDULE

NUMBER	LEVEL	ROOM	HEIGHT	WIDTH	TYPE	CONSTRUCTION	GLAZING
D1D01	01 FL	L'DRY	2112	1510	SLIDING DOOR	ALUMINIUM	STANDARD
D1D02	01 FL	DINING	2700	4789	SLIDING DOOR	ALUMINIUM	STANDARD
D1D03	02 FL	RUMPUS	2112	2410	SLIDING DOOR	ALUMINIUM	STANDARD

DWELLING 1 - WINDOW GLAZING SCHEDULE

NUMBER	LEVEL	ROOM	HEIGHT	WIDTH	TYPE	CONSTRUCTION	GLAZING
D1W01	01 FL	GARAGE	1215	1810	SLIDING	ALUMINIUM	STANDARD
D1W02	01 FL	BED 1	1810	850	DOUBLE HUNG	ALUMINIUM	STANDARD
D1W03	01 FL	BED 1	1810	850	DOUBLE HUNG	ALUMINIUM	STANDARD
D1W04	01 FL	BED 1	1810	850	DOUBLE HUNG	ALUMINIUM	STANDARD
D1W05	01 FL	ENSUITE	1810	610	DOUBLE HUNG	ALUMINIUM	STANDARD
D1W06	01 FL	LOUNGE	1810	850	DOUBLE HUNG	ALUMINIUM	STANDARD
D1W07	01 FL	LOUNGE	1810	850	DOUBLE HUNG	ALUMINIUM	STANDARD
D1W08	01 FL	LOUNGE	1810	850	DOUBLE HUNG	ALUMINIUM	STANDARD
D1W09	01 FL	LOUNGE	1810	850	DOUBLE HUNG	ALUMINIUM	STANDARD
D1W10	01 FL	LOUNGE	1810	850	DOUBLE HUNG	ALUMINIUM	STANDARD
D1W11	01 FL	LOUNGE	1810	850	DOUBLE HUNG	ALUMINIUM	STANDARD
D1W12	01 FL	KITCHEN	1810	850	DOUBLE HUNG	ALUMINIUM	STANDARD
D1W13	01 FL	KITCHEN	1810	850	DOUBLE HUNG	ALUMINIUM	STANDARD
D1W14	01 FL	KITCHEN	620	2110	FIXED	ALUMINIUM	STANDARD
D1W15	01 FL	STUDY	1810	850	DOUBLE HUNG	ALUMINIUM	STANDARD
D1W16	02 FL	STAIRS	620	1810	FIXED	ALUMINIUM	STANDARD
D1W17	02 FL	KIDS STUDY	620	1810	SLIDING	ALUMINIUM	STANDARD
D1W18	02 FL	BED 2	620	1810	SLIDING	ALUMINIUM	STANDARD
D1W19	02 FL	BED 2	1215	2410	SLIDING	ALUMINIUM	STANDARD
D1W20	02 FL	WC	875	610	DOUBLE HUNG	ALUMINIUM	STANDARD
D1W21	02 FL	BATHRM	1045	2410	SLIDING	ALUMINIUM	STANDARD
D1W22	02 FL	BED 4	1810	2410	F/A/F	ALUMINIUM	LOW-E
D1W23	02 FL	RUMPUS	2112	850	LOUVRE	ALUMINIUM	STANDARD
D1W24	02 FL	RUMPUS	2112	850	LOUVRE	ALUMINIUM	STANDARD
D1W25	02 FL	RUMPUS	620	2410	SLIDING	ALUMINIUM	STANDARD
D1W26	02 FL	BED 3	1045	2410	SLIDING	ALUMINIUM	STANDARD
D1W27	02 FL	STAIRS	1470	850	DOUBLE HUNG	ALUMINIUM	STANDARD
D1W28	02 FL	STAIRS	620	1810	FIXED	ALUMINIUM	STANDARD

GLAZING SPECIFICATIONS:
WINDOWS SPECIFIED USE NFRC UW & SHGCW VALUES. WINDOWS AS SPECIFIED OR EQUIVALENT MUST BE INSTALLED ON SITE (REFER TO BASIX CERTIFICATES FOR DETAILS).

LOW-E GLAZING: LOW-E GLAZING WITH STANDARD ALUMINIUM FRAMES AS INDICATED

STANDARD GLAZING: SINGLE CLEAR GLAZING WITH STANDARD ALUMINIUM FRAMES TO REMAINDER

WEATHER STRIPPING TO BE INSTALLED THROUGHOUT.

PLEASE NOTE: ALL GLAZING IN BATHROOMS, ENSUITES, SPA ROOMS OR THE LIKE TO COMPLY WITH PART 3.6.4.5 OF THE BCA

BEDROOM WINDOWS - WHERE THE FLOOR LEVEL OF A BEDROOM IS MORE THAN 2m ABOVE THE SURFACE BENEATH, BEDROOM WINDOWS ARE TO COMPLY WITH BCA VOL 2 PART 3.9.2.6

WINDOWS AND GLAZING TO COMPLY WITH:
AS 4055 : WIND LOADS FOR HOUSING
AS 1288 : GLASS IN BUILDING - SELECTION & INSTALLATION
AS 2047 : WINDOWS & EXTERNAL DOORS IN BUILDING
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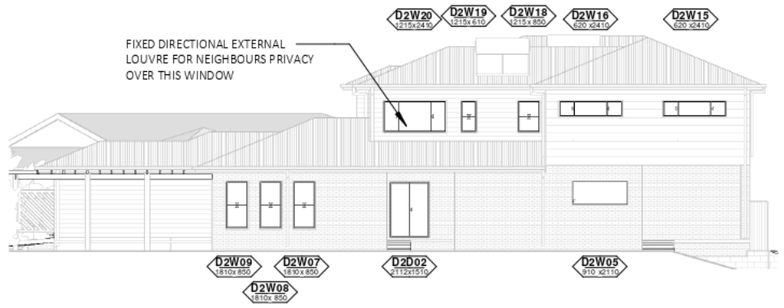
PROJECT: DUAL OCCUPANCY - TORRENS
LOT No: 47 DP No: 246284
STREET No: 29
STREET NAME: FRANCIS STREET, PORT MACQUARIE
CLIENT: MARKOV
SHEET: 13 OF 23

DWELLING 1 GLAZING

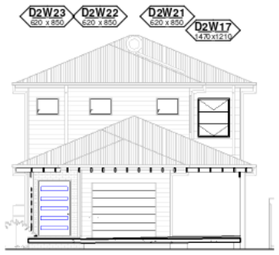
SCALE:	As indicated
SHEET SIZE:	A3
START DATE:	18.12.19
DWG No:	D4354

DRAWING REVISION + NOTES

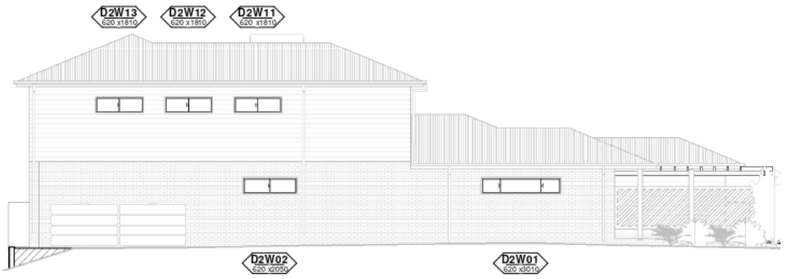
Date:	Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
10.08.20	CC PLANS	C	MS
15.09.20	D1 UPPER PUSHED BACK	E	MS
08.12.20	WATER TANK SIZES & NOTES	K	MS
04.06.21	SURVEY	T	MS
29.07.21	UPDATED GARAGE	V	DC, DP



NORTH GLAZING ELEVATION SCALE 1:200
DWELLING 2



EAST GLAZING ELEVATION SCALE 1:200
DWELLING 2



SOUTH GLAZING ELEVATION SCALE 1:200
DWELLING 2

WEST GLAZING ELEVATION SCALE 1:200
DWELLING 2

DWELLING 2 - DOOR GLAZING SCHEDULE

NUMBER	LEVEL	ROOM	HEIGHT	WIDTH	TYPE	CONSTRUCTION	GLAZING
D2D01	01 FL	DINING	2700	4400	SLIDING DOOR	ALUMINIUM	STANDARD
D2D02	01 FL	LNDY	2112	1510	SLIDING DOOR	ALUMINIUM	STANDARD
D2D04	02 FL	RUMPUS	2700	3175	SLIDING DOOR	ALUMINIUM	STANDARD

DWELLING 2 - WINDOW GLAZING SCHEDULE

NUMBER	LEVEL	ROOM	HEIGHT	WIDTH	TYPE	CONSTRUCTION	GLAZING
D2W01	01 FL	FOYER	620	3010	SLIDING	ALUMINIUM	STANDARD
D2W02	01 FL	LIVING	620	2050	SLIDING	ALUMINIUM	STANDARD
D2W03	01 FL	LIVING	2700	900	DOUBLE HUNG	ALUMINIUM	STANDARD
D2W04	01 FL	DINING	2700	900	DOUBLE HUNG	ALUMINIUM	STANDARD
D2W05	01 FL	DINING	910	2110	FIXED	ALUMINIUM	STANDARD
D2W06	01 FL	ENSUITE	1810	850	DOUBLE HUNG	ALUMINIUM	STANDARD
D2W07	01 FL	BED 1	1810	850	DOUBLE HUNG	ALUMINIUM	STANDARD
D2W08	01 FL	BED 1	1810	850	DOUBLE HUNG	ALUMINIUM	STANDARD
D2W09	01 FL	BED 1	1810	850	DOUBLE HUNG	ALUMINIUM	STANDARD
D2W11	02 FL	HALLWAY	620	1810	SLIDING	ALUMINIUM	STANDARD
D2W12	02 FL	RUMPUS	620	1810	SLIDING	ALUMINIUM	STANDARD
D2W13	02 FL	RUMPUS	620	1810	SLIDING	ALUMINIUM	STANDARD
D2W14	02 FL	BED 4	1810	2410	F/A/F	ALUMINIUM	STANDARD
D2W15	02 FL	BED 4	620	2410	SLIDING	ALUMINIUM	STANDARD
D2W16	02 FL	BED 3	620	2410	SLIDING	ALUMINIUM	STANDARD
D2W17	02 FL	BED 3	1470	1210	F/A/F	ALUMINIUM	STANDARD
D2W18	02 FL	BATHRM	1215	850	DOUBLE HUNG	ALUMINIUM	STANDARD
D2W19	02 FL	BATHRM	1215	610	DOUBLE HUNG	ALUMINIUM	STANDARD
D2W20	02 FL	BED 2	1215	2410	SLIDING	ALUMINIUM	STANDARD
D2W21	02 FL	BED 2	620	850	FIXED	ALUMINIUM	STANDARD
D2W22	02 FL	BED 2	620	850	FIXED	ALUMINIUM	STANDARD
D2W23	02 FL	HALLWAY	620	850	FIXED	ALUMINIUM	STANDARD

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AS 2047 : WINDOWS & EXTERNAL DOORS IN BUILDING
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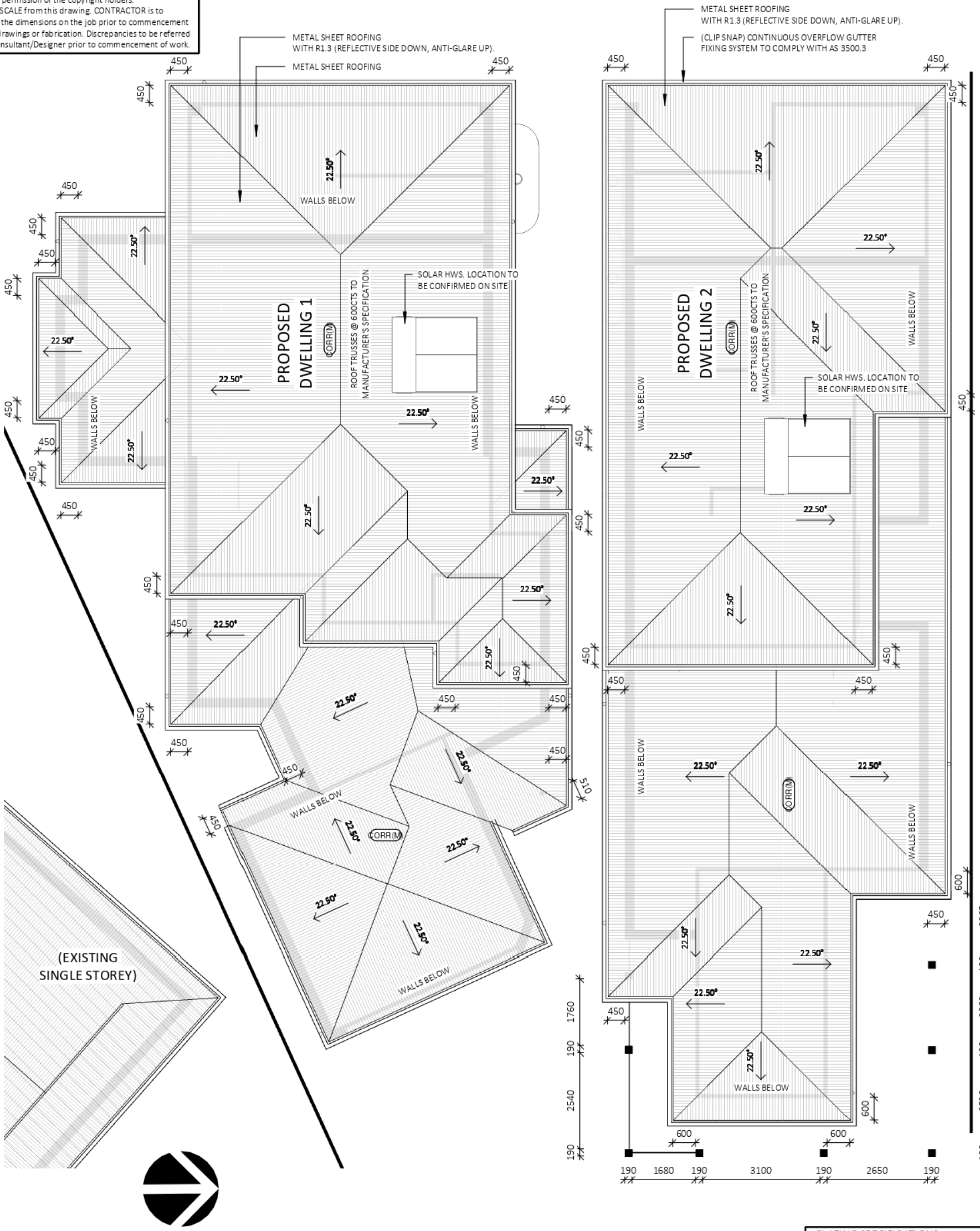
PROJECT: DUAL OCCUPANCY - TORRENS
LOT No: 47 DP No: 246284
STREET No: 29
STREET NAME: FRANCIS STREET, PORT MACQUARIE
CLIENT: MARKOV
SHEET: 14 OF 23

DWELLING 2 GLAZING

SCALE:	As indicated
SHEET SIZE:	A3
START DATE:	18.12.19
DWG No:	D4354

DRAWING REVISION + NOTES

Date:	Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
10.08.20	CC PLANS	C	MS
20.08.20	CHANGES AS PER EMAIL	D	MS
22.03.21	FENCE NOTE UDPATE	P	MS
04.06.21	SURVEY	T	MS
29.07.21	UPDATED GARAGE	V	DC, DP



ROOF PLAN SCALE 1:100

EXTERNAL FINISHES	
LABEL	**MATERIAL DESCRIPTION**
CORR(M)	CORRUGATED METAL SHEET ROOFING (COLOUR: MEDIUM (SA - 0.475 - 0.70)
FBW	SELECTED FACE BRICK
LIN(A)	SCYON LINEA 180mm WIDE CLADDING
RNDR	RENDERED BRICKWORK FINISH
STR	SCYON STRIA 325mm CLADDING

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PROJECT: DUAL OCCUPANCY - TORRENS
LOT No: 47 DP No: 246284
STREET No: 29
STREET NAME: FRANCIS STREET, PORT MACQUARIE
CLIENT: MARKOV
SHEET: 15 OF 23

ROOF PLAN

SCALE:	1 : 100
SHEET SIZE:	A3
START DATE:	18.12.19
DWG No:	D4354

DRAWING REVISION + NOTES

Date:	Revision Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
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04.06.21	SURVEY	T	MS
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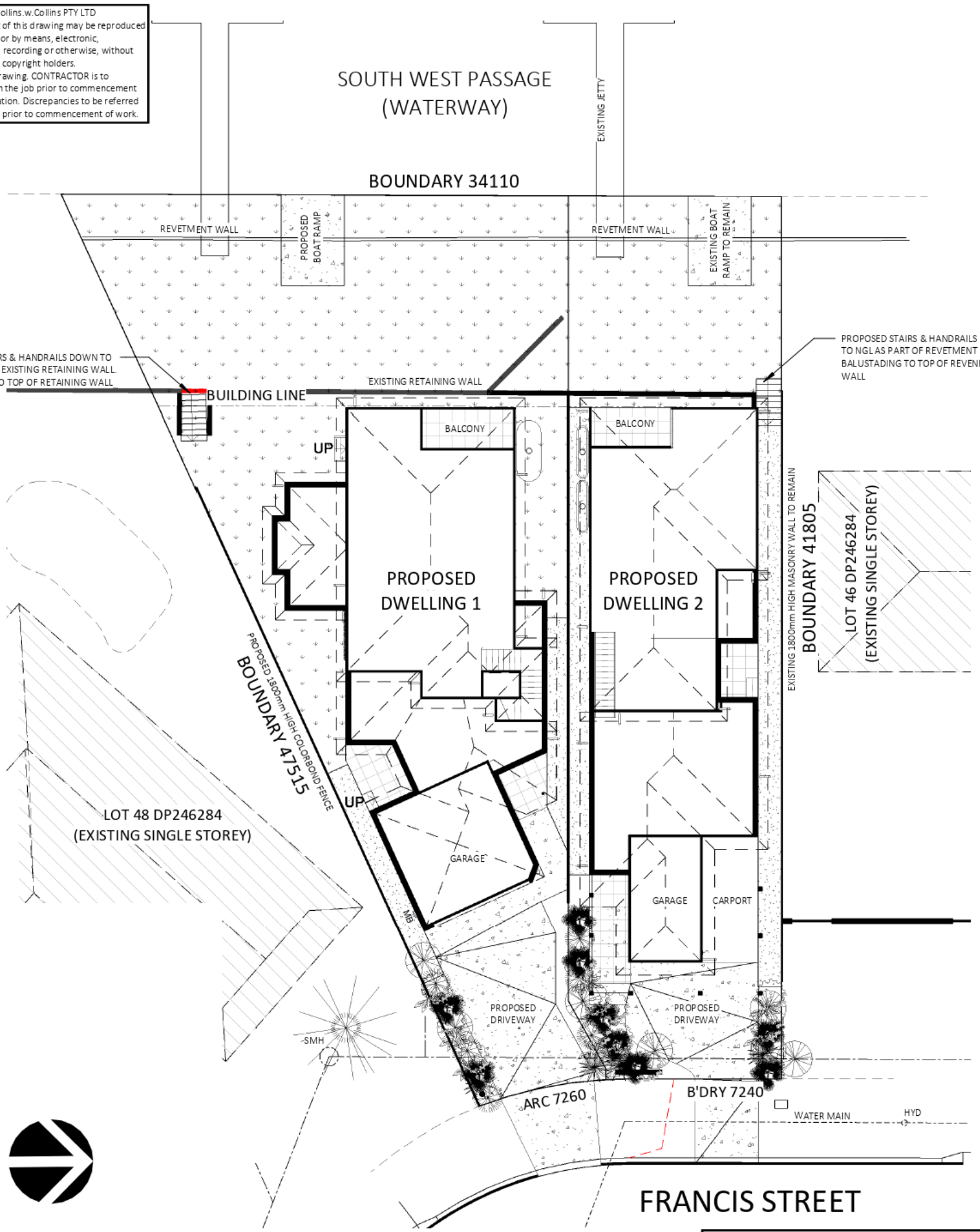

INDICATIVE LANDSCAPE PLAN

SCALE 1:200

CHECK ALL DIMENSIONS ON SITE. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTS, SPECIFICATIONS, REPORTS, DRAWINGS, ENGINEERING & COUNCIL APPROVALS

LEGEND AND NOTES

- NEW WARM SEASON TURF GRASS THROUGHOUT
- HARD SURFACE - PATHS
  PATHS TO HAVE PERMEABLE SURFACE FINISH
- HARD SURFACE - DRIVEWAY
  REFER BUILDING DESIGN FOR DETAILS
- HARD SURFACE - PATIOS
  REFER BUILDING DESIGN FOR DETAILS
- EXISTING NEIGHBOURING VEGETATION TO BE PRESERVED AND PROTECTED THROUGHOUT
- SMALL EVERGREEN NATIVE TREES
- FEATURE OR STATEMENT PLANTINGS
- NEW SMALL / MEDIUM EVERGREEN SHRUBS
- NEW SMALL / MEDIUM EVERGREEN SOFT WOODED PERENNIALS
- NEW EVERGREEN PROSTRATE SHRUBS OR GROUND COVER PLANTINGS

- THIS PLAN IS NOT BE USED FOR CONSTRUCTION
- THIS PLAN IS CONCEPTUAL ONLY AND IS DESIGNED TO HIGHLIGHT VARIOUS LANDSCAPE USES AROUND THE SITE,
- ANY SUGGESTED PLANTS OR PLANT LIST IS INDICATIVE ONLY AND THE FINAL SELECTION OF ACTUAL SPECIES WILL BE SITE AND MICRO CLIMATE DEPENDENT,
- ALL HARD-SCAPED SURFACES SHALL BE INSTALLED BY QUALIFIED LANDSCAPE TRADES AND AS PER MANUFACTURERS INSTRUCTIONS,
- TURF SPECIES SHALL CONSISTS OF A WARM SEASON SPECIES ONLY SUCH AS; BUFFALO, KIKUYU OR COUCH,
- THE ADVICE AND PLAN FROM A PROFESSIONAL LANDSCAPE DESIGNER IS TO BE SOUGHT PRIOR TO ANY CONSTRUCTION / LANDSCAPE WORKS COMMENCING,
- LANDSCAPE HAS A DOMINANT NORTHERN ASPECT AND SELECTED PLANTS ARE TO BE SUN TO FULL SUN TOLERANT CAPABLE OF WITHSTANDING YEAR ROUND NORTHERN SUN,
- PLANTS ON THE IMMEDIATE SOUTHERN SIDE OF BUILDINGS AND DWELLING MAY NEED SOME SHADE TOLERANCE,
- PLANTINGS ARE TO BE WATER WISE AND DROUGHT TOLERANT ONCE ESTABLISHED

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PROJECT: DUAL OCCUPANCY - TORRENS		INDICATIVE LANDSCAPE PLAN	
LOT No: 47 DP No: 246284	SHEET: 16 OF 23	SCALE:	As indicated
STREET No: 29		SHEET SIZE:	A3
STREET NAME: FRANCIS STREET, PORT MACQUARIE		START DATE:	18.12.19
CLIENT: MARKOV		DWG No:	D4354

DRAWING REVISION + NOTES

Date:	Revision Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
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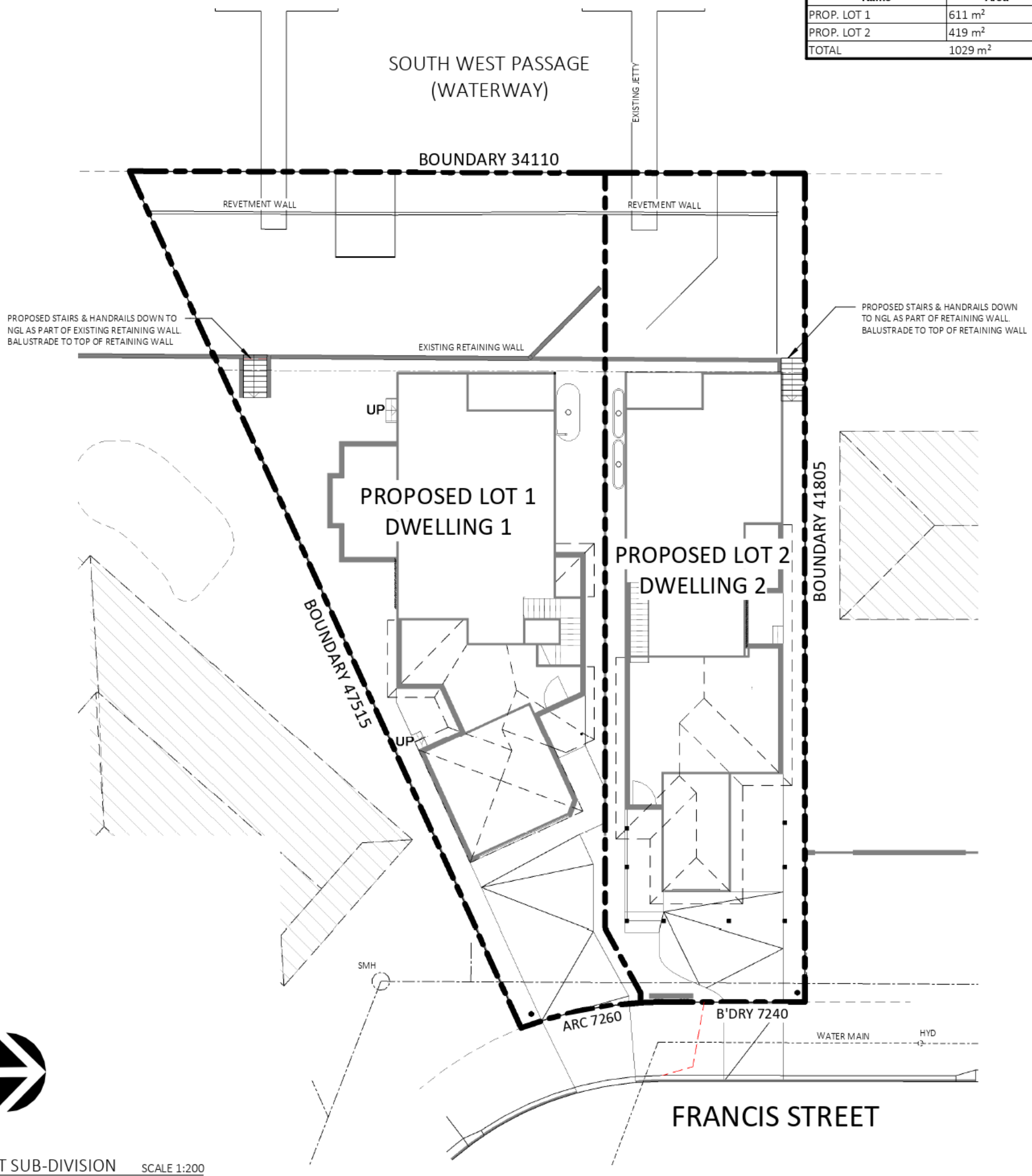
EXISTING LOT SIZE	
Name	**Area**
EXIST. LOT	1029 m²
TOTAL	1029 m²

PROPOSED LOT SUBDIVISION	
Name	**Area**
PROP. LOT 1	611 m²
PROP. LOT 2	419 m²
TOTAL	1029 m²



DRAFT SUB-DIVISION PLAN SCALE 1:200

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LOT No: 47 DP No: 246284
STREET No: 29
STREET NAME: FRANCIS STREET, PORT MACQUARIE
CLIENT: MARKOV
SHEET: 17 OF 23

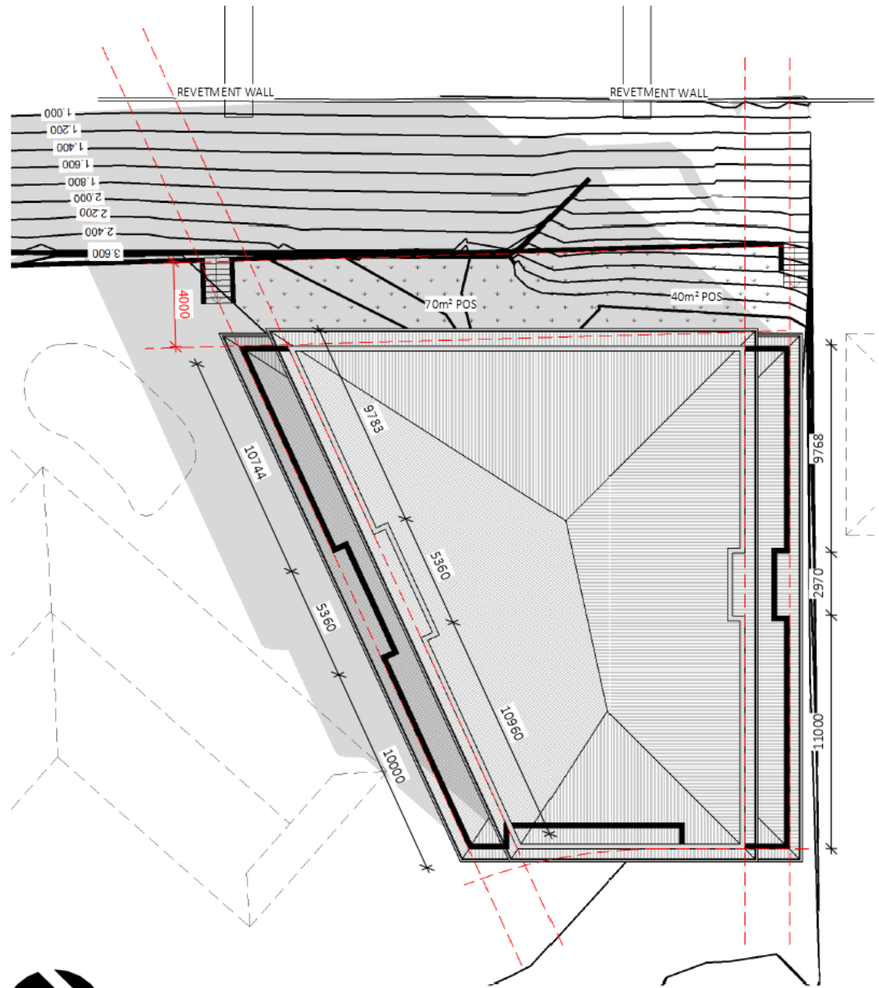
DRAFT SUBDIVISION PLAN

SCALE:	As indicated
SHEET SIZE:	A3
START DATE:	18.12.19
DWG No:	D4354

DRAWING REVISION + NOTES

Date:	Revision Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
10.08.20	CC PLANS	C	MS
04.06.21	SURVEY	T	MS
29.07.21	UPDATED GARAGE	V	DC, DP

PROPOSED SCALE 1:250
9AM - 21 JUNE



DCP SCALE 1:250
9AM - 21 JUNE

CHECK ALL DIMENSIONS ON SITE. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTS, SPECIFICATIONS, REPORTS, DRAWINGS, ENGINEERING & COUNCIL APPROVALS

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PROJECT: DUAL OCCUPANCY - TORRENS
LOT No: 47 DP No: 246284
STREET No: 29
STREET NAME: FRANCIS STREET, PORT MACQUARIE
CLIENT: MARKOV
SHEET: 18 OF 23

SHADOWS - 9AM WINTER SOLSTICE

SCALE:	As indicated
SHEET SIZE:	A3
START DATE:	18.12.19
DWG No:	D4354

DRAWING REVISION + NOTES

Date:	Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
10.08.20	CC PLANS	C	MS
18.05.21	REVETMENT WALL & STAIRS	R	MS
27.05.21	SHADOWS	S	MS
04.06.21	SURVEY	T	MS
29.07.21	UPDATED GARAGE	V	DC, DP

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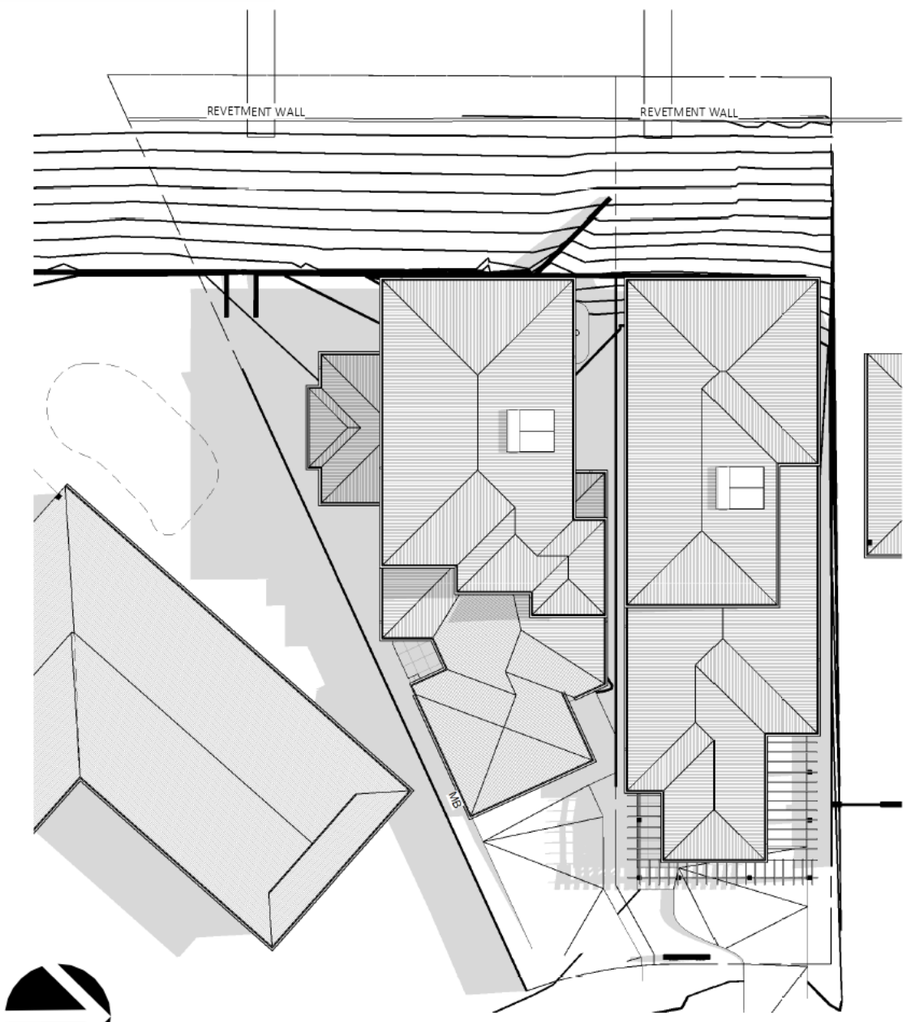
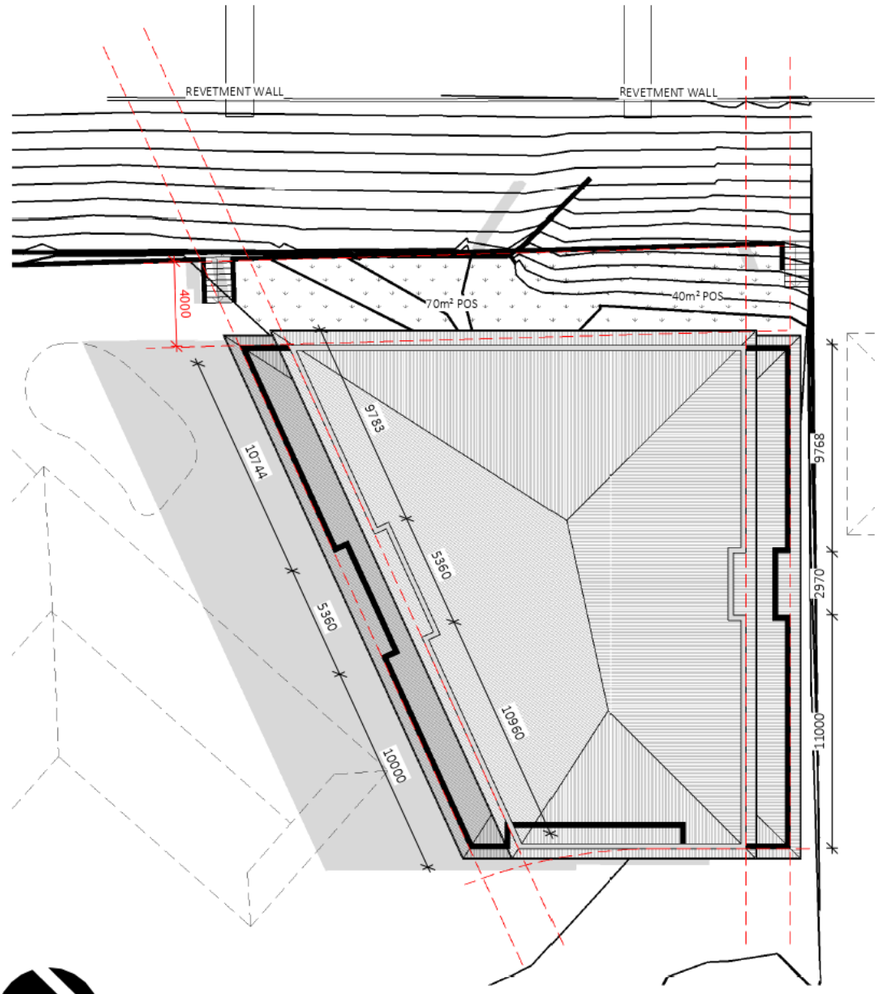
LOWER FLOOR WALLS
UPPER FLOOR WALLS



PROPOSED SCALE 1:250
12PM - 21 JUNE



DCP SCALE 1:250
12PM - 21 JUNE

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PROJECT: DUAL OCCUPANCY - TORRENS
LOT No: 47 DP No: 246284
STREET No: 29
STREET NAME: FRANCIS STREET, PORT MACQUARIE
SHEET: 19 OF 23
CLIENT: MARKOV

SHADOWS - 12PM WINTER SOLSTICE

SCALE:	As indicated
SHEET SIZE:	A3
START DATE:	18.12.19
DWG No:	D4354

DRAWING REVISION + NOTES

Date:	Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
22.04.21	REVETMENT WALL & STAIRS ADDED	Q	MS
18.05.21	REVETMENT WALL & STAIRS	R	MS
27.05.21	SHADOWS	S	MS
04.06.21	SURVEY	T	MS
29.07.21	UPDATED GARAGE	V	DC, DP

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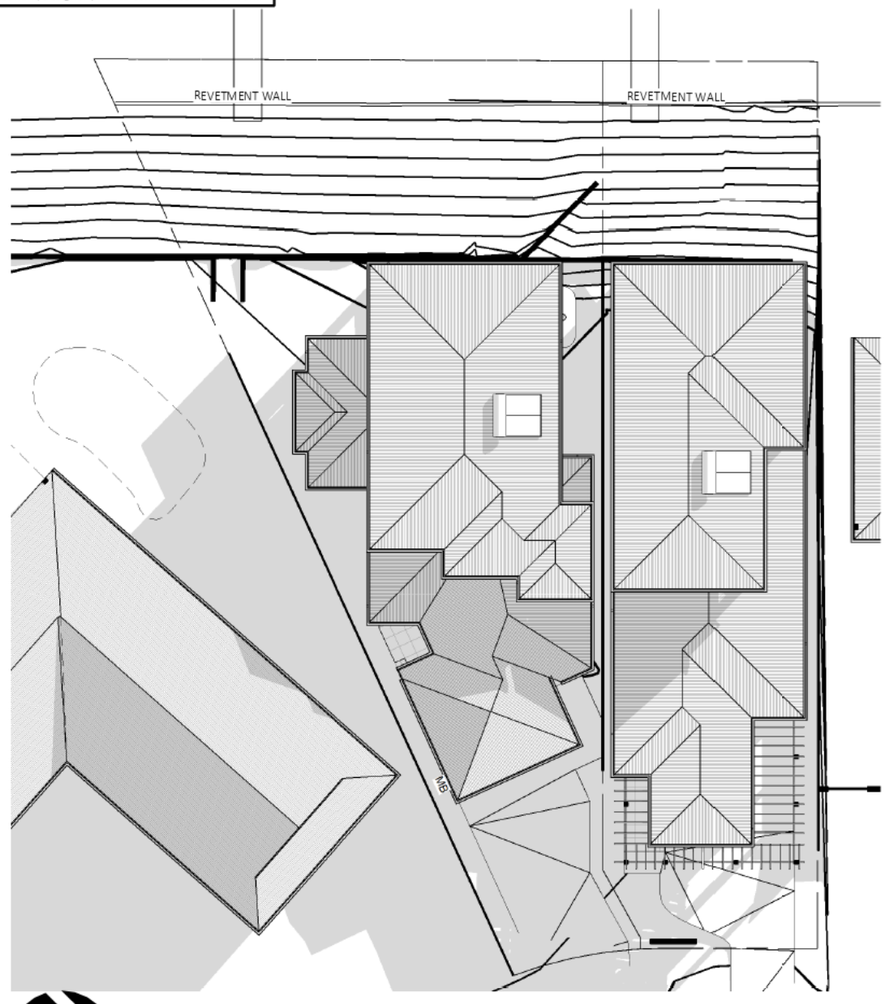
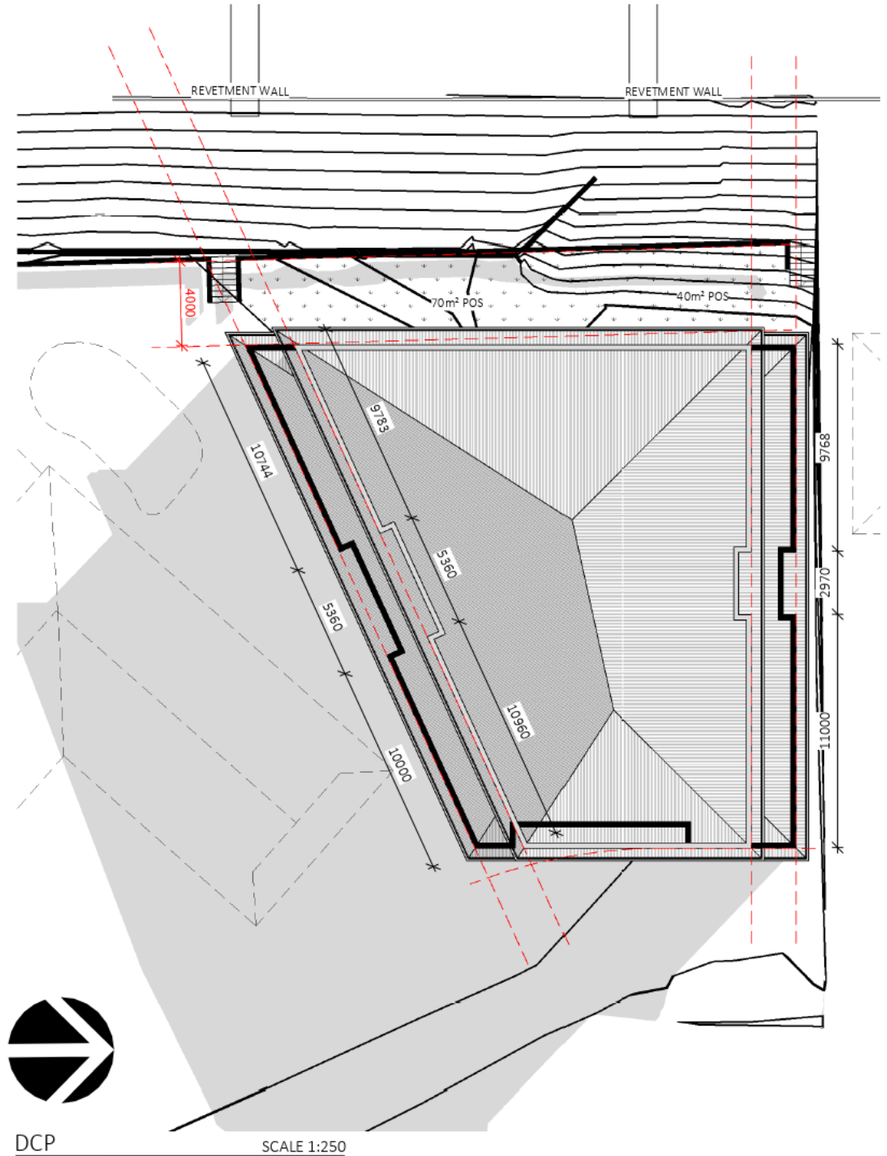
LOWER FLOOR WALLS
UPPER FLOOR WALLS



PROPOSED SCALE 1:250
3PM - 21 JUNE



DCP SCALE 1:250
3PM - 21 JUNE

CHECK ALL DIMENSIONS ON SITE. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTS, SPECIFICATIONS, REPORTS, DRAWINGS, ENGINEERING & COUNCIL APPROVALS

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PROJECT: DUAL OCCUPANCY - TORRENS
LOT No: 47 DP No: 246284
STREET No: 29
STREET NAME: FRANCIS STREET, PORT MACQUARIE
CLIENT: MARKOV
SHEET: 20 OF 23

SHADOWS - 3PM WINTER SOLSTICE
SCALE: As indicated
SHEET SIZE: A3
START DATE: 18.12.19
DWG No: D4354

DRAWING REVISION + NOTES

Date:	Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
22.04.21	REVETMENT WALL & STAIRS ADDED	Q	MS
18.05.21	REVETMENT WALL & STAIRS	R	MS
27.05.21	SHADOWS	S	MS
04.06.21	SURVEY	T	MS
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STREETSCAPE A NON-SCALE

STREETSCAPE B NON-SCALE

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PROJECT: DUAL OCCUPANCY - TORRENS		STREETSCAPE	
LOT No: 47 DP No: 246284	SHEET: 21 OF 23	SCALE:	1 : 100
STREET No: 29		SHEET SIZE:	A3
STREET NAME: FRANCIS STREET, PORT MACQUARIE		START DATE:	18.12.19
CLIENT: MARKOV		DWG No:	D4354

DRAWING REVISION + NOTES

Date:	Revision Description:	Issue:	Drawn:
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THESE NOTES MUST BE READ AND UNDERSTOOD BY ALL INVOLVED IN THE PROJECT. THIS INCLUDES (but is not limited to): *OWNER, BUILDER, SUB-CONTRACTORS, CONSULTANTS, RENOVATORS, OPERATORS, MAINTENORS, DEMOLISHERS.*

REVISED DECEMBER 2019

BUILDING SPECIFICATIONS FOR CLASS 1 AND 10 BUILDINGS
All works to be completed in accordance with the current version of the National Construction Code Series, including Building Code of Australia (BCA), Volume 2 and the Plumbing Code of Australia (PCA), Volume 3 as applicable.
All Australian Standards listed are the versions that have been adopted by the relevant version of the National Construction Code Series at the time of Construction Certificate or Complying Development Certificate Application.

STRUCTURAL PROVISIONS
Structural Design Manuals – is satisfied by complying with:
a) 3.0.3, 3.0.4, 3.0.5 of the BCA; or
b) the relevant provisions of other Parts of Section 3 of the Housing Provisions of the BCA relating to structural elements; or
c) any combination thereof.
3.0.5 - Structural Software – Must comply with the Australian Building Codes Board (ABCB) Protocol for Structural Software and Part 3.4.0.2 of the BCA.

SITE PREPARATION
Earthworks - Earthworks are to be undertaken in accordance with Part 3.1.1 of the BCA.
Earth Retaining structures (ie. retaining walls & batter) to be in accordance with AS4678.
Drainage – Stormwater drainage is to be undertaken in accordance with AS/NZS 3500.3, or, the Acceptable Construction Practice as detailed in Part 3.1.3 of the BCA.
Termite Risk Management – Where a primary building element is considered susceptible to termite attack the building shall be protected in accordance with the following:
a) AS 3600.1, and
b) A durable notice is permanently fixed to the building in a prominent location, such as in a meter box or the like, including the details listed in Part 3.1.4.4 of the BCA.
c) The Acceptable Construction Practice as detailed in accordance with Part 3.1.4 of the BCA.

FOOTINGS AND SLABS
The footing or slab is to be constructed in accordance with AS 2870, except that for the purposes of Clause 5.3.3.1 of AS 2870, a damp-proofing membrane is required to be provided, or, the Acceptable Construction Practice detailed in Part 3.2 of the BCA
Piled footings are to be designed in accordance with AS 2159.

MASONRY
Unreinforced Masonry – to be designed and constructed in accordance with;

a) AS 3700; or
b) AS 4773 Parts 1 and 2
Reinforced Masonry – to be designed and constructed in accordance with;
a) AS 3700; or
b) AS 4773 parts 1 and 2

Masonry Accessories – to be constructed and installed in accordance with;

a) AS 3700; or
b) AS 4773 Parts 1 and 2
Weatherproofing of Masonry
This Part applies to an external wall (including the junction between the wall and any window or door) of a Class 1 Building.
This Part does not apply to any Class 10 building except where its construction contributes to the weatherproofing of the Class 1 building.
The weather proofing of masonry is to be carried out in accordance with;
a) AS 3700; except as provided for by Part 3.3.2.0 (a), or
b) AS 4773 Part2 1 and 2

FRAMING
Sub-Floor Ventilation – Is to comply with the Acceptable Construction Practice of Part 3.4.1 of the BCA.
Steel Framing – is to be designed and constructed in accordance with the Acceptable Construction Practice of Part 3.4.2 of the BCA, or, one of the following manuals:
a) Steel structures: AS 4100.
b) Cold-formed steel structures: AS/NZS4600.
c) Residential and low-rise steel framing: NASH Standard.
Timber Framing – is to be designed and constructed in accordance with the following, as appropriate:
a) AS 1684.2.
b) AS 1684.4.
Structural Steel Members – is to be designed and constructed in accordance with the Acceptable Construction Practice of Part 3.4.4 of the BCA, or, one of the following manuals:
a) Steel Structures: AS 4100.
b) Cold-formed steel structures: AS/NZS 4600.

ROOF AND WALL CLADDING
Roof Cladding – is to comply with the Acceptable Construction Practice of Part 3.5.1 of the BCA, or, one of the following:
a) Roofing tiles: Part 3.5.1 BCA - AS2050.
b) Metal Roof Cladding: Part 3.5.1 BCA - AS1562.1.
c) Plastic sheet roofing: AS/NZS 4256 Parts 1, 2, 3 and 5; and AS/NZS 1562.3.
Gutters and Downpipes – are to be designed and constructed in accordance with the Acceptable Construction Practice of Part 3.5.3 of the BCA, or, AS/NZS 3500.3 – Stormwater drainage.
Timber & Composite Wall Cladding – to be designed and constructed in accordance with Acceptable Construction Practice of Part 3.5.4 of the BCA.
Autoclaved Aerated Concrete to AS5146.1
Metal wall cladding to be designed and constructed in accordance with AS 1562.1.

GLAZING
Glazing – to be designed and constructed in accordance with the Acceptable Construction Practice of Part 3.6.1 of the BCA, or, one of the following manuals as applicable under Part 3.6.0 BCA
a) AS 2047.
b) AS 1288.

FIRE SAFETY
Fire Hazard properties of materials to comply with Part 3.7.1 of the BCA.
Fire Separation of external walls to comply with Part 3.7.2 of the BCA.
Fire Separation of separating walls & floors to comply with Part 3.7.3 of the BCA.
Fire Separation of garage top dwelling to comply with Part NSW 1.1 of the BCA.
Smoke Alarms & Evacuation lighting to comply Part 3.7.5 of the BCA.

BUSHFIRE AREAS
Bushfire Areas – This section relates to:
a) A Class 1 building; or
b) A Class 10a building or deck associated with a Class 1 building,
If it is constructed in accordance with the following:
c) AS 3959, except as amended by planning for bushfire protection and, except for Section 9 Construction for Bushfire Attack Level FZ (BAL-FZ). Buildings subject to BAL-FZ must comply with specific conditions of development consent for construction at this level; or
d) The requirements of (c) above as modified by the development consent following consultation with the NSW Rural Fire Service undersection 79BA of the Environmental Planning and Assessment Act 1979; or
e) The requirements of (c) above as modified by the development consent with a bushfire safety authority issued under section 100B of the Rural Fire Act for the purposes of integrated development.

Alpine Areas – to be constructed in accordance with the Acceptable Construction Practice of Part 3.10.4 of the BCA if located in an alpine area.

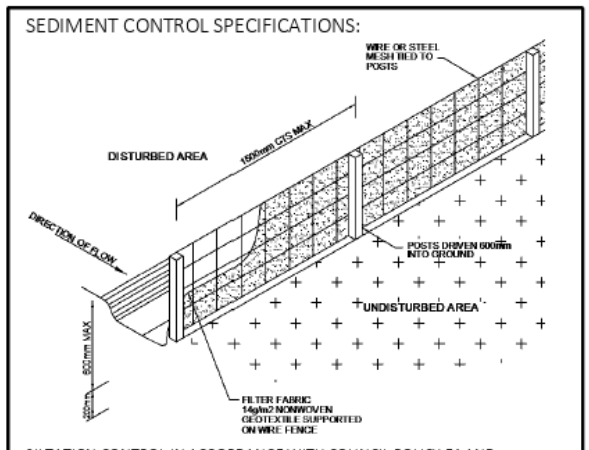
HEALTH AND AMENITY
Wet Areas and External Waterproofing – building elements in wet areas within a building must.
a) Be waterproof or water resistant in accordance with Table 3.8.1.1 of the BCA; and
b) Comply with AS 3740.
c) External areas to comply with AS4654.1 & AS4654.2
Room Heights – are to be constructed in accordance with the Acceptable Construction Practice of Part 3.8.2 of the BCA.
Facilities – are to be constructed in accordance with Acceptable Practice of Part 3.8.3 of the BCA.
Light – is to be provided in accordance with the Acceptable Construction Practice of Part 3.8.4 of the BCA.
Ventilation – is to be provided in accordance with the Acceptable Construction Practice of Part 3.8.5 of the BCA.
Sound Insulation – (only applies to a separating wall between two or more class 1 buildings) is to be provided in accordance with the Acceptable Construction Practice of Part 3.8.6 of the BCA.
Condensation Management to be provided in accordance with ACP Part 3.8.7 BCA.

SAFE MOVEMENT AND ACCESS
Stair Construction – to be constructed and installed in accordance with the Acceptable Construction Practice of Part 3.9.1 of the BCA.
Barriers and Handrails – to be constructed and installed in accordance with the Acceptable Construction Practice of Part 3.9.2 of the BCA.
Protection of openable windows to Part 3.9.2 of the BCA.

ANCILLARY PROVISIONS & ADDITIONAL CONSTRUCTION REQUIREMENTS
3.10.1 - Swimming Pools
Swimming Pool Access – to be designed and installed in accordance with the Swimming Pools Act 1992, Swimming Pool Regulation 2018 and AS 1926 Parts 1 and 2.
Swimming Pool Water recirculation Systems – is to be designed and constructed in accordance with AS1926.3.
High Wind Areas – Applies to a region that is subject to design wind speeds more than N3 or C1 (see table 1.1.1 of the BCA). To be constructed in accordance with one or more of the relevant manuals of Part 3.10.1 of the BCA
3.10.2 - Earthquake Areas subject to "seismic activity" to be constructed in accordance with Part 3.0 BCA.
3.10.3 - Flood Hazard Areas – applies to areas on a site (weather or not mapped) encompassing the land lower than the flood hazard level (as defined by the BCA) which has been determined by the appropriate authority (statutory authority), are to be constructed in accordance with the ABCB Standard for Construction of Buildings in Flood Hazard Areas.
3.10.4 - Construction "Alpine Areas" in accordance with Part 3.10.4.
3.10.5 - Construction in Bushfire Prone Areas in accordance with Part 3.10.5.
3.10.6 - Attachment of Decks & Balconies to external walls of buildings to be in accordance with the acceptable construction practice of Part 3.10.6 of the BCA, or alternatively be engineer designed in accordance with Part 3.0 of the BCA.
3.10.7 - Boilers, Pressure Vessels, Heating Applicances, Fire Places, Chimneys & Flues to be in accordance with Part 3.10.7 of the BCA.

ENERGY EFFICIENCY
Energy Efficiency – to comply with the measures contained in the relevant BASIX certificate, and the requirements of NSW parts 3.12.1, 3.12.3 & 3.12.5 of the BCA.

SEDIMENT CONTROL SPECIFICATIONS:



SILTATION CONTROL IN ACCORDANCE WITH COUNCIL POLICY E1 AND THE ADOPTED AUSPEC STANDARD

SEDIMENT CONTROL FENCING DETAILS NOT TO SCALE

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PROJECT: DUAL OCCUPANCY - TORRENS		BUILDING SPECIFICATIONS	
LOT No: 47 DP No: 246284	SHEET: 22 OF 23		
STREET No: 29		SCALE:	As indicated
STREET NAME: FRANCIS STREET, PORT MACQUARIE		SHEET SIZE:	A3
		START DATE:	18.12.19
CLIENT: MARKOV		DWG No:	D4354

DRAWING REVISION + NOTES

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1. FALLS, SLIPS, TRIPS
A) WORKING AT HEIGHTS
DURING CONSTRUCTION
Wherever possible, components for this building should be prefabricated off-site or at ground level to minimise the risk of workers falling more than two metres. However, construction of this building will require workers to be working at heights where a fall in excess of two metres is possible and injury is likely to result from such a fall. The builder should provide a suitable barrier wherever a person is required to work in a situation where falling more than two metres is a possibility.
DURING OPERATION OR MAINTENANCE
For houses or other low-rise buildings where scaffolding is appropriate: Cleaning and maintenance of windows, walls, roof or other components of this building will require persons to be situated where a fall from a height in excess of two metres is possible. Where this type of activity is required, scaffolding, ladders or trestles should be used in accordance with relevant codes of practice, regulations or legislation. For buildings where scaffold, ladders, trestles are not appropriate: Cleaning and maintenance of windows, walls, roof or other components of this building will require persons to be situated where a fall from a height in excess of two metres is possible. Where this type of activity is required, scaffolding, fall barriers or Personal Protective Equipment (PPE) should be used in accordance with relevant codes of practice, regulations or legislation.
B) SLIPPERY OR UNEVEN SURFACES
FLOOR FINISHES Specified
If finishes have been specified by designer, these have been selected to minimise the risk of floors and paved areas becoming slippery when wet or when walked on with wet shoes/feet. Any changes to the specified finish should be made in consultation with the designer or, if this is not practical, surfaces with an equivalent or better slip resistance should be chosen.
FLOOR FINISHES By Owner
If designer has not been involved in the selection of surface finishes, the owner is responsible for the selection of surface finishes in the pedestrian trafficable areas of this building. Surfaces should be selected in accordance with AS HB 197:1999 and AS/NZ 4586:2004.
STEPS, LOOSE OBJECTS AND UNEVEN SURFACES
Due to design restrictions for this building, steps and/or ramps are included in the building which may be a hazard to workers carrying objects or otherwise occupied. Steps should be clearly marked with both visual and tactile warning during construction, maintenance, demolition and at all times when the building operates as a workplace. Building owners and occupiers should monitor the pedestrian access ways and in particular access to areas where maintenance is routinely carried out to ensure that surfaces have not moved or cracked so that they become uneven and present a trip hazard. Spills, loose material, stray objects or any other matter that may cause a slip or trip hazard should be cleaned or removed from access ways. Contractors should be required to maintain a tidy work site during construction, maintenance or demolition to reduce the risk of trips and falls in the workplace. Materials for construction or maintenance should be stored in designated areas away from access ways and work areas.
2. FALLING OBJECTS
LOOSE MATERIALS OR SMALL OBJECTS
Construction, maintenance or demolition work on or around this building is likely to involve persons working above ground level or above floor levels. Where this occurs one or more of the following measures should be taken to avoid objects falling from the area where the work is being carried out onto persons below.

1. **Prevent or restrict access to areas below where the work is being carried out.**
2. **Provide toeboards to scaffolding or work platforms.**
3. **Provide protective structure below the work area.**
4. **Ensure that all persons below the work area have Personal Protective Equipment (PPE).**

BUILDING COMPONENTS
During construction, renovation or demolition of this building, parts of the structure including fabricated steelwork, heavy panels and many other components will remain standing prior to or after supporting parts are in place. Contractors should ensure that temporary bracing or other required support is in place at all times when collapse which may injure persons in the area is a possibility.
Mechanical lifting of materials and components during construction, maintenance or demolition presents a risk of falling objects. Contractors should ensure that appropriate lifting devices are used, that loads are properly secured and that access to areas below the load is prevented or restricted.
3. TRAFFIC MANAGEMENT
For building on a major road, narrow road or steeply sloping road: Parking of vehicles or loading/unloading of vehicles on this roadway may cause a traffic hazard. During construction, maintenance or demolition of this building designated parking for workers and loading areas should be provided. Trained traffic management personnel should be responsible for the supervision of these areas. For building where on-site loading/unloading is restricted: Construction of this building will require loading and unloading of materials on the roadway. Deliveries should be well planned to avoid congestion of loading areas and trained traffic management personnel should be used to supervise loading/unloading areas. For all buildings: Busy construction and demolition sites present a risk of collision where deliveries and other traffic are moving within the site. A traffic management plan supervised by trained traffic management personnel should be adopted for the work site.
4. SERVICES
GENERAL
Rupture of services during excavation or other activity creates a variety of risks including release of hazardous material. Existing services are located on or around this site. Where known, these are identified on the plans but the exact location and extent of services may vary from that indicated. Services should be located using an appropriate service (such as Dial Before You Dig), appropriate excavation practice should be used and, where necessary, specialist contractors should be used. Locations with underground power: Underground power lines MAY be located in or around this site. All underground power lines must be disconnected or carefully located and adequate warning signs used prior to any construction, maintenance or demolition commencing. Locations with overhead power lines: Overhead power lines MAY be near or on this site. These pose a risk of electrocution if struck or approached by lifting devices or other plant and persons working above ground level. Where there is a danger of this occurring, power lines should be, where practical, disconnected or relocated. Where this is not practical adequate warning in the form of bright coloured tape or signage should be used or a protective barrier provided.
5. MANUAL TASKS
Components within this design with a mass in excess of 25kg should be lifted by two or more workers or by mechanical lifting device. Where this is not practical, suppliers or fabricators should be required to limit the component mass
All material packaging, building and maintenance components should clearly show the total mass of packages and where practical all items should be stored on site in a way which minimises bending before lifting. Advice should be provided on safe lifting methods in all areas where lifting may occur. Construction, maintenance and demolition of this building will require the use of portable tools and equipment. These should be fully maintained in accordance with manufacturer's specifications and not used where faulty or (in the case of electrical equipment) not carrying a current electrical safety tag. All safety guards or devices should be regularly checked and Personal Protective Equipment should be used in accordance with manufacturer's specification.
6. HAZARDOUS SUBSTANCES
ASBESTOS
For alterations to a building constructed prior to 1990: If this existing building was constructed prior to: asbestos 1990 - it therefore may contain asbestos 1986 - it therefore is likely to contain either in cladding material or in fire retardant insulation material. In either case, the builder should check and, if necessary, take appropriate action before demolishing, cutting, sanding, drilling or otherwise disturbing the existing structure.
POWDERED MATERIALS
Many materials used in the construction of this building can cause harm if inhaled in powdered form. Persons working on or in the building during construction, operational maintenance or demolition should ensure good ventilation and wear Personal Protective Equipment including protection against inhalation while using powdered material or when sanding, drilling, cutting or otherwise disturbing or creating powdered material.
TREATED TIMBER
The design of this building may include provision for the inclusion of treated timber within the structure. Dust or fumes from this material can be harmful. Persons working on or in the building during construction, operational maintenance or demolition should ensure good ventilation and wear Personal Protective Equipment including protection against inhalation of harmful material when sanding, drilling, cutting or using treated timber in any way that may cause harmful material to be released. Do not burn treated timber.
VOLATILE ORGANIC COMPOUNDS
Many types of glue, solvents, spray packs, paints, varnishes and some cleaning materials and disinfectants have dangerous emissions. Areas where these are used should be kept well ventilated while the material is being used and for a period after installation. Personal Protective Equipment may also be required. The manufacturer's recommendations for use must be carefully considered at all times.
SYNTHETIC MINERAL FIBRE
Fibreglass, rockwool, ceramic and other material used for thermal or sound insulation may contain synthetic mineral fibre which may be harmful if inhaled or if it comes in contact with the skin, eyes or other sensitive parts or the body. Personal Protective Equipment including protection against inhalation of harmful material should be used when installing, removing or working near bulk insulation material.
TIMBER FLOORS
This building may contain timber floors which have an applied finish. Areas where finishes are applied should be kept well ventilated during sanding and application and for a period after installation. Personal Protective Equipment may also be required. The manufacturer's recommendations for use must be carefully considered at all times.
7. CONFINED SPACES
EXCAVATION
Construction of this building and some maintenance on the building will require excavation and installation of items within excavations. Where practical, installation should be carried out using methods which do not require workers to enter the excavation. Where this is not practical, adequate support for the excavated area should be provided to prevent collapse. Warning signs and barriers to prevent accidental or unauthorised access to all excavations should be provided.
ENCLOSED SPACES
For buildings with enclosed spaces where maintenance or other access may be required: Enclosed spaces within this building may present a risk to persons entering for construction, maintenance or any other purpose. The design documentation calls for warning signs and barriers to unauthorised access. These should be maintained throughout the life of the building. Where workers are required to enter enclosed spaces, air testing equipment and Personal Protective Equipment should be provided.
SMALL SPACES
For buildings with small spaces where maintenance or other access may be required:
Some small spaces within this building will require access by construction or maintenance workers. The design documentation calls for warning signs and barriers to unauthorised access. These should be maintained throughout the life of the building. Where workers are required to enter small spaces they should be scheduled so that access is for short periods. Manual lifting and other manual activity should be restricted in small spaces.
8. PUBLIC ACCESS
Public access to construction and demolition sites and to areas under maintenance causes risk to workers and public. Warning signs and secure barriers to unauthorised access should be provided. Where electrical installations, excavations, plant or loose materials are present they should be secured when not fully supervised.
9. OPERATIONAL USE OF BUILDING
RESIDENTIAL BUILDINGS
This building has been designed as a residential building. If it, at a later date, it is used or intended to be used as a workplace, the provisions of the Work Health and Safety Act 2011 or subsequent replacement Act should be applied to the new use.
10.OTHER HIGH RISK ACTIVITY
Code All electrical work should be carried out in accordance with of Practice:
Managing Electrical Risks at the Workplace, AS/NZ and all licensing requirements. 3012 All work using Plant should be carried out in accordance with Code of Practice:
Managing Risks of Plant at the Workplace. Code of All work should be carried out in accordance with Practice:
Managing Noise and Preventing Hearing Loss at Work. Due to the history of serious incidents it is recommended that particular care be exercised when undertaking work involving steel construction and concrete placement. All the above applies.
EXCAVATIONS
1.Excavations
The part of the site to be covered by the proposed building or buildings and an area at least 1000mm wide around that part of the site or to boundaries of the site, whichever is the lesser, shall be cleared or graded as indicated on the site works plan.
Top soil shall be cut to a depth sufficient to remove all vegetation. Excavations for all footings shall be in accordance with the Engineer's Recommendations or the BCA requirements.
FOUNDATIONS AND FOOTINGS
1. Underfloor Fill
Underfloor fill shall be in accordance with the BCA.
2. Termite Risk Management
Termite treatment shall be carried out in accordance with the BCA.
3. Vapour Barrier
The vapour barrier installed under slab-on-ground construction shall be 0.2mm nominal thickness, high impact resistance polyethylene film installed in accordance with the BCA.
4. Reinforcement
Reinforcement shall conform and be placed in accordance with the Engineer's Recommendation and the BCA.
Support to all reinforcement shall be used to correctly position and avoid any undue displacement of reinforcement during the concrete pour.
5. Concrete
Structural shall not be less than Grade N20 except otherwise approved by the engineer and in accordance with the BCA.
6. Curing
All concrete slabs shall be cured in accordance with AS 3600.
7. Footings and Slabs on Ground
Concrete slabs and footings shall not be poured until approval to pour concrete is given by the engineer or the *Local Authority*.
8. Sub-Floor Ventilation
Where required, adequate cross ventilation will be provided to the space under suspended ground floor. Construction is to meet the requirements of the BCA. No section of the under floor area wall to be constructed in such manner that will hold pockets of still air.
9. Sub-Floor Access
If required, access will be provided under suspended floors in position where indicated on plan.
EFFLUENT DISPOSAL/DRAINAGE
1. Storm Water Drainage
Stormwater drainage shall be carried out in accordance with the BCA. The Builder will allow for the supplying and laying of stormwater drains where shown on the site plan.
TIMBER FRAMING
1. Generally
All timber framework sizes, spans, spacing, notching, checking and fixing to all floor, wall and roof structure shall comply with the BCA or AS 1684. Alternative structural framing shall be to structural engineer's details and certification.
The work shall be carried out in a proper and trades personal like manner and shall be in accordance with recognised and accepted building practices.
2. Roof Trusses
Where roof truss construction is used, trusses shall be designed in accordance with AS 1720 and fabricated in a properly equipped factory and erected, fixed and braced in accordance with the fabricator's written instructions.
3. Bracing
Bracing units shall be determined and installed in accordance with AS 1684 as appropriate for the design wind velocity for the site. Bracing shall be evenly distributed throughout the building.
4. Flooring
Floor joists will be covered with strip or sheet flooring as shown on plan with particular regard to ground clearance and installation in wet areas as required by the BCA. Thickness of the flooring is to be appropriate for the floor joist spacing.
Strip and sheet flooring shall be installed in accordance with AS 1684.
When listed in Schedule of Works, floors shall be sanded to provide an even surface and shall be left clean throughout.
5. Timber Posts
Posts supporting the carports, verandas and porches shall be timber suitable for external use, or as otherwise specified, supported on glavanised or treated metal post shoes, unless otherwise specified. Posts shall be bolted to all adjoining beams as required by AS 1684 for the wind speed classification assessed for the site.
6. Corrosion Protection
All metal brackets, facing plates and other associated fixings used in structural timber joints and bracing must have appropriate corrosion protection.
STEEL FRAMING
1. Generally
Steel floor, wall or roof framing shall be installed in accordance with the manufacturer's recommendations and the BCA.
ROOFING
All roof cladding is to comply with the relevant structural performance and weathering requirements of the BCA and be installed as per the manufacturer's recommendations.
1.Tiled Roofing
The Builder will cover the roof of the dwelling with approved tiles as selected. The tiles are to be fixed (as required for appropriate design and wind speed) to battens of sixes appropriate to the spacing of rafters/trusses in accordance with the manufacturer's recommendations. The Builder will cover hips and ridges with capping and all necessary accessories including starters and apex caps. Capping and verge tiles are to be well bedded and neatly pointed. Roofing adjacent to valleys should be fixed so as to minimise water penetration as far as practicable. As roof tiles are made of natural products slight variation in colour is acceptable.
2. Metal Roofing
The *Builder* will provide and install a metal roof together with accessories all in accordance with the manufacturer's recommendations.
Except where design prohibits, sheets shall be in single lengths from fascia to ridge. Fixing sheets shall be strictly in accordance with the manufacturer's recommendation as required for the appropriate design and wind speed. Incompatible materials shall not be used for flashings, fasteners or downpipes.
3. Gutters and Downpipes
Gutters and downpipes shall be manufactured and installed in accordance with the BCA. Gutters and downpipes are to be compatible with other materials used.
4. Sarking
Sarking under roof coverings must comply with and be fixed in accordance with manufacturer's recommendations.
5. Sealants
Appropriate sealants shall be used where necessary and in accordance with manufacturer's recommendations.
6. Flashing
Flashings shall comply with, and be installed in accordance with the BCA.
MASONRY
1. Damp Proof Courses
All damp proof courses shall comply with the BCA and Clause 1.0.10. The damp proof membrane shall be visible in the external face of the masonry member in which it is placed and shall not be bridged by any applied coatings, render or the like.
2. Cavity Ventilation
Open vertical joints (weepholes) must be created in the course immediately above any DPC or flashing at centres not exceeding 1.2m and must be in accordance with the BCA.
3. Mortar and Joining
Mortar shall comply with the BCA. Joint tolerances shall be in accordance with AS 3700.
4. Lintels
Lintels used to support brickwork opening in walls must be suitable for the purpose as required by the BCA. The *Builder* will provide one lintel to each wall leaf. The *Builder* will provide corrosion protection in accordance with the BCA Part 3.4.4 as appropriate for the site environment and location of the lintels in the structure.
5. Cleaning
The *Builder* will clean all exposed brickwork with an approved cleaning system. Care should be taken not to damage brickwork or joints and other fittings.
CLADDING AND LININGS
1. External Cladding
Sheet materials or other external cladding shall be fixed in accordance with the manufacturer's recommendations and any applicable special details.
Where required in open verandas, porches and eave soffits, materials indicated on the plans shall be installed.
2.Internal Wall and Ceilings Linings
The *Builder* will provide gypsum plasterboards or other selected materials to walls and ceilings. Plasterboard sheets are to have recessed edges and will be a minimum of 10mm thick. Internal angles in walls from floor to ceiling are to be set. Suitable cornice moulds shall be fixed at the junction of all walls and ceilings or the joint set as required. The lining of wet area and walls shall be constructed in accordance with the BCA. Wet area lining is to be fixed in accordance with the manufacturer's recommendations. The ceiling access hole shall be of similar material to the adjacent ceiling.
3.Waterproofing
All internal wet area and balconies over internal habitable rooms are to be waterproof in accordance with the BCA.
JOINERY
1. General
All joinery work (metal and timber) shall be manufactured and installed according to accepted building practices.
2. Door Frames
External door frames shall be a minimum of 32mm thick solid rebated 12mm deep to receive doors. Internal jamb linings shall be a minimum of 18mm thick fit with 12mm thick door stops. Metal doorframes shall be installed where indicated on drawings in accordance with the manufacturer's recommendations.
3. Doors and Doorsets
All internal and external timber door and door sets shall be installed in accordance with accepted building practices. Unless listed otherwise in the Schedule of Works, doors and door sets shall be manufactured in accordance with AS 2688 and AS 2689.
4. Window and Sliding Doors
Sliding and other timber windows and doors shall be manufactured and installed in accordance with AS 2047.
Sliding and other aluminium windows and the doors shall be installed in accordance with manufacturer's recommendations and AS 2047.
All glazing shall comply with the BCA and any commitments outlined in the relevant BASIX Certificate.
5. Stairs, Balustrades and other Barriers
The *Builder* will provide stairs or ramps to any change in levels, and balustrades or barriers to at least one side of ramps, landings and balconies as per the BCA.
SERVICES
1.Plumbing
All plumbing shall comply with the requirements of the relevant supply authority and AS 3500. The work is to be carried out by a licensed plumber.
Fittings, as listed in the Schedule of Works, shall be supplied and installed to manufacturer's recommendations. Fittings, hot water system and any rainwater harvesting facilities shall be appropriate to satisfy any commitment outlined in the relevant BASIX Certificate.
2.Electrical
The *Builder* will provide all labour and materials necessary for the proper installation of the electricity service by a licensed electrician in accordance with AS/NZS 3000 and the requirements of the relevant supply authority. Unless otherwise specified, the electrical service shall be 240 volt, single phase supply.
3.Gas
All installation (including LPG) shall be carried out in accordance with the rules and requirements of the relevant supply authority.
4.Smoke Detectors
The *Builder* will provide and install smoke alarms manufactured in accordance with AS 3786 AS specified or as indicated on the plans and in accordance with the BCA.
5.Thermal Insulation
Where thermal insulation is used in the building fabric or services, such as air conditioning ducting or hot water systems, it shall be installed in accordance with manufacturer's recommendations to achieve the R-Values required by the BCA or as outlined in the relevant BASIX Certificate.
TILING
1.Materials
Cement mortar and other adhesives shall comply with AS 3958.1 or tile manufacturer's recommendation.
2.Installation
Installation of tiles shall be in accordance with AS 3958.1, manufacturer's recommendations or accepted building practices. Where practicable, spacing between tiles should be even and regular. The *Builder* will provide expansion joints where necessary. All vertical and horizontal joints between walls and fixtures e.g. bench top, bath, etc. and wall/floor junctions to be filled with flexible mould resistant sealant. All joints in the body of tiled surfaces shall be neatly filled with appropriate grout material as specified by the tile manufacturer or accepted building practice. As tiles are made of natural products a slight variation in colour is acceptable.

collinswcollins PTY LTD
Building Designers

PROJECT: DUAL OCCUPANCY - TORRENS
LOT No: 47 DP No: 246284
STREET No: 29
STREET NAME: FRANCIS STREET, PORT MACQUARIE
SHEET: 23 OF 23
CLIENT: MARKOV

WORK SAFETY NOTES

SCALE:	1 : 100
SHEET SIZE:	A3
START DATE:	18.12.19
DWG No:	D4354

DRAWING REVISION + NOTES

Date:	Revision Description:	Issue:	Drawn:
18.12.19	INITIAL ISSUE	A	DC
15.09.20	D1 UPPER PUSHED BACK	E	MS
04.06.21	SURVEY	T	MS
29.07.21	UPDATED GARAGE	V	DC, DP

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Rev U

Rev V

Item: 06

Subject: DA2019 - 324 INDUSTRIAL SUBDIVISION LOT 21 DP 811254 BAGO ROAD, WAUCHOPE

Report Author: Development Assessment Planner, Fiona Tierney

Applicant:	**Hopkins Consultants**
Owner:	**Kempsey Timbers (Sawmilling) Pty Ltd**
Estimated Cost:	**$2.85M**
Parcel no:	**17809**

Alignment with Delivery Program

4.3.1 Undertake transparent and efficient development assessment in accordance with relevant legislation.

RECOMMENDATION

That DA 2019 - 324 for an Industrial Subdivision at Lot 21, DP 811254, Bago Road, Wauchope, be determined by granting consent subject to the recommended conditions.

Executive Summary

This report considers a development application for an Industrial Subdivision at the subject site and provides an assessment of the application in accordance with the Environmental Planning and Assessment Act 1979.

The application was previously reported to the Development Assessment Panel on 11 December 2019 where it was recommended that the application be deferred. The consensus and recommendation as follows:

> *"That DA2019 - 324 for an Industrial Subdivision at Lot 21,DP 811254, Bago Road, Wauchope, be deferred to enable the applicant to address the following:*
> *1. Provide the relevant owner's consent for sewer infrastructure required to service the development.*
> *2.Provide additional information on traffic safety relating to the intersection with Bago Road and sight lines for entering and egressing the property."*

With regard the above resolution point 1 above, the applicant has proposed an alternative sewer strategy **(Attachment 5)** incorporating a sewer pumping station and sewer rising main that does not require the access or consent of the adjoining land owner. Following a considerable amount of time and investigation, this arrangement is considered acceptable and recommended to be supported.

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With regard the above resolution point 2 above, the applicant has provided additional information **(Attachment 6)** to address traffic safety which has been assessed as being satisfactory and is recommended to be supported.

The application was not required to be re-advertised however during the original exhibition of the application, 5 submissions were received.

The site is considered suitable for the proposed development and the proposal adequately addresses relevant planning controls. The development is not considered to be contrary to the public's interest and will not result a significant adverse social, environmental or economic impact.

This report recommends that the development application be approved subject to the conditions included here as **Attachment 1**.

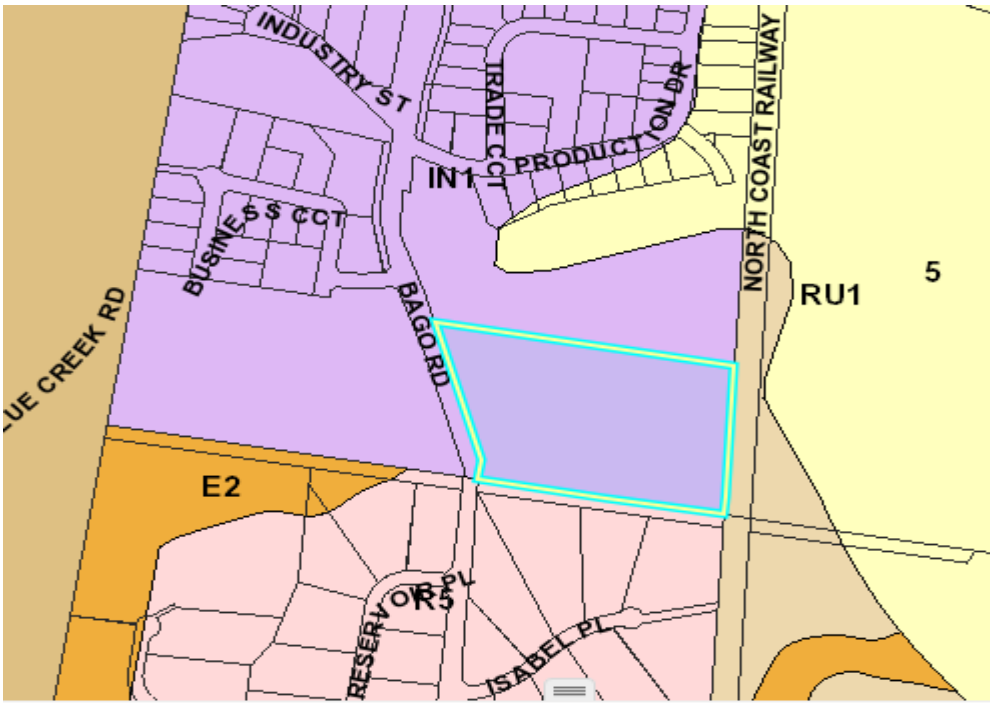
The reason for the application being referred to Council's Development Assessment Panel (DAP) is because three (3) or more objections to the proposal were received and due to the request by DAP for additional information. A copy of the DAP Charter outlining the delegations and functions of the DAP is available on Council's website.

1. BACKGROUND

Existing Sites Features and Surrounding Development

The site has an area of 8.097Ha.

The site is zoned INI- General Industrial in accordance with the Port Macquarie-Hastings Local Environmental Plan 2011, as shown in the following zoning plan:



The existing subdivision pattern and location of existing development within the locality is shown in the following aerial photograph:

2. DESCRIPTION OF DEVELOPMENT

Key aspects of the proposal include the following:

- Staged Industrial Subdivision- Stage 1- Lots 1-16, Stage 2- Lots 17-29, Stage 3- Lots 30-35, Stage 4- Lots 36-40.
- Construction of acoustic wall southern boundary.
- Sewer pump station and sewer rising main

Refer to **Attachment 4** at the end of this report for plans of the proposed development.

Application Chronology

- 7 May 2019 - Application lodged.
- 16-29 May 2019 - Neighbour notification.
- 12 June 2019 - Response to submissions.
- 11 July 2019 - BDAR Review received NSW Planning, Industry and Environment
- 15 July 2019 - Additional information noise barrier requested.
- 2 August 2019 - Discounted offset request denied
- 11 September 2019 - Amended Traffic Impact Assessment received - sight distances.
- 1 October 2019 - Amended fence detail received.
- 9 October 2019 - Amended BDAR response Hopkins.
- June 2021- Amended Sewer Servicing Strategy received.

3. STATUTORY ASSESSMENT

Section 4.15(1) Matters for Consideration

In determining the application, Council is required to take into consideration the following matters as are relevant to the development that apply to the land to which the development application relates:

(a) The provisions (where applicable) of:

(i) Any Environmental Planning Instrument

State Environmental Planning Policy No. 44 - Koala Habitat Protection

In accordance with clauses 6 and 7, the subject land has an area of more than 1 hectare in size (including any adjoining land under same ownership) and therefore the provisions of SEPP must be considered.

SEPP 44 defines "*core koala habitat*", as "*an area of land with a resident population of koalas, evidenced by attributes such as breeding females (that is, females with young) and recent sightings of and historical records of a population*".

A report prepared by Biodiversity Australia has been submitted that identifies that the site contains Tallowwood which is listed as a locally preferred Koala primary browse tree. Tallowwoods comprise >15% of the canopy species on the site. As such the site qualifies as Potential Koala Habitat and a Core Koala Habitat Assessment was required.

The ecology report identifies the site contains potential foraging resources for Koalas. A field survey including scat searches, spotlighting and call playback were undertaken within the site which failed to identify any evidence of Koalas or Koala scats. No recent sightings or historical recordings were identified. The area is therefore not defined as Core Koala Habitat.

State Environmental Planning Policy No. 55 – Remediation of Land

Following an inspection of the site and a search of Council records, the subject land is not identified as being potentially contaminated and is suitable for the intended use.

State Environmental Planning Policy No. 62 – Sustainable Aquaculture

Given the nature of the proposed development and proposed stormwater controls, the proposal is unlikely to have any adverse impact on existing aquaculture industries.

State Environmental Planning Policy (Infrastructure) 2007

The application does not have frontage to a classified road and does not trigger any relevant clauses under the SEPP.

Port Macquarie-Hastings Local Environmental Plan 2011

The proposal is consistent with the LEP having regard to the following:

- Clause 2.2. The subject site is zoned IN1-General Industrial.

- Clause 2.3(1) and the IN1 zone land use table -

  The proposed development for a staged industrial subdivision is a permissible land use with consent. The objectives of the IN1 zone are as follows:

  - To provide a wide range of industrial and warehouse land uses.
  - To encourage employment opportunities.
  - To minimise any adverse effect of industry on other land uses.
  - To support and protect industrial land for industrial uses.
  - To enable other land uses that provide facilities or services to meet the day to day needs of workers in the area.
- Clause 2.3(2) - The proposal is consistent with the zone objectives having regard to the following:

  - the proposal is a permissible land use.
  - the proposal will provide additional land for industrial use and economic benefits to the community.

- Clause 4.1 - The lot sizes within the proposed subdivision range from 1000m2 to 2130m2. All proposed lots comply with the minimum lot sizes identified in the Lot Size Map relating to the site.
- Clause 5.10 - The site does not contain or adjoin any known heritage items or sites of significance.

  - the site does not contain any known items of aboriginal or other cultural significance.
  - appropriate conditions of consent are proposed to manage the impact of the works.

- Clause 7.13 - Satisfactory arrangements are in place for provision of essential services including water supply, electricity supply, sewer infrastructure, stormwater drainage and suitable road access to service the development. Significant investigations have been undertaken to address sewerage servicing for the subdivision particularly since reporting the matter previously to DAP. Provision of electricity will be subject to obtaining satisfactory arrangements certification prior to the issue of a Subdivision Certificate as recommended by a condition of consent.

(ii) Any draft instruments that apply to the site or are on exhibition

No draft instruments apply to the site.

(iii) Any Development Control Plan in force

Port Macquarie-Hastings Development Control Plan 2013

Chapter 3.6 Subdivision			
Objective	**Provisions**	**Comments**	**Complies**
3.6.3.38	Any industrial allotment created by Torrens title subdivision should satisfy the following standards:	Minimum subdivision lots and sizes and dimensions generally complies with the requirements.	Variations considered acceptable.

	• Comply with minimum subdivision requirements of clause 4.1 of LEP 2011. • Minimum width of 20m. • Minimum depth of 40m. • The depth to width ratio should not exceed 3 to 1.		
	Lots are to be generally rectangular in shape and lot boundaries should have regard to the landform and the character of the site.	Lots are generally rectangular in shape and boundaries have regard to the landform and character of the site, including existing access locations.	Yes
	Battleaxe allotments should not be permitted.	There are no battle-axe lots proposed.	Yes
3.6.3.39	All water and sewer services are to be constructed in accordance with Council's Aus-Spec design specifications. Subsequent development of the land may require the installation of a larger water service when the potential water demand is known.	See comments later in this report under Water Supply Connection.	
	Industrial subdivision should not be supported on land with slope greater than 15%.	The slope of the lot is less than 15%.	Yes
3.6.3.40	Lots are to front constructed, dedicated roads.	The lots will front a constructed, dedicated road.	Yes
	Street layout and design should be in accordance with current Council's Aus-Spec design specifications.		Yes
	Cul-de-Sacs in industrial estates should not be approved unless a 5 metre wide laneway with a minimum 4 metre wide carriageway is provided to a public road, to permit through vehicular access.	N/A	N/A

DCP 2013: General Provisions			
DCP Objective	**Development Provisions**	**Proposed**	**Complies**
2.7.2.2	Design addresses generic principles of Crime Prevention Through	The proposed development will be unlikely to create any	Yes

	Environmental Design guideline: • Casual surveillance and sightlines • Land use mix and activity generators • Definition of use and ownership • Lighting • Way finding • Predictable routes and entrapment locations	concealment/entrapment areas or crime spots that would result in any identifiable loss of safety or reduction of security in the immediate area.	
2.3.3.1	Cut and fill 1.0m max. 1m outside the perimeter of the external building walls	The site may require up to 1.5m of cut to obtain suitable levels.	No- however considered acceptable in industrial location and well away from any other boundaries with suitable drainage proposed.
2.3.3.8 onwards	Removal of hollow bearing trees	The ecological assessment identifies that 2 hollow bearing trees are present on site and the trees scored 10 & 11.5 in accordance with the HBT assessment protocol. Both trees are identified within the development footprint and so are impractical to retain. The Applicant has proposed to provide 2 Glider nest boxes and 2 Microbat nest boxes within the remaining buffer vegetation on the site. Conditions requiring compliance with the recommendations of the ecology report are recommended.	Yes
2.6.3.1	Tree removal (3m or higher with 100mm diameter trunk and 3m outside building footprint	The proposal includes removal of existing trees to establish practical building envelopes for future development on each of the lots. The tree removal includes 22 Koala food trees,	Variation considered acceptable noting conditions of consent requiring

		all of which have DBH > 150mm and are required to be offset in accordance with the DCP (2:1 ratio). Compliance with the biodiversity scheme is considered to justify variation to the DCP. Conditions are recommended confirming these requirements.	compliance with biodiversity offset scheme.
2.4.3	Bushfire risk, Acid sulphate soils, Flooding, Contamination, Airspace protection, Noise and Stormwater	Refer to main body of report.	
2.5.3.2	New accesses not permitted from arterial or distributor roads. Existing accesses rationalised or removed where practical	No excessive new accesses proposed.	Yes
2.5.3.11	Section 94 contributions	Refer to main body of report.	

(iii)(a) Any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4

No planning agreement has been offered or entered into relating to the site.

(iv) Any matters prescribed by the Regulations

Not applicable.

(b) The likely impacts of that development, including environmental impacts on both the natural and built environments, social and economic impacts in the locality

The existing site has a general western street frontage orientation to Bago Road. Adjoining the site to the north and east are industrial subdivisions.

Adjoining the site to the south is a rural residential subdivision

Adjoining the site to the west is the north coast railway and rural land.

The proposal will be unlikely to have any adverse impacts to existing adjoining properties and satisfactorily addresses the public domain.

The proposal is considered to be consistent with other development in the locality and adequately addresses planning controls for the area.

There are no significant adverse privacy impacts.

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Roads
The site has road frontage to Bago Road. Adjacent to the site Bago Road is a sealed public road under the care and control of Council. Bago road is a Sub-arterial road with a 6.5m road formation within a 25m road reserve.

Traffic and transport
The application includes a Traffic Impact Assessment from Streetwise Road Safety & Traffic Services on 23/4/2019. Findings of the study determined:

"This assessment has determined that Bago Road and the local road network has the capacity to cater for the future traffic volumes generated by the proposed industrial development, with safety, efficiency and with minimal impacts. The following recommendations should be considered to further improve road safety in the vicinity of the future industrial development:

- *Construct the proposed intersection as prepared by Hopkins Consultants and included in Appendix B of this report. Ensure the layout caters for vehicles up to and, including, semi-trailers. Ensure the intersection is well delineated with appropriate line-marking and reflectors. Monitor the intersection regularly and refresh line-marking regularly.*
- *Provide signage on Bago Road, at both north and south approaches, to ensure drivers are aware of the upcoming intersection.*
- *Bago Road should be monitored and maintained regularly to ensure roadside vegetation that may reduce sight distance in the vicinity of the development is removed or otherwise controlled.*
- *To maximise sight distance and improve awareness of vehicles utilising the future intersection, it is recommended that:*
  1. *The grass and other vegetation on the opposite side of Bago Road be removed or regularly maintained*
  2. *The existing Bago Road be widened to include a minimum 1m wide sealed shoulder*
  3. *Signage be provided on Bago Road, on both approaches to the future intersection, to warn motorists of the upcoming intersection.*
- *Consideration should also be given to reducing the current 80kmh speedzone on Bago Road to 60 or 70kmh, to reduce the sight distance requirements, but also in regard to:*
  1. *The current alignment with multiple curves and undulations in the vicinity of the industrial precinct*
  2. *The number of existing roadside hazards within the 80kmh clear-zone*
  3. *The number of intersections within the existing industrial precinct, particularly the sub-standard intersection with King Creek Road*
  4. *The minimal width of Bago Road, and lack of edge-lines and other delineation.*

In summary, StreetWise recommend that the proposed industrial development as being a suitable development, given that the number of vehicle trips to be generated by the development will not have a significant impact on the efficiency or safety of the local road network, and that the local roads and intersections have the capacity to cater for the additional trips generated by the development."

In this regard appropriate conditions have been included in **Attachment 1** to provide for the intersection line marking and signage. Roadside vegetation will be managed by Councils Road Maintenance department and scheduled with the rest of Bago

Road. Speed limit reduction is a matter for review by Councils Traffic Engineer and is not considered part of this application.

Additional information has been submitted to address traffic safety (Attachment 6) with the proposed new road connection to Bago Road following this matter being reported to DAP. This detail has been reviewed by Council's Development Engineering staff as being acceptable and the access arrangements are recommended to be supported.

Site frontage and access
Site frontage to Bago Road requires the construction of an intersection. Preliminary designs have been included and appear satisfactory and are consistent with the existing intersection located at Production Drive. Sight distance in both directs exceeds the 181m required under Austroads requirements for intersections. Appropriate conditions have been included.

Water supply connection
Council records indicate the proposed development can be serviced by the 150mm PVC water main on Bago Road. The required extension of the water main to supply the development site is to be at no cost to Council.

A new metered water service will be required for each allotment as part of the Torrens Title Subdivision.

Final water service sizing will need to be determined by a hydraulic consultant to suit the development as well as addressing fire service coverage to AS 2419 and backflow protection.

Detailed plans will be required to be submitted for assessment with the S.68 application.

Refer to relevant conditions of consent included in **Attachment 1**.

Sewer connection
A sewer main extension is required to service the proposed development and this to be constructed at no cost to Council. Details are to be provided on the engineering plans. Owner's consent of all affected property owners must be provided to Council with any Infrastructure Construction Certificate application for subdivision works.

A separate sewer connection to Councils main is required for each Torrens Title lot. Refer to relevant conditions of consent included in **Attachment 1**.

Stormwater
The site naturally grades towards the north-west and south eastern corners and has a crest traversing the site. It is currently unserviced and drains out to Bago Road and to North Coast Rail Corridor at the rear.

The legal point of discharge for the proposed development is defined as discharge (not exceeding pre development flows) to Bago Road and North Coast Rail Corridor. Stormwater from the proposed development is planned to be disposed via two retention basins, which is consistent with the above requirements.

A detailed site stormwater management plan will be required to be submitted for assessment with the S.68 application and prior to the issue of a CC.

In accordance with Councils AUSPEC requirements, the following must be incorporated into the stormwater drainage plan:

- On site stormwater detention facilities *(**Comment -** for new commercial and industrial development PLUS residential developments including the creation of greater than 2 homes / units)*
- Water quality controls (***Comment -** where development results in greater than 2500m2 impervious area)*
- Provision of interallotment drainage to allow the proposed development to drain to the nominated point of discharge via a single suitably sized conduit (***Comment** - where more than one dwelling is proposed and a direct point of connection is not already available for each allotment**)***

The site naturally grades towards the north-west and south eastern corners and has a crest traversing the site. It is currently unserviced and drains out to Bago Road and to North Coast Rail Corridor at the rear.

Other utilities
Telecommunication and electricity services are available to the site.

Heritage
Following a site inspection and review of council records, no known items of Aboriginal or European heritage significance exist on the property. No adverse impacts anticipated.

Other land resources
The site is within an established urban context and will not sterilise any significant mineral or agricultural resource.

Water cycle
The proposed development will be unlikely to have any adverse impacts on water resources and the water cycle.

Soils
The proposed development will be unlikely to have any adverse impacts on soils in terms of quality, erosion, stability and/or productivity subject to a standard condition requiring erosion and sediment controls to be in place prior to and during construction.

Air and microclimate
The construction and/or operations of the proposed development will be unlikely to result in any adverse impacts on the existing air quality or result in any pollution. Standard precautionary site management condition recommended.

Flora and fauna
The proposed development includes clearing of approximately 7.8 ha. of native vegetation. The Biodiversity Offset Scheme applies for the following reasons:

- The extent of clearing is above the thresholds in Clause 7.2 of the Biodiversity Conservation Regulation 2017;

Minimum lot size of land (LEP Lot Size Map)	**Area of Clearing**
Less than 1 hectare	0.25 hectare or more

The Applicant has submitted a Biodiversity Development Assessment Report prepared by an authorised person. The report has been reviewed and it is considered that adequate measures have been taken to avoid or minimise impacts, and the development would not result in serious and irreversible impacts on biodiversity.

The development will require the retirement of the following ecosystem credits and/or species credits to offset the impacts of the development:

Impacted plant community type	Number of ecosystem credits	IBRA sub-region	Plant community type(s) that can be used to offset the impacts from development
1268-Tallowwood open forest of the coastal ranges of the NSW North Coast Bioregion	15	Macleay Hastings,Carrai Plateau, Coffs Coast and Escarpment, Comboyne Plateau, Karuah Manning, Macleay Gorges, Mummel Escarpment and Upper Manning. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.	Northern Hinterland Wet Sclerophyll Forests (including PCT's 690, 697, 698, 755, 1092, 1262, 1267, 1268, 1281, 1385, 1548, 1549, 1550, 1556, 1557, 1558, 1564, 1565, 1580, 1582, 1584, 1585, 1845, 1846, 1847, 1914) And in any of below trading groups Northern Hinterland Wet Sclerophyll Forests - < 50% cleared group (including Tier 7 or higher).

Conditions have been recommended requiring evidence of retirement of the relevant credits prior to the commencement of any clearing on the land.

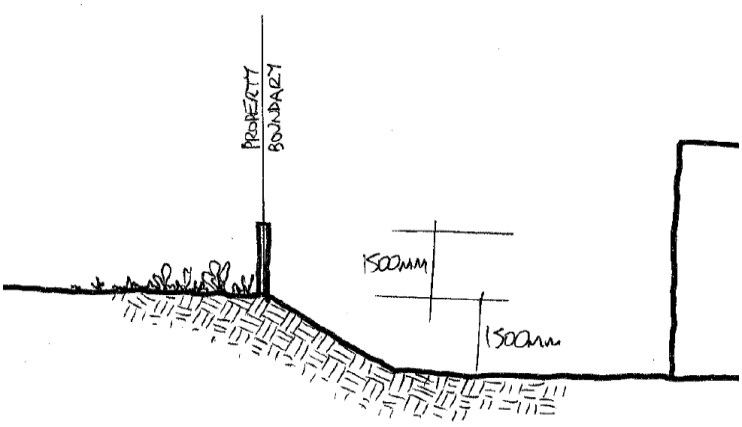
Waste
Satisfactory arrangements are in place for proposed storage and collection of waste and recyclables. No adverse impacts anticipated. Standard precautionary site management condition recommended.

Energy
The proposal includes measures to address energy efficiency and will be required to comply with the requirements of BASIX or Section J of the Building Code of Australia. No adverse impacts anticipated.

Noise and vibration
It is proposed to construct a forty (40) lot industrial estate on a largely cleared lot on Bago Road adjacent to other industrial areas to the North & NW (Business Circuit & Production Drive) and residential development in Reservoir & Isabel Places to the south & south west.

There is an easement approximately 20m wide along the southern boundary with the residences in Isabel Place. Lots have been constructed with designated building envelopes that provide for additional buffer distance between the industrial and

residentially zoned land. It was proposed to construct a 3m high noise attenuation barrier (ie fence) along the southern boundary as part of the development, as soon as possible/practical after the necessary site establishment and earthworks have been completed. During the advertising process concerns were raised in relation to the height of the retaining wall and the visual impact this would have within the landscape. Discussions with the applicant and the acoustic consultant showed that the excavation within the site would lower the requirements for the noise wall to 1.5-2m. The acoustic engineer has verified and modified his report.



SEPP (Exempt & Complying) Schedule 8 "Conditions applying to complying development certificates under the Commercial and Industrial (New Buildings and Additions) Code" has Operational Requirements relating to hours of operation and noise which should, in theory, ensure required/relevant noise levels are achieved at the adjoining or nearby residences, and hours of operation are appropriate

Details of the noise barrier, including any landscaping or treatments should be submitted at CC stage.

It is considered unlikely that the proposed development will have any significant adverse environmental health impacts, subject to the imposition of conditions of consent as recommended.

Bushfire
The site is identified as being bushfire prone. Given the industrial nature of the subdivision, impacts are considered manageable. Adequate access and defendable space is available to the site.

Safety, security and crime prevention
The proposed development will be unlikely to create any concealment/entrapment areas or crime spots that would result in any identifiable loss of safety or reduction of security in the immediate area. Future development on the allotments will require security consideration.

Social impacts in the locality
Given the nature of the proposed development and its' location the proposal is unlikely to result in any adverse social impacts.

Economic impact in the locality
No adverse impacts. A likely positive impact is that the development will maintain employment in the construction industry, which will lead to flow impacts such as expenditure in the area. The development will facilitate future employment opportunities by providing industrial land.

Site design and internal design
The proposed development design satisfactorily responds to the site attributes and will fit into the locality. No adverse impacts likely.

Construction
No potential adverse impacts identified to neighbouring properties with the construction of the proposal.

Cumulative Impacts
The proposed development is not expected to have any adverse cumulative impacts on the natural or built environment or the social and economic attributes of the locality.

(c) The suitability of the site for the development

The proposal will fit into the locality and the site attributes are conducive to the proposed development.

Site constraints have been adequately addressed and appropriate conditions of consent recommended.

(d) Any submissions made in accordance with this Act or the Regulations

Four written submissions were received following public exhibition of the application. Copies of the written submissions have been provided separately to members of the DAP.

Key issues raised in the submissions received and comments are provided as follows:

Submission Issue/Summary	Planning Comment/Response
Oversupply of industrial units exists in the locality.	The proposed development is permissible in the zone to be constructed in four stages to cater to demand in an orderly manner.
3m high wall is an eyesore.	Applicant has lowered fencing to 2m from existing ground level. The proposed sites will be excavated up to 1.5m and the acoustic engineer has supported this with a revised assessment.
Access for B doubles inappropriate.	The Traffic Impact Assessment prepared by Streetwise Road Safety and Traffic Services concludes that “vehicles turning in and out of the future industrial subdivision should be able to do so safely and efficiently”. The intersection has been designed in accordance with Austroads guidelines and the proposed sight distances are acceptable.
Previous stage had issues with compliance.	Whilst it is noted concerns are raised, suitable conditions are proposed to be applied and

Submission Issue/Summary	Planning Comment/Response
	appropriate compliance action is available.
Noise assessment inaccurate because of train component.	No allowance has been factored into the acoustic assessment for the train component. Section 3.1.2 of the Acoustic Report states that the noise criteria specified for industrial sources "relate only to other continuous industrial-type noise and do not include road, rail or community noise".
Sewer is not available to the site.	Applicant has now submitted a revised sewer strategy incorporating a rising main and pump station. This has been assessed as being acceptable and recommended to be supported.

(e) The Public Interest

The proposed development satisfies relevant planning controls and will not adversely impact on the wider public interest.

Ecologically Sustainable Development and Precautionary Principle
Ecologically sustainable development requires the effective integration of economic and environmental considerations in decision-making processes.
The four principles of ecologically sustainable development are:

- the precautionary principle,
- intergenerational equity,
- conservation of biological diversity and ecological integrity,
- improved valuation, pricing and incentive mechanisms.

The principles of ESD require that a balance needs to be struck between the man-made development and the need to retain the natural vegetation. Based on the assessment provided in the report and with recommended conditions of consent, it is considered an appropriate balance has been struck.

Climate change
The proposal is not considered to be vulnerable to any risks associated with climate change.

4. DEVELOPMENT CONTRIBUTIONS APPLICABLE

Development contributions will not be required under S64/S7.11 for the following reasons:

- The site is for an industrial subdivision.
- Water and sewer contributions are applied at development stage for each of the lots based on approved use.

5. CONCLUSION AND STATEMENT OF REASON

The application has been assessed in accordance with Section 4.15 of the Environmental Planning and Assessment Act 1979.

PORT MACQUARIE HASTINGS COUNCIL

Issues raised during assessment and public exhibition of the application have been considered in the assessment of the application. Where relevant, conditions have been recommended to manage the impacts attributed to these issues.

The site is considered suitable for the proposed development and the proposal adequately addresses relevant planning controls. The development is not considered to be contrary to the public's interest and will not result a significant adverse social, environmental or economic impact. It is recommended that the application be approved, subject to the recommended conditions of consent provided in the attachment section of this report.

Attachments

1⇩. 2019 - 324.1 Draft Report Conditions 2 September 2021
2⇩. 2019 - 324.1 Bago Road Industrial Development TIA - Amended 110919
3⇩. 2019 - 324.1 Acoustic Report - Bago Rd, Wauchope
4⇩. 2019 - 324.1 Plans of Subdivision - Bago Rd, Wauchope
5⇩. 2019 - 324.1 7321-003-SEWER-SPS
6⇩. 2019 - 324.1 Bago Road intersection sight lines

FOR USE BY PLANNERS/SURVEYORS TO PREPARE LIST OF PROPOSED CONDITIONS - 2011

NOTE: THESE ARE DRAFT ONLY

DA NO: 2019/324 DATE: 2 September 2021

PRESCRIBED CONDITIONS

The development is to be undertaken in accordance with the prescribed conditions of Part 6 - Division 8A of the *Environmental Planning & Assessment Regulations* 2000.

A – GENERAL MATTERS

(1) (A001) The development is to be carried out in accordance with the plans and supporting documents set out in the following table, as stamped and returned with this consent, except where modified by any conditions of this consent.

Plan / Supporting Document	Reference	Prepared by	Date
SOEE	Job Ref:7321	Hopkins Consultants	May 2019
Proposed Subdivision Layout	7321-003-02	Hopkins Consultants	11 April 2019
Kempsey Timbers Industrial Subdivision - Bago Road, Wauchope, NSW DA Acoustic Assessment Report	20190215_ Kempsey Timbers Industrial subdivision, Bago Road_DA Version: Draft 2	Pulse Acoustic Consultancy	15 February 2019
Services Plan	7321-003-03	Hopkins Consultants	11April 2019
Road Alignment/ Intersection Plan	7321-003-04/05	Hopkins Consultants	11 April 2019
Ecology Report/BDAR		Biodiversity Australia	April 2019
Bushfire Threat Assessment		Hopkins Consultants	May 2019
Traffic Impact Assessment		Streetwise Road Safety and Traffic Services	April 2019 and as amended
Landscape Plan/entry feature		Hopkins Consultants	7 May 2019
Draft Sewer Strategy Plan		Hopkins Consultants	16 April 2021

In the event of any inconsistency between conditions of this development consent and the plans/supporting documents referred to above, the conditions of this development consent prevail.

(2) (A003) The proponent shall submit an application for a Subdivision Certificate for Council certification with all relevant documentation.

(3) (A004) An application for a Construction Certificate will be required to be lodged with Council prior to undertaking subdivision works and a Subdivision Certificate is required to be lodged with Council on completion of works.

(4) (A007) The development must only proceed in accordance with the approved stages as set out below:

- Stage 1: Lots 1-16 (including drainage basin 1)
- Stage 2: Lots 17-29 (including drainage basin 2)
- Stage 3: Lots 30-35
- Stage 4: Lots 36-40

Unless specified, the conditions of this consent will apply to all stages, with any decision on any discrepancy with conditions and associated staging resting with Council. Any decision to allow a change to staging will rest with Council along with applicable conditions and any contributions payable.

(5) (A008) Any necessary alterations to, or relocations of, public utility services to be carried out at no cost to council and in accordance with the requirements of the relevant authority including the provision of easements over existing and proposed public infrastructure.

(6) (A009) The development site is to be managed for the entirety of work in the following manner:

1. Erosion and sediment controls are to be implemented to prevent sediment from leaving the site. The controls are to be maintained until the development is complete and the site stabilised with permanent vegetation;
2. Appropriate dust control measures;
3. Building equipment and materials shall be contained wholly within the site unless approval to use the road reserve has been obtained. Where work adjoins the public domain, fencing is to be in place so as to prevent public access to the site;
4. Building waste is to be managed via appropriate receptacles into separate waste streams;
5. Toilet facilities are to be provided on the work site at the rate of one toilet for every 20 persons or part of 20 persons employed at the site.
6. Building work being limited to the following hours, unless otherwise permitted by Council;
   - Monday to Friday from 7.00am to 6.00pm
   - Saturday 8am to 1pm
   - No work to be carried out on Sunday or public holidays

   The builder to be responsible to instruct and control his sub-contractors regarding the hours of work.

(7) (A011) The design and construction of all public infrastructure works shall be in accordance with Council's adopted AUSPEC Specifications.

(8) (A032) The developer is responsible for any costs relating to minor alterations and extensions to ensure satisfactory transitions of existing roads, drainage and Council services for the purposes of the development.

(9) (N 195) The development will require the retirement of the following ecosystem credits prior to the clearing of any vegetation on the land:

Hinterland Wet Sclerophyll Forests - < 50% cleared group (including Tier 7 or higher).Credits and/or species credits under the Biodiversity Offset Scheme,

provisions of the Biodiversity Conservation Act 2016 to offset the impacts of the development: 1268-Tallowwood open forest of the coastal ranges of the NSW North Coast Bioregion - 15 Credits. Credits may be retired within the following IBRA sub-regions

- Macleay Hastings, Carrai Plateau, Coffs Coast and Escarpment, Comboyne Plateau, Karuah Manning, Macleay Gorges, Mummel Escarpment and Upper Manning. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site and Plant community type(s) that can be used to offset the impacts from development are,
- Northern Hinterland Wet Sclerophyll Forests (including PCT's 690, 697, 698, 755, 1092, 1262, 1267, 1268, 1281, 1385, 1548, 1549, 1550, 1556, 1557, 1558, 1564, 1565, 1580, 1582, 1584, 1585, 1845, 1846, 1847, 1914)And in any of below trading groups Northern

(10) (N 196) Evidence of retirement of the relevant credits prior to the commencement of any clearing on the land:

- 1268-Tallowwood open forest of the coastal ranges of the NSW North Coast Bioregion - 15 Credits

(11) The ameliorative measures detailed on pages 46 - 49 of the ecological impact assessment, prepared by Biodiversity Australia, dated April 2019, form part of this consent and shall be implemented at the respective stages throughout the development.

(12) (A052) All Sewage Pumping Stations are to be contained wholly within a separate lot dedicated to Council inclusive of constructed and sealed access handle to the public road. Any costs associated with the dedication shall be the responsibility of the proponent.

B – PRIOR TO ISSUE OF A CONSTRUCTION CERTIFICATE

(1) (B001) Prior to release of the Construction Certificate, approval pursuant to Section 68 of the Local Government Act, 1993 to carry out water supply, stormwater and sewerage works is to be obtained from Port Macquarie-Hastings Council. The following is to be clearly illustrated on the site plan to accompany the application for Section 68 approval:

- Position and depth of the sewer (including junction)
- Stormwater drainage termination point
- Easements
- Water main
- Proposed water meter location

(2) (B003) Submission to the Principal Certifying Authority prior to the issue of a Construction Certificate detailed design plans for the following works associated with the developments. Public infrastructure works shall be constructed in accordance with Port Macquarie-Hastings Council's current AUSPEC specifications and design plans are to be accompanied by AUSPEC DQS:

1. Road works along the frontage of the development.
2. New roads within the subdivision.
3. Earthworks, including filling of the land for flood protection.
4. Sewerage reticulation.
5. Water supply reticulation.
6. Water supply plans shall include hydraulic plans for internal water supply services and associated works in accordance with AS 3500, Plumbing Code of Australia and Port Macquarie-Hastings Council Policies.

7. Stormwater systems.
8. Erosion & Sedimentation controls.
9. Location of all existing and proposed utility services including:
    a. Conduits for electricity supply and communication services (including fibre optic cable).
    b. Water supply
    c. Sewerage
    d. Stormwater
10. Detailed intersection layout at the junction of Bago Road in accordance with the current version of the AUSTROADS guidelines for Intersection design, giving particular attention to sight distance.

(3) (B004) Road network within the subdivision is to be categorised with carriageway width as follows. Prior to release of the Construction Certificate such details are to be illustrated on the submitted plans.

Road No.	Road Width (Metres)					
	Shareway	Access	Local	Collector	Commercial	Industrial
3						23(13)

(4) (B006) An application pursuant to Section 138 of the Roads Act, 1993 to carry out works required by the Development Consent on or within public road is to be submitted to and approved by Port Macquarie-Hastings Council prior to release of the Construction Certificate.

Such works include, but not be limited to:

Civil works

Traffic management

Work zone areas

Hoardings

Concrete foot paving

Footway and gutter crossing

Functional vehicular access

Where works are proposed on an RMS classified facility, the Road Authority shall obtain RMS concurrence prior to any approval.

(5) (B007) Road names proposed for the development shall be submitted to Council prior to release of the Construction Certificate. A suitable name for any new road(s) shall be in accordance with the NSW Addressing User Manual.

(6) (B011) Prior to the issue of Construction or Subdivision Certificate (whichever occurs first), a Compliance Certificate under Section 307 of the Water Management Act 2000 must be obtained from the Water Authority.

Note1: Port Macquarie-Hastings Council is defined as a Water Supply Authority under section 64 of the Local Government Act 1993. As part of the Notice of Requirements of the Water Authority under Section 306 of the Water Management Act 2000, the payment of a cash contribution is required, prior to the issue of a Construction or Subdivision Certificate (whichever occurs first), of the Section 64 contributions, as set out in the "Notice of Payment – Developer

Charges" schedule attached to and included as part of this consent unless deferral of payment of contributions has been approved by Council. The contributions are levied in accordance with either the provisions of the relevant Section 64 Development Servicing Plan or a Planning Agreement.

Note 2: A Section 307 Compliance Certificate issued by the Water Authority at the construction certificate stage only relates to the payment of contributions in accordance with the Development Servicing Plan or a Planning Agreement. A further Compliance Certificate may be required for other water management works prior to occupation or the issue of an Occupation or Subdivision Certificate relating to the development.

Note 3: The Water Authority will accept payment of the equivalent amount of contributions under Section 608 of the Local Government Act 1993.

(7) (B016) Provision to each lot of a separate sewer line to Council's main. All work will need to comply with the requirements of Council's adopted AUSPEC Design and Construction Guidelines and Policies. Any abandoned sewer junctions are to be capped off at Council's sewer main and Council notified to carry out an inspection prior to backfilling of this work.

Construction details are to be submitted to Port Macquarie-Hastings Council with the application for Construction Certificate.

(8) (B021) A hydraulic strategy and plans are required from a hydraulic consultant for the whole of the development on the site stage by stage. Water service sizing is then to be determined by the hydraulic consultant to suit the proposed domestic and commercial components of the development, as well as addressing fire service requirements to AS 2419 and backflow protection requirements.

(9) (B030) Prior to issue of Construction Certificate, a pavement design report shall be prepared by a suitably qualified geotechnical or civil engineer and submitted to Council, including soil test results and in-situ CBR values (NATA certified). Council's minimum pavement compaction testing criteria are as follows:

a. 98% (modified) base layers - Maximum Modified Dry Density test in accordance with AS1289.5.2.1

b. 95% (modified) sub-base layers - Maximum Modified Dry Density test in accordance with AS1289.5.2.1

c. 100% (standard) subgrade/select layers - Maximum Standard Dry Density test in accordance with AS1289.5.1.1 (or for in-situ subgrade soils only, wet density testing may be used)

(10) (B072) A stormwater drainage design is to be submitted and approved by Council prior to the issue of a Construction Certificate. The design must be prepared in accordance with Council's AUSPEC Specifications and the requirements of Relevant Australian Standards and make provision for the following:

a) The legal point of discharge for the proposed development is defined as the kerb and gutter of a public road.

b) The design requires the provision of interallotment drainage in accordance with AUSPEC D5

c) The design shall incorporate on-site stormwater detention facilities to limit site stormwater discharge to pre development flow rates for all storm events up to and including the 100 year ARI event. Note that pre development discharge

shall be calculated assuming that the site is a 'greenfield' development site as per AUSPEC requirements.

d) The design shall include water quality controls designed to achieve the targets specified within AUSPEC D7.

(11) (B052) The provision of 3m x 3m splay corners or otherwise agreed to by Port Macquarie-Hastings Council. Details must be submitted to and approved by Port Macquarie-Hastings Council prior to release of the Construction Certificate.

(12) (B061) Prior to release of the Construction Certificate submission of a Waste Management Plan, in accordance with Council's current requirements.

(13) (B071)Prior to the issue of any Construction Certificate, the provision of water and sewer services to the land are to be approved by the relevant Water Authority and relevant payments received.

(14) (B195) Prior to the issuing of the Construction Certificate, a Construction Noise Management Plan for all stages of the development shall be submitted to Council and shall comply with all relevant NSW EPA Policies, Codes of Practice, (Interim) Guidelines etc and AS "AS2346 - Guide to noise control on construction, maintenance and demolition sites".

(15) (B196) Prior to the issuing of the Construction Certificate, a suitably qualified and practising acoustic consultant shall certify that the installation of the noise barrier along the southern boundary complies with the requirements made in the Pulse Acoustic Consultancy NIA Report.

(16) (B198) Council records indicate the proposed development can be serviced by the 150 PVC water main on Bago Rd. An extension of the water main is required at no cost to Council. Each individual lot shall be individually metered with the meters either located at an easily accessible location. Details are to be provided on the engineering plans

(17) (B199) Extension of Council's existing sewer network is required to service the proposed development and this to be constructed at no cost to Council. Details are to be provided on the engineering plans. Owner's consent of all affected property owners must be provided to Council with any Infrastructure Construction Certificate application for these works.

C – PRIOR TO ANY WORK COMMENCING ON SITE

(1) (C001) A minimum of one (1) week's notice in writing of the intention to commence works on public land is required to be given to Council together with the name of the principal contractor and any major sub-contractors engaged to carry out works. Works shall only be carried out by a contractor accredited with Council.

(2) (C013) Where a sewer manhole and Vertical Inspection Shaft exists within a property, access to the manhole/VIS shall be made available at all times. Before during and after construction, the sewer manhole/VIS must not be buried, damaged or act as a stormwater collection pit. No structures, including retaining walls, shall be erected within 1.0 metre of the sewer manhole or located so as to prevent access to the manhole.

(3) Prior to any vegetation/clearing work commencing Port Macquarie-Hastings Council shall be formally notified in writing at least 48 hours prior to clearing work commencing

(4) Immediately prior to any vegetation/clearing work commencing a pre-clearing survey shall be undertaken by a suitably qualified ecologist. The ecologist shall prepare a pre-clearing survey report and a copy provided to Port Macquarie-Hastings Council prior to any vegetation/clearing work commencing.

(5) During vegetation/clearing a suitably qualified ecologist shall be present onsite to undertake supervision and management of any fauna interactions. The ecologist shall prepare a report on any fauna interactions both during and post clearing. A

copy of this report shall be provided to Port Macquarie-Hastings Council within fourteen (14) days from completion of the clearing work.

(6) As a part of general site management all plant and machinery involved in earthworks and vegetation control should arrive and leave clean. The DPI decontamination guide is the best practice http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0010/545554/procedure-decontamination-vehicles-and-equipment.pdf

(7) To reduce the likelihood of spreading weeds - Work zones on the site must be identified and fencing or flagging tape used to delineate no-go areas.

D – DURING WORK

(1) (D001) Development works on public property or works to be accepted by Council as an infrastructure asset are not to proceed past the following hold points without inspection and approval by Council. Notice of required inspection must be given 24 hours prior to inspection, by contacting Council's Customer Service Centre on (02) 6581 8111. You must quote your Construction Certificate number and property description to ensure your inspection is confirmed:

a. prior to commencement of site clearing and installation of erosion control facilities;
b. at completion of installation of erosion control measures
c. prior to installing traffic management works
d. at completion of installation of traffic management works
e. at the commencement of earthworks;
f. before commencement of any filling works;
g. when the sub-grade is exposed and prior to placing of pavement materials;
h. when trenches are open, stormwater/water/sewer pipes and conduits jointed and prior to backfilling;
i. at the completion of each pavement (sub base/base) layer;
j. before pouring of kerb and gutter;
k. prior to the pouring of concrete for sewerage works and/or works on public property;
l. on completion of road gravelling or pavement;
m. during construction of sewer infrastructure;
n. during construction of water infrastructure;
o. prior to sealing and laying of pavement surface course.

All works at each hold point shall be certified as compliant in accordance with the requirements of AUSPEC Specifications for Provision of Public Infrastructure and any other Council approval, prior to proceeding to the next hold point.

(2) (D006) A copy of the current stamped approved construction plans must be kept on site for the duration of site works and be made available upon request to either the Principal Certifying Authority or an officer of the Council.

(3) (D033) Should any Aboriginal objects be discovered in any areas of the site then all excavation or disturbance to the area is to stop immediately and the National Parks and Wildlife Service, Department of Environment and Conservation is to be informed in accordance with Section 91 of the *National Parks and Wildlife Act 1974*. Subject to an assessment of the extent, integrity and significance of any exposed objects, applications under either Section 87 or Section 90 of the *National Parks and Wildlife Act 1974* may be required before work resumes.

(4) (D037) Noise from construction activities (measure as the L_{AeqT} noise level) shall not exceed the background noise level (measured as the L_{A90} noise level in the absence of the source), for periods of construction between 4 and 26 weeks by 10

dB(A), and for periods of construction exceeding 26 weeks by 5 dB(A), in any Octave Band Centre Frequency, when measured at any affected residence, or premises.

(5) (D045) A suitably qualified ecological consultant shall inspect all native trees that have been approved for removal before they are felled. If there are any koala or other fauna species in the tree, work in the vicinity is to cease until the animal has moved from the area. If it is likely that hollows are providing habitat for native species, traps shall be set for several nights and any native species found shall be relocated to an appropriate nearby location.

(6) (D051) Prior to commencement of any pavement works a material quality report from the proposed supplier shall be submitted to Council. The pavement materials shall meet Council's current specifications at the time of construction.

(7) (D052) Prior to laying of Asphaltic Concrete (AC) or wearing surface course, submission to Council of pavement and soil test results prepared by a NATA registered person for all road pavement construction, including:

a. CBR test results, and

b. Subgrade / select fill, sub-base and base pavement compaction reports in accordance with AS1289.5.1.1 & AS1289.5.2.1 as applicable.

(8) Wastes including vegetation from land clearing or site establishment works shall not be disposed of by burning.

E – PRIOR TO ISSUE OF SUBDIVISION CERTIFICATE

(1) (E005) Prior to the release of any bond securities held by Council for infrastructure works associated with developments, a formal written application is to be submitted to Council specifying detail of works and bond amount.

(2) (E007) The owner/applicant is responsible for ensuring that any imported fill is either Virgin Excavated Natural Material (VENM) or Excavated Natural Material (ENM). Prior to the issue of an Occupation Certificate, certification is to be provided to Council demonstrating that the fill is either VENM or ENM.

(3) (E011) Submission prior to the issue of a Subdivision Certificate of a plan prepared by a Registered Surveyor showing location of existing road formation relative to reserved and dedicated roads to enable determination of any road widening necessary. Any road widening is to be at no cost to Council.

(4) (E013) Restrictions and/or positive covenant must be provided over the overland flow path for on site detention storage areas with appropriate public awareness signage.

(5) (E038) Interallotment drainage shall be piped and centrally located within an inter-allotment drainage easement, installed in accordance with Council's current AUSPEC standards (minimum 225mm pipe diameter within a minimum 1.5m easement). Details shall be provided:

- As part of a Local Government Act (s68) application with evidence of registration of the easement with the Land Titles Office provided to Council prior to issue of the s68 Certificate of Completion; or
- As part of a Construction Certificate application for subdivision works with dedication of the easement as part of any Subdivision Certificate associated with interallotment drainage.

(6) (E040) Each onsite detention system is to be marked by a plate in a prominent position which states:

"This is an onsite detention system. It is an offence to reduce the volume of the tank or basin or interfere with any part of the structure that controls the outflow".

This plate is to be fixed into position prior to occupation or the issue of the Occupation or Subdivision Certificate.

(7) (E042) Creation of drainage easement between lots (i.e. interallotment)

Where stormwater pipelines traverse lots other than those which they benefit appropriate drainage easements shall be created and registered on the title of the relevant lot(s) with the Lands and Property Information NSW.

a. For pipes less than 500mm diameter, the easement width must be a minimum of 1500mm. Easements for larger diameter pipes must be the pipeline diameter plus 1200mm wide, with a minimum width of 2400mm.

b. Where easements are associated with a subdivision, the easement shall be established with the plan of subdivision and Section 88B instrument. Details to be submitted to Council prior to issue of Subdivision Certificate.

Where easements are not associated with a subdivision, the easement shall be approved by Council prior to lodgement at Lands and Property Information (LPI) NSW and evidence of registration shall be submitted to the Principal Certifying Authority prior to any Occupation Certificate.

(8) (E046) Prior to the issue of Subdivision Certificate Certificate, a positive covenant is to be created under Section 88E of the Conveyancing Act 1919, burdening the owner(s) with the requirement to maintain the on-site stormwater detention facilities on the property.

The terms of the 88E instrument with positive covenant shall include, but not be limited to, the following:

a. The Proprietor of the property shall be responsible for maintaining and keeping clear all pits, pipelines, trench barriers and other structures associated with the on-site stormwater detention facilities ("OSD").

b. The Proprietor shall have the OSD inspected annually by a competent person.

c. The Council shall have the right to enter upon the land referred to above, at all reasonable times to inspect, construct, install, clean, repair and maintain in good working order all pits, pipelines, trench barriers and other structures in or upon the said land which comprise the OSD or which convey stormwater from the said land; and recover the costs of any such works from the proprietor.

d. The registered proprietor shall indemnify the Council and any adjoining land owners against damage to their land arising from the failure of any component of the OSD, or failure to clean, maintain and repair the OSD.

The proprietor or successor must bear all costs associated in the preparation of the subject 88E instrument. Evidence of registration with the Lands and Property Information NSW shall be submitted to and approved by the Principal Certifying Authority prior to the issue of an Occupation Certificate.

(9) (E053) All works relating to public infrastructure shall be certified by a practicing Civil Engineer or Registered Surveyor as compliant with the requirements of AUSPEC prior to issue of Occupation/Subdivision Certificate or release of the security bond, whichever is to occur first.

(10) (E056) A Certificate of Compliance under the provisions of Section 307 of the *Water Management Act* must be obtained prior to the issue of any subdivision certificate.

(11) (E079) Submission to the Principal Certifying Authority of certification by a Registered Surveyor prior to the issue of a Subdivision Certificate that all services and domestic drainage lines are wholly contained within the respective lots and easements.

(12) (E082) Submission of a compliance certificate accompanying Works as Executed plans with detail included as required by Council's current AUSPEC Specifications.

The information is to be submitted in electronic format in accordance with Council's "CADCHECK" requirements detailing all infrastructure for Council to bring in to account its assets under the provisions of AAS27. This information is to be approved by Council prior to issue of the Subdivision or Occupation Certificate. The copyright for all information supplied, shall be assigned to Council.

(13) (E195) Prior to the issuing of the Subdivision Certificate, certification shall be provided to the PCA and Council, from a suitably qualified acoustic engineer that the construction of the acoustic wall along the southern boundary will achieve the required noise attenuation and complies with the relevant recommendations made in the following noise impact assessment report: 20190215_Kempsey Timbers Industrial subdivision, Bago Road_DA Version: Draft 2, Pulse Acoustic Consultancy 15 February 2019.

(14) The plan of subdivision and section 88B instrument shall establish the following restrictions, easements and/or covenants; with Port Macquarie-Hastings Council having the benefit and having the sole authority to release, vary or modify each restriction, easement and or covenant. Wherever possible the extent of the land affected by these covenants shall be defined by bearings and distances shown on the plan of subdivision:

- Restriction as to user identifying required noise construction categories and night time operational restrictions for affected lots as identified within the DA Acoustic Assessment Report prepared by Pulse Acoustic Consultancy dated 15 February 2019. No building openings are permitted along the southern boundary for lots 1,2,17-24.
- The proposed APZ and BAL 29 building line is to be noted as a restriction on the subdivision linen plan and 88b restrictions in accordance with the recommendations of the stamped Bushfire Threat Assessment.

F – OCCUPATION OF THE SITE

(1) Noise levels from the occupation of the industrial lots shall comply with the:

1. Project Trigger Noise Levels given in Section 3.1.3 on page 11 of the DA Acoustic Report; and
2. Maximum Recommended Noise Level (Noise Budget per Lot) given in Table 11 on page 16 of the Report; OR

(a) must not exceed an L A (15 min) of 5dB(A) above background noise when measured at any lot boundary of the property where the development is being carried out, and/or

(b) must not cause the relevant amenity criteria in Table 2.1 in the Noise Policy to be exceeded.

The Noise Policy means the document entitled NSW Industrial Noise Policy (ISBN 0 7313 2715 2) published in January 2000 by the Environment Protection Authority; and

Traffic Impact Assessment

Proposed Industrial Development

Bago Road, Wauchope, NSW

for

HOPKINS CONSULTANTS

April 2019

Traffic Impact Assessment Details

Generic Document No.			
Edition / Revision No.	1	2	3
Event			
Document Status	Internal Review	Draft Final	Amended (sight distance update)
Prepared By	Andy Davis Director	Andy Davis Director	Andy Davis Director
Reviewed By	Craig Nethery Director	Craig Nethery Director	Craig Nethery Director
Date	18 April 2019	23 April 2019	11 Sept 2019
Status	CAN (internal review)	To Client	Resubmitted to PMHC

Disclaimer:
This report has been prepared following an assessment of the development site, as per the directions of the client, relevant Australian Standards and the guidelines of Port Macquarie Hastings Council and RMS.

The purpose of this report is to support the development application for the proposed industrial subdivision. The document remains the property of StreetWise Road Safety & Traffic Services, until payment for the assessment and report has been made.

StreetWise retain the right to withdraw this document from Council if payment is not made in full.

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CONTENTS

Appendices:

1. INTRODUCTION

1.1 Purpose and Study Objectives

StreetWise Road Safety and Traffic Services have been engaged by Hopkins Consultants to prepare a Traffic Impact Assessment report for a proposed 40-lot Industrial Subdivision at Bago Road, Wauchope. The site is located within an existing industrial precinct, on the southern side of King Creek Road and adjacent to the North Coast Railway.

The development application proposes to develop 40 industrial lots of varying sizes, generally between 1000 – 2100 square metres. This Traffic Impact Assessment discusses the proposed access from Bago Road and future connections with adjoining developments, estimates the future traffic movements generated by the proposal and assesses the impacts of the development traffic on the local road network.

1.2 Location

The proposed development is located within the Port Macquarie Hastings Council area, approximately 4kms south of the Wauchope CBD. The site is described as Lot 21 DP 811254, and is currently vacant. It is located at the southern end of the existing Wauchope Industrial precinct.

Figure 1.1 – LOCALITY PLAN

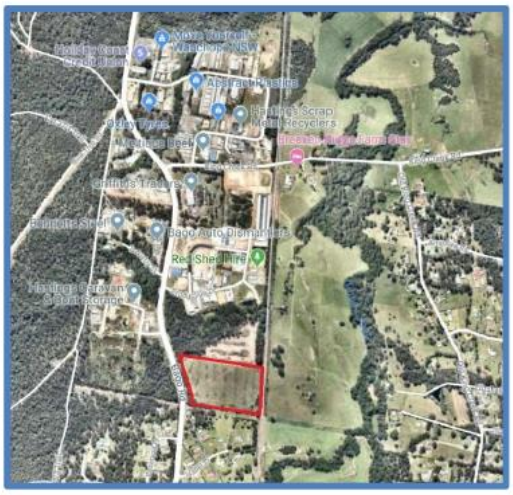


Figure 1.2 – LOCALITY PLAN

1.3 Background

Council's DA Tracking contains the following in relation to the subject Lot and DP:

- DA1990/328 for subdivision was approved on 18 September 1990.
- DA1990/412 for industrial – sawmill was approved on 23 January 1991.
- DA1995/199 for erection of a sign was approved on 1 August 1995.

It is noted that the land located immediately to the south of the site was rezoned to R5-Large Lot Residential (then known as 1(r1) Rural Residential) and subdivided in accordance with that zoning after the initial sawmilling DA was consented to in 1991. That is, the industrial zoning and an approved use of this land for industrial purposes (sawmilling) was in existence prior to the establishment of the R5 zoned land to the south.

The adjacent property to the north of the subject site has been approved for industrial development, and is currently under construction. These works will ultimately provide an internal road connection from the subject development through to the adjoining industrial precinct at Production Drive via Inventive Way.

The Site

The subject site is described as Lot 21 DP 811254. The property is located on Bago Road, some 5km south of the Wauchope CBD. Directly to the north and west is existing and approved industrial development. To the east is the North Coast Railway Line and to the south are residential dwellings on land zoned R5 Large Lot Residential.

The site lies to the south of a small un-named creek which forms an upper tributary to Kings Creek. The land generally falls to the north, with a low north-south ridge roughly mid-way inside the property.

The site vegetation comprises trees adjacent to the Bago Road and southern boundary with the remainder of the site having been previously cleared some 20 years ago and is now occupied by grasses. The vegetation is bushfire prone category one and three respectively.

Vehicular access to the site is proposed near the south west corner of the site directly onto Bago Road. An internal road connection directly to the approved industrial subdivision which lies immediately adjacent to the north is proposed.

Water and sewer connections are available on the site. Stormwater is proposed to be captured in two new detention basins located in the north east and north west corners of the site.

1.4 Scope, Assessment Area and Key Assumptions

It is proposed to construct a 40-lot industrial subdivision. This report assesses the impacts of the traffic generated by the proposed development, access to the site and the traffic generated by the future businesses within the industrial precinct. This assessment covers the following:

- Site inspection

- Liase with Council
- Estimate of overall traffic volumes generated by the development
- Assess volumes, patterns and length of stay at similar development
- Peak hour volumes generated
- Estimate of future traffic volumes on adjacent roads
- Review of Traffic Impact on local road network
- Review parking requirements for development
- Parking layout assessment
- Pedestrian requirements

The following extract is from the minutes of the previous pre-lodgement meeting with Port Macquarie Hastings Council, with regard to the requirements of any future traffic assessment:

5) A Traffic Impact Assessment (TIA) will be required.

a. TIA is to be prepared by a qualified and/or experienced traffic consultant.

b. TIA is to be prepared in accordance with guidelines contained in the Roads and Maritime Services *Guide to Traffic Generating Developments (2002)*, and AUSTROADS *Guide to Traffic Management, Part 12: Traffic Impacts of Development*.

c. TIA should use data obtained from an existing facility which operates in a similar manner to the proposed facility, and comment on any differences in operation.

d. The likely traffic generation should be quantified, in terms of the number of vehicle trips during peak hours, number of trips per day, and breakdown of the types of vehicle users (e.g. residents' cars, staff cars, service trucks).

e. The likely 85th percentile (time-weighted) parking demand is to be quantified.

f. Comment on the likely traffic and parking demand ten years after the development

2. EXISTING CONDITIONS

2.1 Existing Land Use and Zoning

The subject site is Lot 21 DP 811254 at Bago Road, Wauchope. The site has an area of 8.097ha, and is located directly to the south of an approved industrial subdivision currently under construction.

The existing property has western frontage to Bago Road and shares a boundary with the North Coast Railway to the east. The site is currently vacant and generally cleared - with some large trees around the fencelines.

2.2 Existing Zoning and Potential Landuses

The site is entirely zoned IN1 General Industrial under PMH LEP 2011 and the proposed industrial development is permissible with the consent of Council. Future activities permitted within the industrial park include depots; freight transport facilities; garden centres; general industries; hardware & building supplies; industrial training facilities; kiosks; landscaping material supplies; light industries; medical centres; neighbourhood shops; oyster aquaculture; places of public worship; plant nurseries; pubs; roads; rural supplies; take away food and drink premises; tank-based aquaculture; timber yards; vehicle sales or hire premises; warehouse or distribution centres.

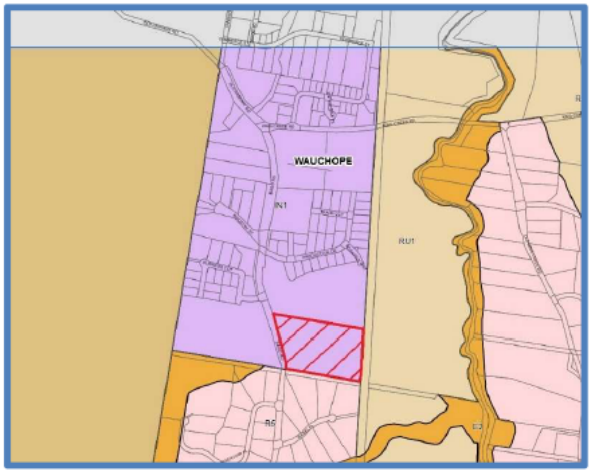


Figure 2.1 – Zoning Plan

2.3 Surrounding Road Network Details

The proposed development is located on Bago Road, which serves as a secondary connection between the Wauchope CBD and the Pacific Highway (at Herons Creek) via Wauchope industrial precinct. Bago Road, which becomes Cameron Street further to the north, is approximately 14 kms in length.

A number of local roads intersect with Bago Road along its length, including a number of residential roads in the north and rural roads in the south. In the vicinity of the proposed development, a number of industrial roads connect with Bago Road, including King Creek Road (approx. 1km to the north of the development site) and Industrial Road, about 500m to the north (see Figure 2.2 below).

2.3.1 Bago Road (80kmh posted speed limit)

Bago Road is a rural collector road which runs generally north-south and connects Wauchope with the Pacific Highway. In the vicinity of the proposed development, Bago Road is 7 metres wide, with one sealed lane in either direction. Towards the northern end of the subject lot, Bago Road widens to include a 1m sealed shoulder. The road continues to widen to the north of the lot to cater for the intersections with Business Circuit (on western side) and Production Drive (on the eastern side). According to council's guidelines (Auspec Table D1 – Rural), the existing road can cater for greater than 2000 vehicles per day (although Austroads guidelines state that a single urban lane has capacity for up to 900 vehicles per hour).

2.3.2 King Creek Road (80kmh posted speed limit)

King Creek Road is a rural collector road which connects Bago Road in the west with the Oxley Highway approximately 5.5kms to the north-east. The sealed road varies in width along it's length, but is generally 6.5 – 7m wide. In the vicinity of the proposed development (i.e. western end), the King Creek Road carriageway includes 1 lane in either direction, with some sections of unsealed shoulder. King Creek Road services a number of rural properties, as well as access to the Wauchope Industrial precinct. The road crosses the North Coast Railway close to Bago Road, with the crossing controlled by a barrier and flashing lights.

2.3.3 Business Circuit (No posted speed limit – 50kmh urban default speed)

Business Circuit is an industrial road on the western side of Bago Road, which provides access from Bago Road to 15 existing industrial lots - a number of which are not currently developed. The sealed road is 13 metres wide with kerb & gutter on both sides.

2.3.4 Production Drive (No posted speed limit – 50kmh urban default speed)

Production Drive is an industrial road on the eastern side of Bago Road, which provides access from Bago Road to 33 existing industrial lots - a number of which are not currently developed. The sealed road is 13 metres wide with kerb & gutter on both sides. A recently completed internal road (Trade Circuit) connects with Production Drive.

Figure 2.2 – Local Road Network

2.3.5 Reservoir Place (No posted speed limit – 50kmh urban default speed)

Reservoir Road is a 750m long rural cul-de-sac on the western side of Bago Road, which provides access to 17 rural residential lots. The road is located 250m south of the future intersection of the subject development. The sealed road is 6 metres wide with layback kerb & gutter on both sides.

2.3.6 Intersection of Bago Road & King Creek Road

The existing intersection of Bago Road and King Creek Road is located approximately 1000m north of the future intersection to the subject site. The intersection is a T-intersection layout delineated by centre linemarking only, and controlled by STOP signs on King Creek Road (i.e. Bago Road has priority). The current layout does not include any dedicated turn lanes, although the large radius curves will assist heavy vehicles to turn in & out of King Creek Road. The layout does not include any shoulder or widening of Bago Road, which would allow northbound vehicles to pass any other vehicles queuing to turn into King Creek Road.

Figure 2.3 – Local Road Network

2.3.7 Intersection of Bago Road & Production Drive

The existing intersection of Bago Road and Production Drive is a T-intersection which is located approximately 480m north of the proposed intersection to the future industrial development, on the same side of Bago Road. The layout has been modified to accommodate vehicles turning into Industry Street – an industrial standard road on the opposite side of Bago Road. The intersection provides a dedicated 75m right turn lane for vehicles approaching from the south, and a separate 110m left turn for vehicles arriving from the north.

2.3.8 Intersection of Bago Road & Business Circuit

The existing intersection of Bago Road and Business Circuit is located approximately 270m north of the proposed intersection to the future industrial development, on the opposite side of Bago Road. The intersection layout is a BAR/BAL, delineated by linemarking. The intersection provides a dedicated 170m right turn lane for vehicles approaching from the north, and a separate 130m left turn for vehicles arriving from the south.

2.3.9 Intersection of Bago Road & Reservoir Road

The existing intersection of Bago Road and Reservior Road is located approximately 250m south of the proposed intersection to the future industrial development, on the opposite side of Bago Road. The intersection layout is a BAR/BAL, delineated by linemarking. The intersection provides widening of the southbound lane to allow southbound vehicles to pass any vehicle turning right into the rural subdivision, and a separate 100m left turn for vehicles arriving from the south.

2.4 Existing Traffic Volumes

Port Macquarie Hastings Council provided recent traffic counts (March 2018) for Bago Road, which show hourly traffic counts for a full week. The data indicates that the daily volumes for weekdays are consistent, and there are no distinct peak days. StreetWise have adopted data from Monday 12 March for the purposes of this assessment, as the daily volumes were slightly higher than other weekdays. The following graph shows the hourly volumes for Monday 12 March for each direction, as well as the combined hourly volumes. The full traffic count is included in Appendix C at the rear of this report.

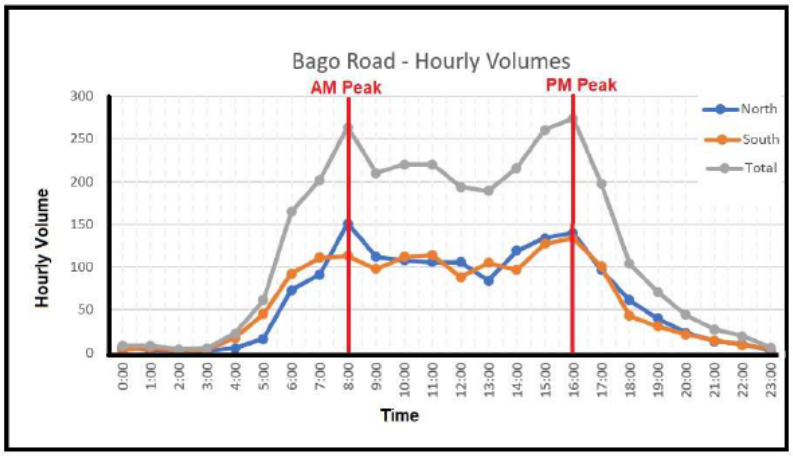


Figure 2.4 – 2018 Peak Hour Traffic Volumes – Bago Road

As can be seen from Figure 2.4 above:

- The current morning peak hour occurs around 7:30 – 8:30am
- The current morning peak volumes are 264 vph (151 Nthbnd 113 Sthbnd)
- The afternoon peak hour occurs around 3:30 – 4:30pm
- The current afternoon peak volumes are 274 vph (140 Nthbnd 134 Sthbnd)
- The peak volumes in both directions occur around the same time
- Northbound volumes are generally higher during the morning peak, while southbound volumes are slightly higher in the afternoon

Figure 2.5 below shows the daily traffic volumes in either direction, as well as a combined daily volume. The 2018 volumes are taken directly from the data provided by Council, while the future (2030) volumes are derived using a 2% per annum increase (as discussed with Council's traffic engineer):

Year	*Northbound*	*Southbound*	*Total*
2018 AM Peak	151	113	264
2018 PM Peak	140	134	274
2018 Daily	1503	1489	2992
2030 AM Peak	180	138	318
2030 PM Peak	160	165	325
2030 Daily	1900	1880	3780

Figure 2.5 – Current & Future Daily Traffic Volumes (Bago Road)

2.5 Existing Site Access

The site is currently vacant, and there is no existing formal access from Bago Road.

2.6 Public Transport

Busways provide a daily school service on Bago Road, across the frontage of the development site (Route 37 – Herons Creek to King Creek – where students then transfer to other services). However, StreetWise aren't aware of any other bus services on Bago Road.

2.7 Walking and Cycling

There is no footpath in Bago Road in the vicinity of the development site. There are also currently no cycle lanes provided, while the existing shoulder on Bago Road is generally not adequate for safe cycling.

2.8 Parking Conditions

There is currently no roadside parking on Bago Road in the vicinity of the development site.

2.9 Intersection and Network Performance

There is currently no intersection on Bago Road across the frontage of the development site.

2.10 Prevailing Traffic Safety Issues

Bago Road is an 80kmh rural road with an undulating, curved alignment in the vicinity of the proposed development. The roadway is 6 – 6.5m wide, with minimal shoulders, including across the frontage of the development site. The narrow road width, unsealed shoulders and varying tabledrains do not provide 'much room for error', particularly as there appear to be existing roadside hazards within the clearzone including trees, steep batters, stormwater headwalls etc.

There is minimal delineation and signage on Bago Road, including lack of streetlighting, edgelines, reflectivity, curve markers and recommended speeds, etc.

3. PROPOSED DEVELOPMENT DETAILS

3.1 Development Site Plan

As discussed previously, the subject site is 8.097ha and located between Bago Road (western boundary) and the North Coast Railway (on the eastern side boundary). The lot is generally rectangular in shape and the land is cleared and undulating. The proposed development includes:

- Creating 40 industrial lots between 1000m^2 and 2130m^2 in size.
- Constructing an intersection on Bago Road to provide access to the development
- Constructing a 13m wide industrial standard road through the site
- Constructing a second 13m road within the development
- Providing a future connection at the north-east of the site to the adjoining property (and 11 approved industrial lots). Further extension of the road is proposed to connect with the existing Inventive Way.

See Figure 3.2 below and Appendix A for proposed lot layout and future road network.

3.2 Operational Details

The proposed development will create 40 vacate industrial lots, which can be further developed for a variety of landuses. As discussed previously, the following industries are permitted within the IN1 zoning: freight transport facilities; garden centres; general industries; hardware & building supplies; industrial training facilities; kiosks; landscaping material supplies; light industries; medical centres; neighbourhood shops; oyster aquaculture; places of public worship; plant nurseries; pubs; roads; rural supplies; take away food and drink premises; tank-based aquaculture; timber yards; vehicle sales or hire premises; warehouse or distribution centres.

3.3 Future Intersection

3.3.1 Layout

Hopkins Consultants have prepared a preliminary intersection layout to access the proposed industrial subdivision (see Appendix B). The design plans indicate a AUR/AUL intersection is to be provided. The intersection has been located to maximise sight distance, and the proposed layout includes:

- Delineation by linemarking (i.e. no concrete medians etc)
- Widening of existing Bago Road generally on southbound side
- 90m sheltered right turn lane for vehicles approaching from Bago Road (south)
- Layout based on the turnpath of a standard semi-trailer

3.3.2 Sight Distance

According to the Austroads Guide to Road Design (Part 4A: Unsignalised and Signalised Intersections), Safe Intersection Sight Distance (SISD) for an 80kmh speedzone is **181m**.

StreetWise utilised a laser rangefinder to measure the existing sight distance (from the future intersection as **300+m** to the north. The measured sight distance to the south is **187m**. The sight distance is limited by a crest in the road and also roadside vegetation on the southern side of Bago Road. It is likely this vegetation will be removed during the construction of the future intersection, and the existing sight distance improved.

Figure 3.1 – Existing Sight Distance on Bago Road looking north (l) and south (r)

Therefore, the existing sight distance to the north easily meets the desirable requirements. The existing sight distance to the south is greater than the minimum

requirements (Approach Sight Distance of 114m), and also exceeds the desirable sight distance guidelines (i.e. SISD is 181m). To maximise sight distance and improve awareness of vehicles utilising the future intersection, it is recommended that:

- The grass and other vegetation on the opposite side of Bago Road be removed or regularly maintained
- The existing Bago Road be widened to include a minimum 1m wide sealed shoulder
- Signage be provided on Bago Road, on both approaches to the future intersection, to warn motorists of the upcoming intersection.

Figure 3.2 – looking north from Reservoir Road at southbound vehicle on Bago Road at approximate location of future intersection

3.4 Access and Parking

3.4.1 Access

The main access to the future industrial development will be via the proposed intersection off Bago Road (discussed in previous section). The roads within the site will be 13m wide, with kerb & gutter both sides.

It is proposed to link the future development with a recently approved 11-lot industrial development at the north-east corner of the site, then continue the main road through to join the existing section of Inventive Way. This will then provide a second access to the subject development, via the existing intersection of Bago Road and Production Drive (see Figure 3.2 below).

Figure 3.2 – Future Road Network (l) and existing section of Inventive Way (r)

3.4.2 Parking

The proposed development includes the creation of 40 industrial lots with a total area of 53,582m^2. As discussed in Section 2.2, there is a wide variety of landuses permitted within the IN1 'General Industrial' zoning, and at this stage, it is unknown what type of businesses will purchase the industrial lots. It is assumed each future owner will submit a separate Development Application to Council, where matters such as driveway access and onsite parking will be assessed.

The 13m wide roads through the proposed development will also provide adequate width for overflow parking within the road reserve.

3.4.3 Internal access

As can be seen from Figure 3.2 above, and the development layout in Appendix A, the main access to the future development will be via a new intersection with Bago Road. This will connect with a 13m wide industrial standard roadway which will run through the development to the northern boundary. A second road within the development will provide access to Lots 21 – 40.

It is proposed to connect the subject development to the adjoining (approved) development across the northern boundary (11 lots), and eventually connect with Inventive Way. This will ultimately provide a second access to the proposed industrial development, while also providing an internal connection within adjoining industrial estates i.e. movements or deliveries between associated businesses can be undertaken without impacting on the major road network (Bago Road).

4. DEVELOPMENT TRAFFIC

4.1 Trip Generation

4.1.1 RMS Guidelines

The RMS 'Guide to Traffic Generating Developments' states: *'The peak traffic generation period for industrial land use is generally determined by three key factors: employee density, travel mode and peak period travel distribution. The employee density will vary with the industry type - from a low density at traditional warehouses to a high density at high-tech industrial developments. The peak period travel distribution (i.e. the proportion of workers who travel to or from the site in the peak hour), varies with the type and extent of development. A single use factory generally has a higher proportion of workers travelling in the peak hour than a factory unit development, where different employees have different work patterns. As work patterns continue to overlap, the percentage of those travelling in the peak hour declines.*'

Therefore, due to the wide variety of businesses that may operate from each of the future lots, it is difficult to estimate the vehicle trip generation from the development. The RMS 'Guide To Traffic Generating Developments' recommends comparison of the proposed development with a similar development in the same area. StreetWise have previously undertaken a traffic count at a cul-de-sac within the existing Port Macquarie industrial precinct which may provide a reasonable guide to vehicle trip generation, volumes and peak periods. In the meantime, the RMS guide provides some advice for estimating vehicle trips from light industrial activities, based on floor areas of various industrial activities.

4.1.2 Estimate using RMS Guidelines

Appendix E of this report includes an example of the type of businesses and activities which may utilise the industrial development at full development, based on similar industrial estates in the Port Macquarie - Hastings area. StreetWise have utilised the RMS 'Guide to Traffic Generating Developments' to determine hourly and daily trips generated by a variety of activities permitted within the zoning for both the subject development and the adjoining approved industrial development. Based full occupancy within 10 years, we can expect a peak volume of **540** vph to be generated by the proposed developments. However, it should be noted that:

- the peak traffic generation times of 40+ separate businesses are not likely to coincide.
- some businesses may generate more trips on weekends than weekdays
- operating hours of the future businesses may also vary, meaning the peak traffic generation may be spread across 2 or more hours in the morning and afternoon
- the completion of the adjoining development to the north will provide alternative access to the subject development, and allow internal movements within the larger industrial precinct i.e. minimise movements through the future Bago Road intersection

The above estimate also assumes all sites will be occupied and fully operational, which is unlikely. The nearby Commerce Street industrial precinct, on the northern side of King Creek Road, was constructed in stages over the past 20 years. However, there are currently about 30% of lots undeveloped, with others utilised for storage, stockpiling, parking or other activities which generate a minimal number of traffic movements (see Figure 4.1 below).

Figure 4.1 – Recent aerial photo of Commerce St, highlighting the number of undeveloped lots.

Therefore, utilising a conservative take up rate of 70% over the next 10 years, the proposed development, and the adjoining approved development, will generate approximately 350 movements an hour at peak times.

4.1.3 Council Guidelines

Advice from Council's planners indicate that Council do not have any specific requirements for industrial subdivisions, and the provisions of the RMS Guidelines (Guide To Traffic Generating Developments) should be adopted for this case.

4.1.4 Comparitive Traffic Count – Chestnut Road, Port Macquarie

The trip generation rates shown in the RMS 'Guide to Traffic Generating Developments' are often 'city-centric' and may not be applicable to regional areas, where traffic volumes are generally less and patterns vary greatly. Also, there is a great variety of business types permitted within this zoning which may also vary from region to region. The RMS guideline therefore recommend assessment of a similar development in the same area, if possible.

StreetWise recently undertook an assessment of Chestnut Road within the Port Macquarie industrial precinct. This site was chosen because:

- the overall area, 4.6ha (including road reserve) is similar,
- the average lot sizes are similar
- there is a variety of business types within the precinct
- the assessed area is accessed via Chestnut Road only and a good guide to generated volumes and vehicle patterns could be obtained

There are 16 lots of varying size fronting Chestnut Road, with a number of the lots having multiple units and catering for a number of different businesses. The variety of businesses within the Chestnut Road precinct include furniture sales, furniture manufacture, screen printing, vehicle spare parts, children's entertainment centre, concrete kerbing, bus depot, shade sail manufacture & sales, furniture removal & storage, property maintenance, music lessons, commercial & business suppliers, car detailers, vehicle electricians, fruit juice distribution, smash repairs, gymnasium etc.

A manual traffic count was undertaken on Chestnut Road (close to the intersection with Lake Road) on Tuesday 19 and Wednesday 20 December 2017 to determine the morning and afternoon peak hours. The full results of the count are included in Appendix C. The main points to be considered from the Chestnut Road data are:

AM Peak Volume	**139** (66 in & 73 out)
AM Peak Hour	6:30 – 7:30am
PM Peak Volume	**99** (52 in & 47 out)
AM Peak Hour	3:00 – 4:00pm
Heavy vehicles	AM 6% HV + 5% SU Truck
	PM 0% HV + 7% SU Truck

The following should be noted from the data collected from the Chestnut Road industrial precinct:

- there was significantly more activity within the precinct during the morning than late afternoon.

- deliveries to and from the precinct via single unit truck were regular during the day
- deliveries via semi-trailers were only recorded during the morning, with no semi-trailers recorded during the afternoon count.
- movements in and out of the precinct during peak times were fairly similar i.e. the in/out split was about 50% during both the AM and PM peak hours

4.1.5 Estimate using comparative traffic rates

If we apply the same trip generation, using a factor of (1.8 based on the relative areas of the 2 industrial precincts), we can expect the following traffic volumes to be generated by the proposed Bago Road industrial development:

AM 139 x 1.8 = 250 vph
PM 99 x 1.8 = 178 vph

4.1.6 Adjoining approved development

As discussed elsewhere in this report, the adjoining lot to the north has development approval to create an additional 11 industrial lots (see Figure 3.2 and Appendix A). These 11 approved lots will generate additional vehicle movements from whatever businesses are eventually located on these lots, but will also provide a road connection to the existing industrial estate to the north via Inventive Way. This connection will provide an alternative access to the subject subdivision (i.e. the focus of this assessment) while also catering for internal movements within the industrial precinct – without the need to impact on Bago Road or the future intersection.

4.1.7 Adopted Trip Generation

In summary, the estimated vehicle movements based on the RMS guidelines (580vph) are assumed to be excessive, and the comparative rates based on the Chestnut Road industrial precinct (250vph) are assumed to be a more reasonable guide.

Therefore, for the purposes of this assessment, a peak rate of **350** vehicle movements per hour has been adopted, which includes the proposed 40-lot industrial development as well as the future 11-lot development to the north.

4.2 Trip Distribution

It is assumed that the majority of movements in and out of the proposed industrial development will be to and from the township of Wauchope. However, given that Bago Road connects the Wauchope Industrial precinct to the Pacific Highway and the Camden Haven, it is also likely that many future trips to and from the site will from the south. Therefore, a 60 : 40 ratio has been adopted for the purposes of this assessment i.e. 60% from the north and 40% from the south. This ratio also conforms with existing traffic volumes on Bago Road (see Figure 2.4), which indicates slightly more northbound volumes during the morning peak and a fairly even split in the afternoon.

Also, based on the Chestnut Road example, the in & out split at both the morning and afternoon peak times is 50:50 i.e. there are likely to be a similar number of trip into the development as there are heading out.

4.3 Traffic Assignment

The estimated trips in and out of the future industrial development are likely to be similar in the morning and afternoon (based on the Chestnut Road example). While many of the movements in and out of the development are workers commuting to and from work, the trips also include deliveries of materials, tradesmen travelling to and from sites, couriers, food vans etc. Figure 4.2 below indicates the estimated peak hour trip generation from the future industrial subdivision.

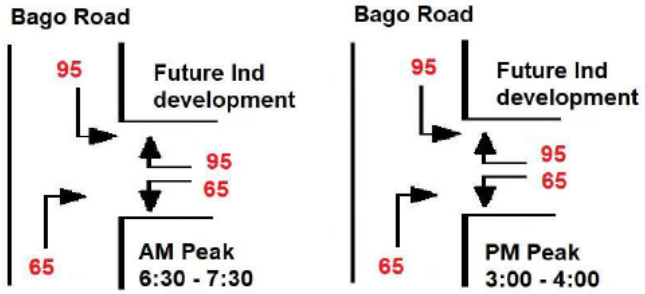


Figure 4.2 – Estimated peak hour trip generation from future industrial development

It should noted that the peak hours for trips generated by the future industrial development may not match the peak times on Bago Road. The morning peak volumes within the industrial precinct are likely to be between 6:30 – 7:30am, while the existing peak hour on Bago Road is an hour later i.e. 7:30 – 8:30am. The afternoon peak hours may also be offset by around 30 minutes.

Also, the peak traffic periods and volumes generated by the future industrial development are dependent on the type of businesses that occupy the lots, and the actual peak times may vary from those adopted in this report.

5. IMPACT ASSESSMENT

5.1 Future Background Traffic Volumes

An annual growth rate of 2% has been adopted for the purposes of this assessment.

5.2 Future Total Traffic Volumes

As discussed above, a growth rate of 2% p.a. has been adopted for this assessment. Figure 5.2 below shows the estimated future volumes (2030) through the future intersection of Bago Road and the proposed industrial road, which includes:

- 10 years x 2% annual growth on existing traffic volumes
- Additional peak hour traffic generation from proposed development (when completed and occupied)

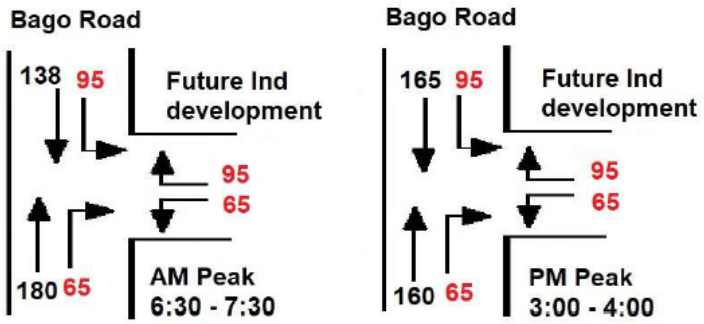


Figure 5.1 – Estimated future traffic movements through future Bago Road intersection (2030)

5.3 Future Intersection and Network Performance

5.3.1 Bago Road capacity

The existing traffic volumes on Bago Road are relatively low, and by the year 2030, the future volumes, in the vicinity of the development site, will be in the vicinity of 600 vehicles at peak times and 3800 per day. The graph shown in Figure 5.2 below comes from Austroads Guide to Traffic Management (Part 3 – Traffic Studies and Analysis), and indicates the operational efficiency of a single lane dependent on the speedzone and the hourly traffic volumes. As can be seen from the diagram, Bago Road currently operates at a Level of Service of 'A'. The increased traffic volumes in 2030, including a 2% annual growth and the inclusion of the development generated traffic, will still operate at a Level of Service of 'A', where LoS 'A' is *'a condition of free flow in which individual drivers are virtually unaffected by the presence of others in the traffic stream……'*

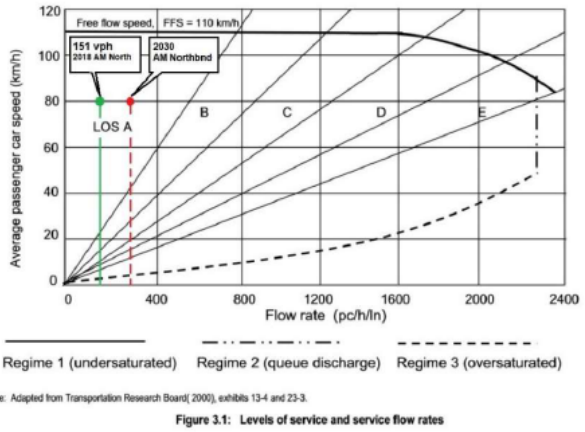


Figure 5.2 – Lane Capacity - Bago Road (Austroads)

5.3.2 Intersection of Bago Road and future industrial road

As discussed above, the existing traffic volumes on Bago Road are relatively low, and by the year 2030, the total volumes through the proposed intersection will be in the vicinity of 600 vehicles at peak times. Therefore, based on the low volumes, a computer modelling analysis (SIDRA) is not considered necessary as part of this assessment, and a simply analysis utilising the Austroads Intersection warrant (Figure 5.2 below) has been adopted.

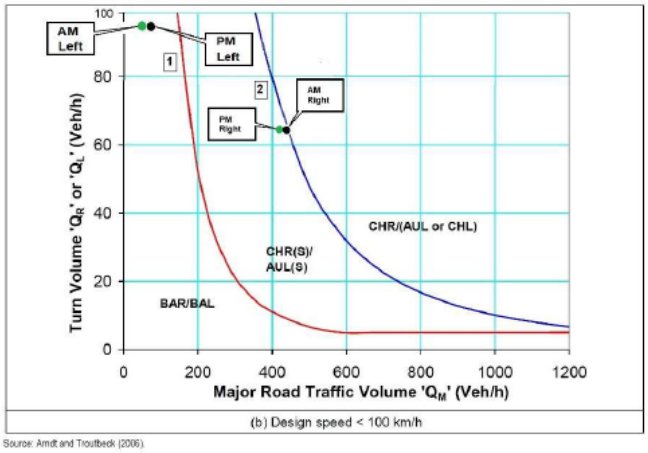


Figure 5.3 – Future Bago Road Intersection Warrant (Austroads)

The Austroads warrant (from 'Guide to Road Design – Part 4A: Unsignalised and Signalised Intersections'), indicates a short Channelised Intersection CHR(S) will be adequate for the next 10 years. The inclusion of the traffic generated by the 11 approved lots to the north of the site appears to indicate longer turn lanes are required (see Figure 5.3 above). However, the associated connection with the Production Drive industrial precinct via Inventive Way will allow internal road movements between the various businesses, and may actually reduce the number of movements through the proposed Bago Road intersection.

It should also be noted that the current peak hours on Bago Road are unlikely to correspond with the peak volumes generated by the future industrial developments i.e. the points plotted on the above intersection warrant are based on 2 offset peak traffic volumes which are likely to be higher than actual numbers.

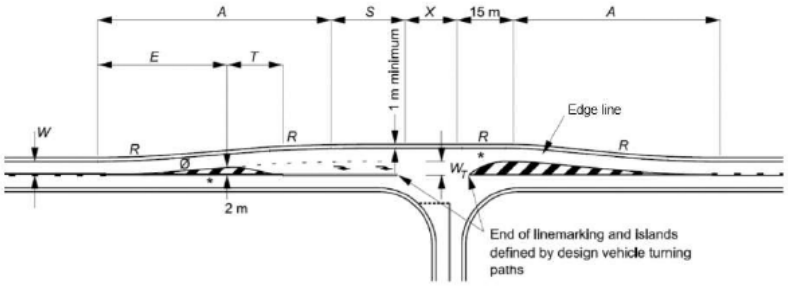


Figure A 3: Minimum extended design domain channelised right-turn treatment for two-lane, two-way roadways without medians

Figure 5.4 – Typical Rural Channelised Intersection (Austroads)

5.3.3 Bago Road and Local Road Network

According to the RMS Austroads guidelines, a single lane in urban conditions can cater for up to 900 vehicles per hour (see Figure 5.5 below). It is considered that Bago Road, King Creek Road and other roads in the local road network have adequate capacity to cater for existing and future (2030) volumes.

Type of lane	One-way mid-block capacity (pc/hr)
Median or inner lane	
• Divided road	1000
• Undivided road	900
Middle lane (of a 3-lane carriageway)	
• Divided road	900
• Undivided road	1000
Kerb lane	
• Adjacent to parking lane	900
• Occasional parked vehicles	600
• Clearway conditions	900

Source: Table 5.1 of Austroads Guide to Traffic Management Part 3

Figure 5.5 – Lane capacities – Urban Conditions (Austroads)

5.4 Access Impacts

The proposed intersection with Bago Road has been designed in accordance with Austroads guidelines, with consideration for the number of future turning movements, and the layout catering for the turnpaths of semi-trailers. The intersection has been located to maximise sight distance. As discussed previously, the sight distance in either direction exceeds the Austroads minimum requirements. Therefore, given the relatively low daily and peak hour volumes on Bago Road, it is unlikely there will be any significant impacts on through traffic, while vehicles turning in and out of the future industrial subdivision should be able to do so safely and efficiently.

5.5 Impacts on Public Transport

It is likely that the development will have minimal impacts on the local bus services.

5.6 Impacts on Walking and Cycling

Minimal impacts likely on local pedestrian and cycling infrastructure.

5.7 Impacts on Road Safety

5.7.1 Sight Distance:

As discussed previously, the sight distance of the future intersection meets the minimum (ASD) requirements of Austroads guidelines, with the sight distance to the north exceeding the desirable (SISD) requirements.

To ensure good sight distance is maintained for vehicles entering and exiting the proposed industrial development, the following should be considered:

- Regular maintenance of the Bago Road shoulders and tabledrains will minimise roadside grass and vegetation on the western side of the road, which currently impacts on sight distance to the south.
- Provide suitable signage on Bago Road to warn vehicles approaching from both directions of the upcoming intersection
- Ensure any future landscaping is minimal height, or maintained regularly to ensure it retains a low profile
- Ensure any future fencing or boundary walls do not restrict sight distance for future vehicles

6. IMPACT MITIGATION

6.1 Proposed Traffic Impact Mitigation Works and Program

The following should be implemented to ensure maximum safety and efficiency of traffic movements in, out, within and past the proposed industrial development:

- Construction of a channelised intersection, in accordance with Austroads guidelines, as provided in the draft layout by Hopkins Consultants (see Appendix B)
- Regular maintenance by Council of Bago Road, including regular checks of linemarking and signage
- Removal of any vegetation adjacent to northbound travel lane
- Ensuring conformance by drivers to the Bago Road 80kmh speedzone
- Adequate signage to warn motorists of the future intersection on Bago Road

7. CONCLUSIONS

- The proposed industrial development off Bago Road will provide 40 lots varying in size from 1000m^2 to 2130m^2. The variety of future businesses and activities permitted on these lots is extensive.
- The future 40 lot industrial development (and adjoining, approved 11 lot development) will generate approximately 320 vehicle movements at peak times. This will equate to 95 in & 95 out from the north; and 65 in and 65 out from the south.
- The future 2030 traffic generation is likely to be reduced due to the generally slow take up and development of industrial land i.e. it is unlikely that all 40 lots will be developed by 2030, while others will accommodate activities which will generate minimal traffic movements.
- The future connection to Inventive Way will allow internal movements within adjoining industrial precincts, thereby reducing the number of trips through the future Bago Road intersection.
- The peak hours for traffic generated by the proposed development are likely to be 6:30 – 7:30am and 3:00 – 4:00pm. These peak hours are offset from the existing peak hours on Bago Road.
- The future CHR intersection with Bago Road, as proposed by Hopkins Consultants, meets the requirements of Austroads, and is considered adequate for safe and efficient movement of vehicles in & out of the proposed industrial development. The proposed location of the intersection has been selected to maximise the sight distance on Bago Road. The future sight distance exceeds the minimum requirements of Austroads in both directions.
- The existing sight distance to the north (300m+) easily meets the Safe Intersection Sight Distance requirements (181m). The existing sight distance to the south (187m) exceeds both the desirable SISD requirement (181m) and the minimum requirements (Approach Sight Distance of 114m) for an 80kmh speedzone.

8. RECOMMENDATIONS

This assessment has determined that Bago Road and the local road network has the capacity to cater for the future traffic volumes generated by the proposed industrial development, with safety, efficiency and with minimal impacts. The following recommendations should be considered to further improve road safety in the vicinity of the future industrial development:

- Construct the proposed intersection as prepared by Hopkins Consultants and included in Appendix B of this report. Ensure the layout caters for vehicles up to and, including, semi-trailers. Ensure the intersection is well delineated with

appropriate linemarking and reflectors. Monitor the intersection regularly and refresh linemarking regularly.

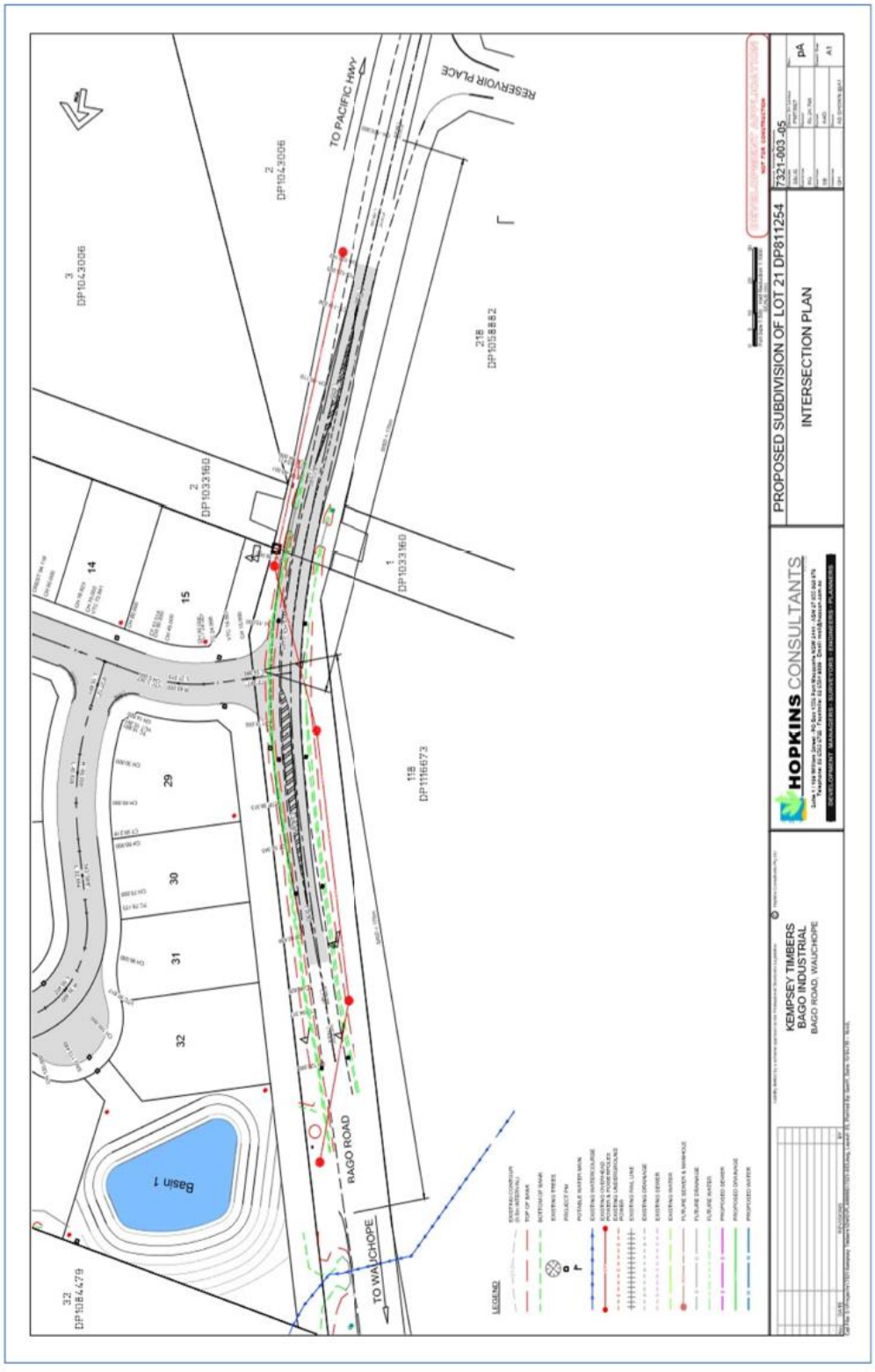
- Provide signage on Bago Road, at both north and south approaches, to ensure drivers are aware of the upcoming intersection.
- Bago Road should be monitored and maintained regularly to ensure roadside vegetation that may reduce sight distance in the vicinity of the development is removed or otherwise controlled.
- To maximise sight distance and improve awareness of vehicles utilising the future intersection, it is recommended that:
  - The grass and other vegetation on the opposite side of Bago Road be removed or regularly maintained
  - The existing Bago Road be widened to include a minimum 1m wide sealed shoulder
  - Signage be provided on Bago Road, on both approaches to the future intersection, to warn motorists of the upcoming intersection.
- Consideration should also be given to reducing the current 80kmh speedzone on Bago Road to 60 or 70kmh, to reduce the sight distance requirements, but also in regard to:
  - The current alignment with multiple curves and undulations in the vicinity of the industrial precinct
  - The number of existing roadside hazards within the 80kmh clearzone
  - The number of intersections within the existing industrial precinct, particularly the sub-standard intersection with King Creek Road
  - The minimal width of Bago Road, and lack of edgelines and other delineation

In summary, StreetWise recommend that the proposed industrial development as being a suitable development, given that the number of vehicle trips to be generated by the development will not have a significant impact on the efficiency or safety of the local road network, and that the local roads and intersections have the capacity to cater for the additional trips generated by the development.

Appendix A
Proposed Industrial Development Layout Plan


NORTH COAST RAILWAY
BAGO ROAD
PROPOSED SUBDIVISION OF LOT 21 DP8111254
LOT LAYOUT
HOPKINS CONSULTANTS
KEMPSEY TIMBERS
BAGO INDUSTRIAL
BAGO ROAD, WAUCHOPE
7321-003-02

Appendix B
Proposed Bago Road Intersection Layout
by Hopkins Consultants


TO PACIFIC HWY
RESERVOIR PLACE
RAGO ROAD
TO WAUCHOPE
Basin 1
PROPOSED SUBDIVISION OF LOT 21 DP811254
INTERSECTION PLAN
HOPKINS CONSULTANTS
KEMPSEY TIMBERS
BAGO INDUSTRIAL
BAGO ROAD, WAUCHOPE
LEGEND

Appendix C
Manual Traffic Count Results
Chestnut Road, Port Macquarie

Tuesday 19 December 2017

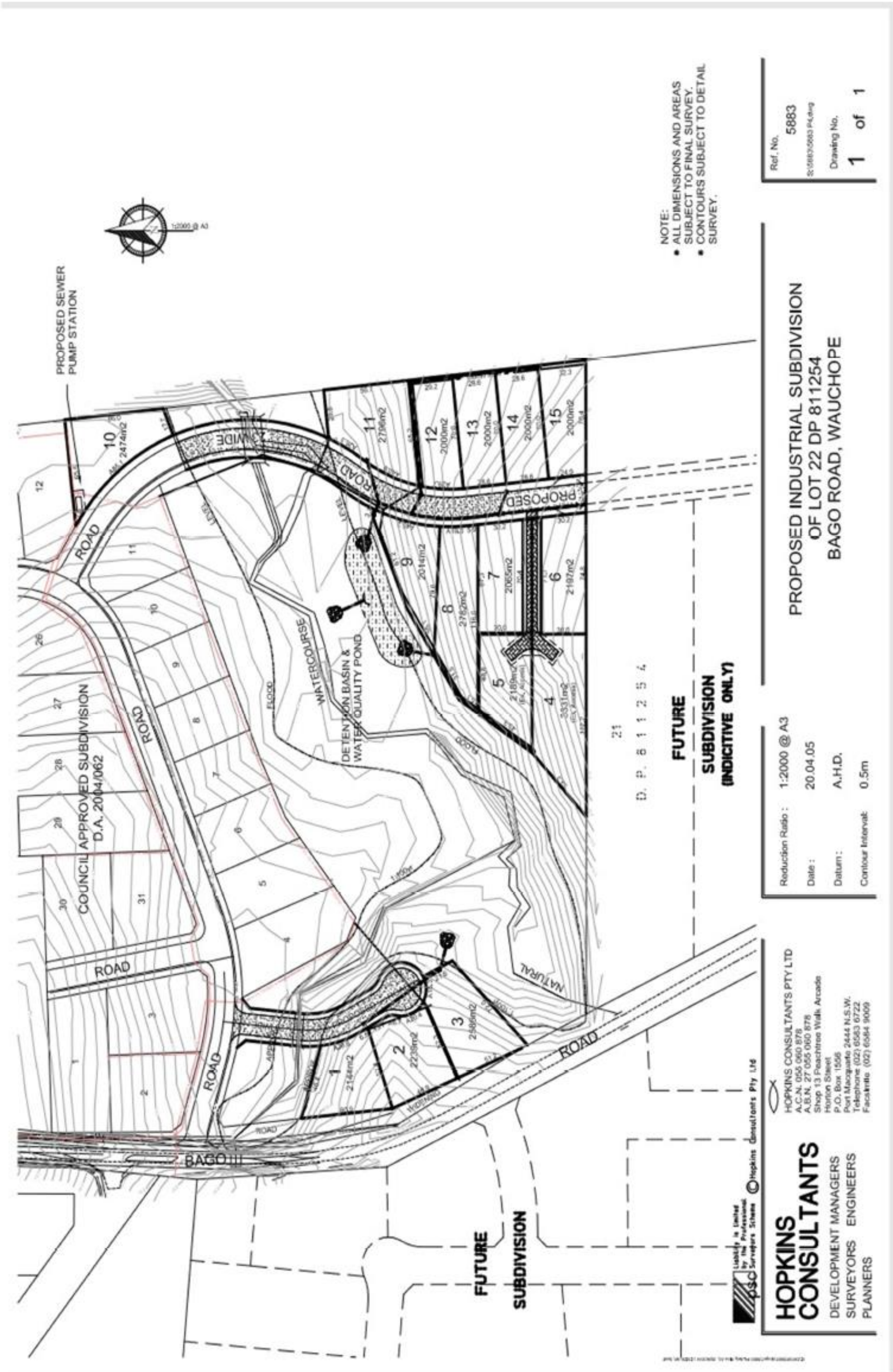
	In				Out				15m	1hr
Time	*LV*	*HV*	*SU*	*Total*	*LV*	*HV*	*SU*	*Total*	Total	*Total*
3:00 PM	18		1	19	15			15	**34**	
3:15 PM	18		2	20	17			17	**37**	
3:30 PM	12		1	13	17		2	19	**32**	
3:45 PM	8		2	10	16		1	17	**27**	***130***
4:00 PM	22		1	23	19		1	20	**43**	***139***
4:15 PM	8		1	9	8			8	**17**	***119***
4:30 PM	9		1	10	16			16	**26**	***113***
4:45 PM	4			4	12			12	**16**	***102***
5:00 PM	4			4	10			10	**14**	***73***
5:15 PM	3			3	6			6	9	***65***
5:30 PM										
5:45 PM										

Wednesday 20 December 2017

	In				Out				15m	1hr
Time	*LV*	*HV*	*SU*	*Total*	*LV*	*HV*	*SU*	*Total*	Total	*Total*
6:30 AM	5	1	1	7	2	1	1	4	**11**	
6:45 AM	16			16	10			10	**26**	
7:00 AM	10	1		11	12	3		15	**26**	
7:15 AM	12		1	13	8			8	**21**	***84***
7:30 AM	11	1		12	9	1	4	14	**26**	***99***
7:45 AM	8		1	9	8	1		9	**18**	***91***
8:00 AM	17		1	18	7		1	8	**26**	***91***
8:15 AM										
8:30 AM										
8:45 AM										
9:00 AM										
9:15 AM										

Layout of Chestnut Road Industrial Precinct, Port Macquarie

Appendix D
Layout of Approved Development to the North


PROPOSED INDUSTRIAL SUBDIVISION
OF LOT 22 DP 811254
BAGO ROAD, WAUCHOPE
NOTE:
• ALL DIMENSIONS AND AREAS SUBJECT TO FINAL SURVEY.
• CONTOURS SUBJECT TO DETAIL SURVEY.
Ref. No. 5883
Drawing No. 1 of 1
Reduction Ratio : 1:2000 @ A3
Date : 20.04.05
Datum : A.H.D.
Contour Interval: 0.5m
HOPKINS CONSULTANTS
DEVELOPMENT MANAGERS
SURVEYORS ENGINEERS
PLANNERS
PROPOSED SEWER PUMP STATION
COUNCIL APPROVED SUBDIVISION D.A. 2004/062
DETENTION BASIN & WATER QUALITY POND
WATERCOURSE
PROPOSED ROAD
BAGO ROAD
FUTURE SUBDIVISION
FUTURE SUBDIVISION (INDICITIVE ONLY)
D. P. 8 1 1 2 5 4

Appendix E
Estimated Traffic Generation from Future Industrial Developments

Lot No	Area (sq m)	70%	Landuse	Rate		Volumes		Comments
				Daily	Hourly	vpd	Pk Hr	
1	2130	1491	Freight Transport	5 trips / 100sqm GFA	1 trip / 100sqm	75	15	
2	2099	1469	Freight Transport	5 trips / 100sqm GFA	1 trip / 100sqm	73	15	
3	2099	1469	Warehouse / Distrib Centres	4 trips / 100sqm GFA	0.5 trips / 100sqm	59	7	
4	2099	1469	Warehouse / Distrib Centres	4 trips / 100sqm GFA	0.5 trips / 100sqm	59	7	
5	2102	1471	Garden Centre		57 + (.7/100sqm)	100	15	Peak trade on weekends
6	2037	1426	Light Industrial	5 trips / 100sqm	1 trips / 100sqm	71	14	
7	1083	758	Light Industrial	5 trips / 100sqm	1 trips / 100sqm	38	8	
8	1000	700	Light Industrial	5 trips / 100sqm	1 trips / 100sqm	35	7	
9	1000	700	Factories	5 trips / 100sqm	1 trips / 100sqm	35	7	
10	1000	700	Light Industrial	5 trips / 100sqm	1 trips / 100sqm	35	7	
11	1000	700	Car Tyre Retail	10 trips / 100sqm GFA	10 trips / 100sqm GFA	70	7	
12	1000	700	Factories	5 trips / 100sqm	1 trips / 100sqm	35	7	
13	1000	700	Gymnasium	45 trips / 100sqm GFA	9 trips / 100sqm	315	63	
14	1000	700	Factories	5 trips / 100sqm	1 trips / 100sqm	35	7	
15	1180	826	Neighbourhood Shops	6.6 trips / 100sqm GFA	1 trips / 100sqm	55	8	
16	1682	1177	Light Industrial	5 trips / 100sqm	1 trips / 100sqm	59	12	
17	1250	875	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	44	9	
18	1250	875	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	44	9	
19	1250	875	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	44	9	
20	1500	1050	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	53	11	
21	1689	1182	Factories	1 trips / 100sqm GFA	1 trips / 100sqm	59	12	
22	1431	1002	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	50	10	
23	1260	882	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	44	9	
24	1197	838	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	42	8	
25	1197	838	Building supplies	5.6 trips / 100sqm GFA	1 trips / 100sqm	47	8	
26	1197	838	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	47	8	
27	1197	838	Factories	1 trips / 100sqm GFA	1 trips / 100sqm	47	8	
28	1403	982	Factories	1 trips / 100sqm GFA	1 trips / 100sqm	55	10	
29	1416	991	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	56	10	
30	1100	770	Factories	1 trips / 100sqm GFA	1 trips / 100sqm	43	8	
31	1161	813	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	46	8	
32	1533	1073	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	60	11	
33	1472	1030	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	58	10	
34	1095	767	Building supplies	5.6 trips / 100sqm GFA	1 trips / 100sqm	43	8	
35	1026	718	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	40	7	
36	1025	718	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	40	7	
37	1025	718	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	40	7	
38	1025	718	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	40	7	
39	1025	718	Warehouse / Distrib Centres	4 trips / 100sqm GFA	0.5 trips / 100sqm	29	7	
40	1347	943	Warehouse / Distrib Centres	4 trips / 100sqm GFA	0.5 trips / 100sqm	38	9	
4	3331	2332	Warehouse / Distrib Centres	4 trips / 100sqm GFA	0.5 trips / 100sqm	65	16	Adjoining development
5	2189	1532	Warehouse / Distrib Centres	4 trips / 100sqm GFA	0.5 trips / 100sqm	43	11	Alternative access via
6	2197	1538	Building supplies	5.6 trips / 100sqm GFA	1 trips / 100sqm	43	11	Inventive Way
7	2065	1446	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	40	10	
8	2782	1947	Warehouse / Distrib Centres	4 trips / 100sqm GFA	0.5 trips / 100sqm	55	14	
9	2014	1410	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	39	10	
11	2798	1959	Factories	1 trips / 100sqm GFA	1 trips / 100sqm	55	14	
12	2000	1400	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	39	10	
13	2000	1400	Building supplies	5.6 trips / 100sqm GFA	1 trips / 100sqm	39	10	
14	2000	1400	Light Industrial	1 trips / 100sqm GFA	1 trips / 100sqm	39	10	
15	2000	1400	Warehouse / Distrib Centres	4 trips / 100sqm GFA	0.5 trips / 100sqm	39	10	
	78958	55271				2752	541	

APPENDIX D

Acoustic Report

Pulse Acoustic CONSULTANCY

Kempsey Timbers Industrial Subdivision- Bago Road, Wauchope, NSW

DA Acoustic Assessment Report

Kempsey Timbers Pty Ltd c/o Hopkins Consultants Pty Ltd
Suite 1, 109 William Street
Port Macquarie 2444 NSW

20190215_ Kempsey Timbers Industrial subdivision, Bago Road_DA

15 February 2019

Version: Draft 2

Kempsey Timbers Pty Ltd c/o Hopkins Consultants Pty Ltd
Suite 1, 109 William Street
Port Macquarie 2444 NSW

Kempsey Timbers Industrial Subdivision- Bago Road, Wauchope, NSW
DA Acoustic Assessment Report

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DOCUMENT CONTROL

Reference	Status	Date	Prepared	Checked	Authorised
20190215_ Kempsey Timbers Industrial subdivision, Bago Road_DA	Draft	2019-02-21	Sonny Wong	Matthew Harrison	Matthew Harrison
20190215_ Kempsey Timbers Industrial subdivision, Bago Road_DA	Draft 2	2019-05-07	Sonny Wong	Matthew Harrison	Matthew Harrison

Kempsey Timbers Pty Ltd c/o Hopkins Consultants Pty Ltd
Suite 1, 109 William Street
Port Macquarie 2444 NSW

TABLES

FIGURES

Kempsey Timbers Pty Ltd c/o Hopkins Consultants Pty Ltd
Suite 1, 109 William Street
Port Macquarie 2444 NSW

1 INTRODUCTION

Pulse Acoustics Consultancy (Pulse Acoustics) has been engaged by Kempsey Timbers (the client), through Hopkins Consultants Pty Ltd, to undertake an acoustic assessment for an Industrial Subdivision at Lot 21 DP: 811254, Bago Road, Wauchope. This Acoustic Assessment Report will form part of the documentation required for the Development Application (DA).

This report discusses the acoustic criteria adopted for the project and provides recommendations for the Industrial Subdivision to ensure that the noise levels at the sensitive receivers do not exceed the relevant noise criteria.

A list of acoustic terminology used in this report is included in Appendix A of this report.

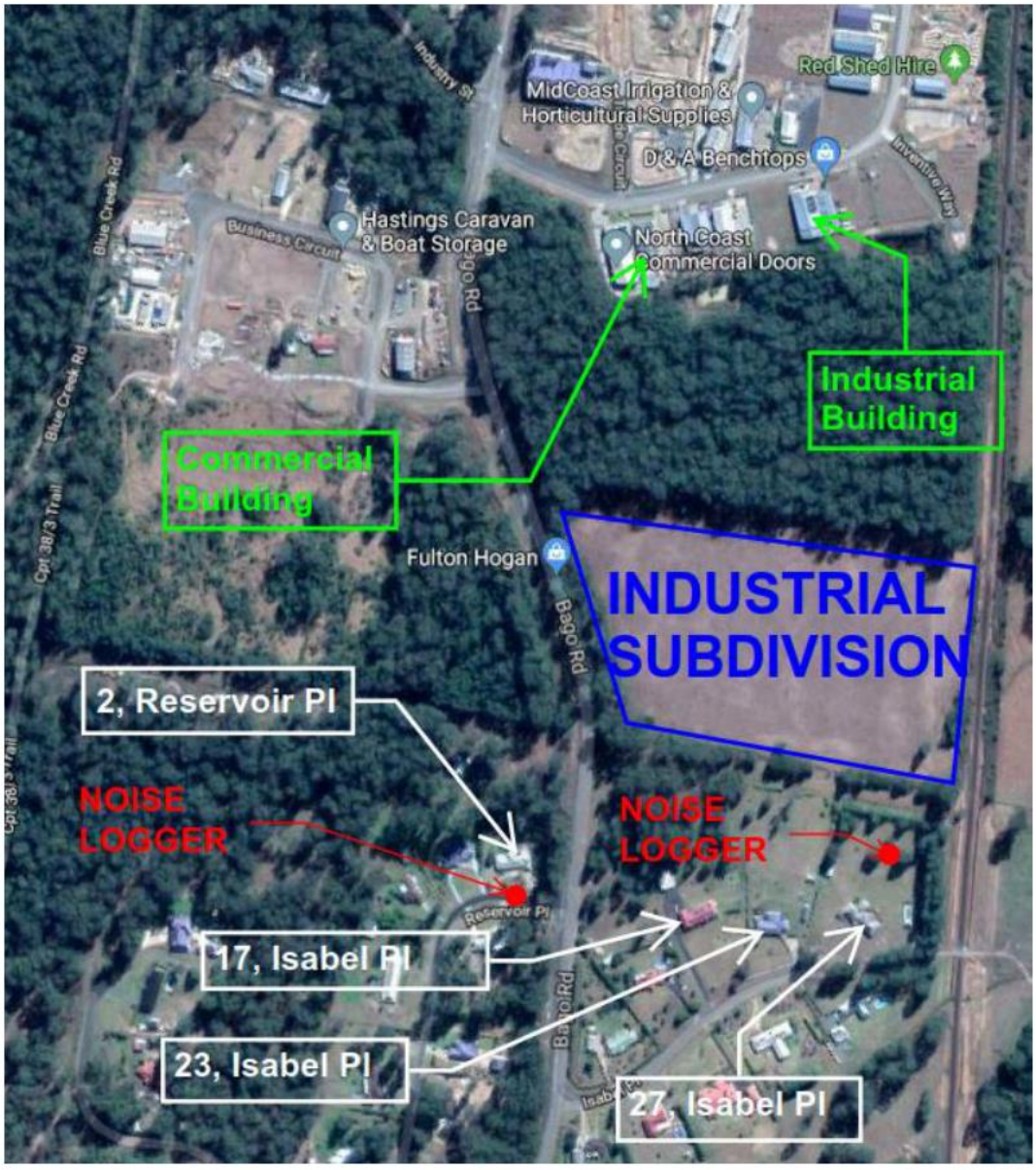
1.1 Site Description

The site layout of the Industrial Subdivision, which is the subject of this Development Application Acoustic Assessment, is shown in Figure 1 below. It is to our understanding that each lot in the subdivision will be used for industrial purposes only. Figure 2 shows the nearest sensitive receivers to the industrial subdivision. These are identified as follows:

- Residential receivers located at 2 Reservoir Pl, 17 Isabel Pl, 23 Isabel Pl and 27 Isabel Pl
- Commercial receivers located at 14 Production Dr
- Industrial receivers located at 30 Production Dr

Figure 1 Site Layout

Figure 2 Aerial Image of the development site and surrounding receiver locations



Kempsey Timbers Pty Ltd c/o Hopkins Consultants Pty Ltd
Suite 1, 109 William Street
Port Macquarie 2444 NSW

2 EXISTING NOISE ENVIRONMENT

2.1 Unattended Ambient Noise Monitoring

An unattended noise survey was conducted between 19 February 2019 and 4 March 2019 at 27 Isabel Place and 2 Reservoir Place. This survey was conducted to measure the existing ambient noise levels which are representative of the nearest noise affected receivers.

The noise monitoring location that is representative of the residences located to the south of development site is 27 Isabel Place. The noise monitoring location that is representative of the residences located to the south-west of the development site and will be exposed to the noise of any road traffic noise increase along Bago Road is 27 Isabel Place. These noise monitoring locations are shown in Figure 3 and Figure 4 below.

The instrumentation used for the noise survey comprised Svan 971 noise loggers (serial number 39165 and 74365). Calibration of the logger was checked prior to and following the measurements. Drift in calibration did not exceed ±0.5 dB. All equipment carried appropriate and current NATA (or manufacturer) calibration certificates.

Charts presenting summaries of the measured daily noise data are attached in Appendix B. The charts present each 24-hour period and show the L_{A1}, L_{A10}, L_{Aeq} and L_{A90} noise levels for the corresponding 15 minute periods. This data has been filtered to remove periods affected by adverse weather conditions based on weather information obtained from Port Macquarie Airport (station ID 060139).

During the noise monitoring period, there was a significant amount of rain and wind with speeds in excess of 5m/s. These periods of unfavourable weather have been excluded from the noise monitoring results.

Figure 3 Logger location – 2 Reservoir Place (on the driveway, looking north)

Figure 4 Logger location – 27 Isabel Place (in the backyard, looking south)

2.1.1 Environmental Noise Monitoring Results

In order to assess the acoustical implications of the development to nearby noise sensitive receivers, such as the residences south of the site, the measured noise data of the loggers were processed in accordance with the recommendations contained in the NSW Environment Protection Authority's (EPA) *Noise Policy for Industry* (NPI).

The Rating Background Noise Level (RBL) is the background noise level used for assessment purposes at the nearest potentially affected receiver. It is the 90th percentile of the daily background noise levels during each assessment period, being day, evening and night. The RBL L_{A90} and L_{Aeq} noise levels are presented in Table 1 below.

Table 1 Measured ambient noise levels (dBA) – unattended noise survey

Measurement Location	Daytime[1] 7:00 am to 6:00 pm		Evening[1] 6:00 pm to 10:00 pm		Night-time[1] 10:00 pm to 7:00 am	
	L_{A90}[2]	L_{Aeq}[3]	L_{A90}[2]	L_{Aeq}[3]	L_{A90}[2]	L_{Aeq}[3]
27 Isabel Pl, Wauchope, NSW	32	51	33	46	31	46
2, Reservoir Pl, Wauchope, NSW	35	52	34	53	34	54

Note 1: For Monday to Saturday, Daytime 7:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 7:00 am. On Sundays and Public Holidays, Daytime 8:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 8:00 am

Note 2: The L_{A90} noise level is representative of the "average minimum background sound level" (in the absence of the source under consideration), or simply the background level.

Note 3: The L_{Aeq} is the energy average sound level. It is defined as the steady sound level that contains the same amount of acoustical energy as a given time-varying sound.

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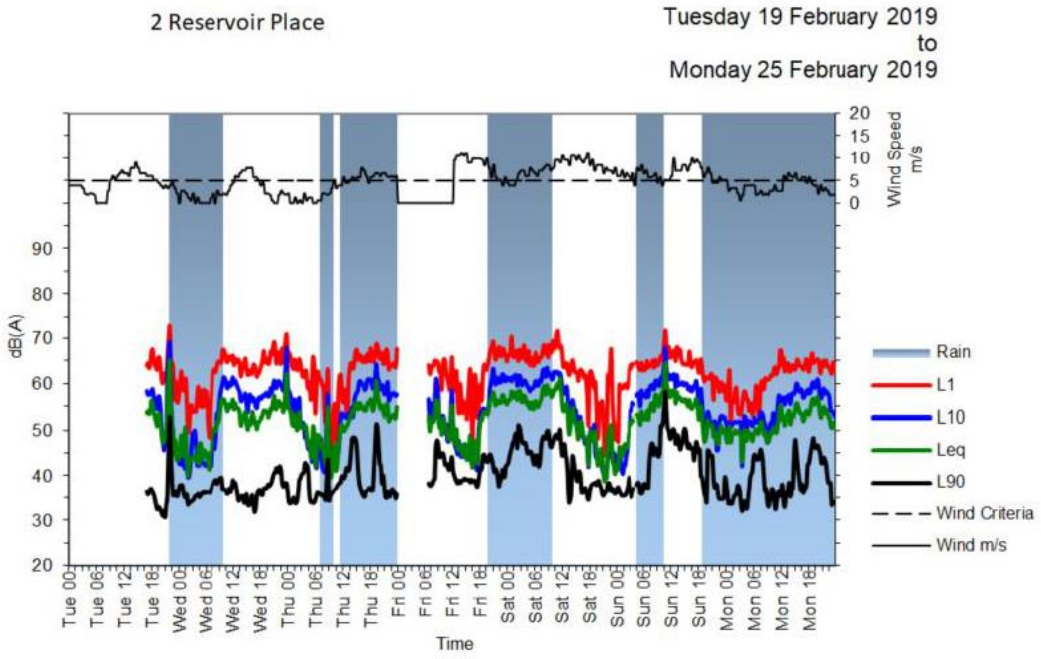
A summary of the noise levels at the two monitoring locations, which are representative of the levels at the nearest residences, can be seen in Figure 5 and Figure 6 below.

Figure 5 2 Reservoir Place noise logging results



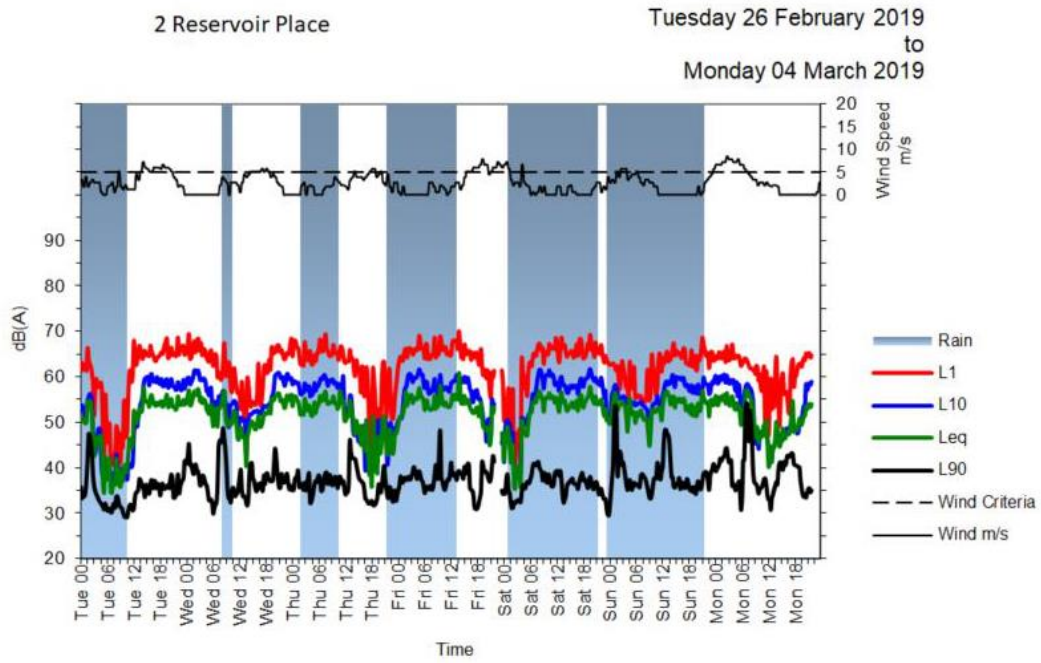


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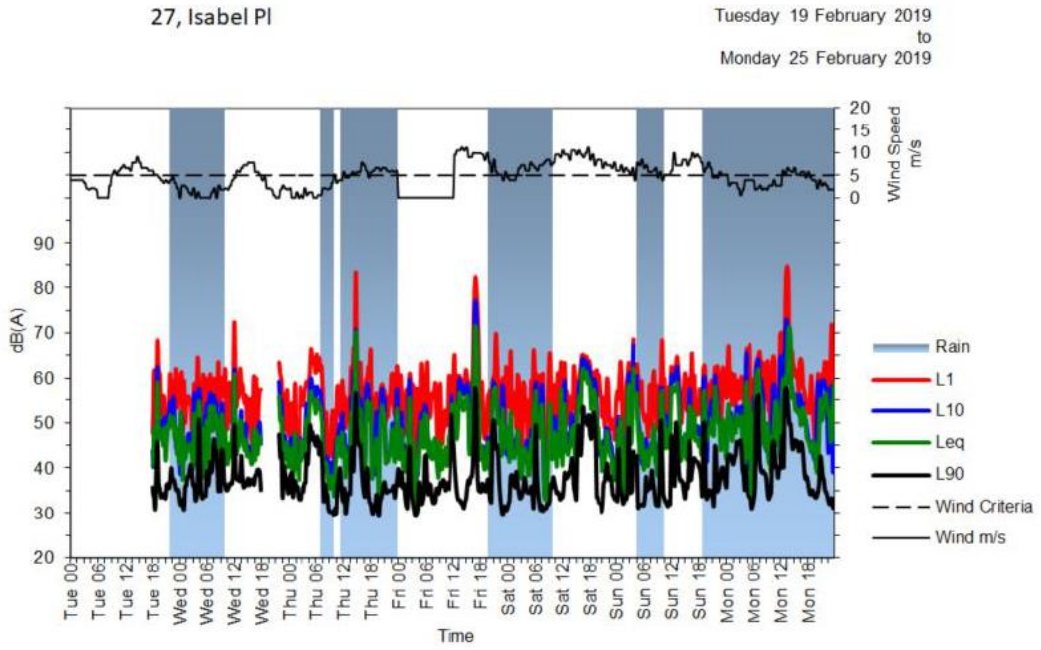
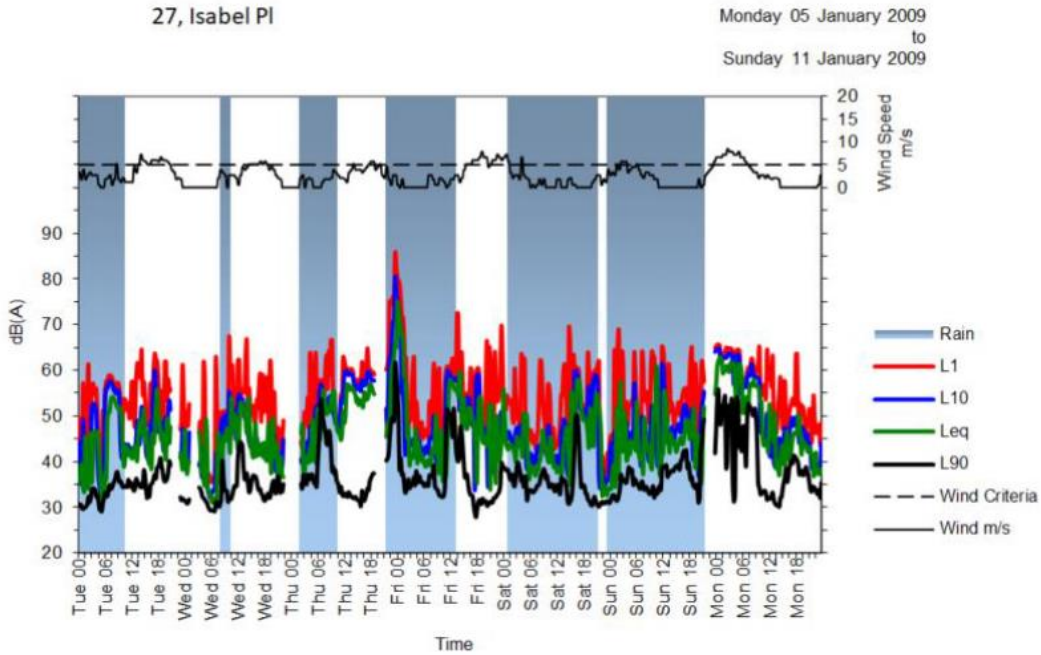
Figure 6 27 Isabel Place noise logging results





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2.1.2 Road Traffic Noise Monitoring Results

In order to assess the impact of any road traffic noise increase on residences located along Bago Road, data obtained from the noise logger located at 2 Reservoir Place has also been processed to establish representative ambient noise levels during defined standard road traffic noise time periods.

These time periods are defined in the Environment Protection Authority's (EPA) *Road Noise Policy* (RNP). The results of the monitoring are presented in Table 2 below.

Table 2 Measured L_{Aeq} road traffic noise (dBA) descriptors for noise monitoring at 2 Reservoir Place

Measurement Location	$L_{Aeq(1hour)}$ Day[1]	$L_{Aeq(1hour)}$ Night[1]	$L_{Aeq(15hour)}$[2]	$L_{Aeq(9hour)}$[3]
2, Reservoir Pl, Wauchope, NSW	56 dBA	56 dBA	53 dBA	54 dBA

Note 1: Repeatable $L_{Aeq(1hour)}$ noise levels
Note 2: The "15 Hour" represents the daytime period 7:00 am to 10:00 pm
Note 3: The "9 Hour" represents the night-time period between 10:00 pm and 7:00 am

The $L_{Aeq(period)}$ descriptor represents the logarithmic average of all $L_{Aeq,15\ min}$ noise level measurements made during the measurement period. The "15 Hour" represents the daytime period 7:00 am to 10:00 pm and "9 Hour" represents the night-time period between 10:00 pm and 7:00 am.

In the case of the $L_{Aeq\ (1h)}$ descriptor, the highest 10th-percentile hourly A-weighted L_{eq} noise level applies when the particular class of building / place is in use.

3 ACOUSTIC CRITERIA

The following noise criteria are relevant for the assessment of noise emissions from the industrial subdivision:

- For the assessment of the predicted noise emissions by future industrial buildings: The criteria have been derived in accordance with the *Noise Policy for Industry* (NSW NPI). Refer to Section 3.1.
- For the assessment of the noise impacts of the construction noise on the sensitive receivers: The criteria have been derived in accordance with the *Interim Construction Noise Guideline (ICNG)*

3.1 NSW Noise Policy for Industry (NSW NPI)

In NSW, the control of noise emissions is the responsibility of Local Governments and the NSW Environment Protection Authority (NSW EPA).

The NSW EPA has recently released a document titled *Noise Policy for Industry* (NSW NPI) which provides a framework and process for determining external noise criteria for the assessment of noise emission from industrial developments. The NSW NPI criteria for industrial noise sources have two components:

- Controlling the intrusive noise impacts for residents and other sensitive receivers in the short term; and
- Maintaining noise level amenity of particular land uses for residents and sensitive receivers in other land uses.

3.1.1 Intrusive Noise Impacts (Residential Receivers)

The NSW NPI states that the noise from any single source should not intrude greatly above the prevailing background noise level. Industrial noises are generally considered acceptable if the equivalent continuous (energy-average) A-weighted level of noise from the source (L_{Aeq}), measured over a 15-minute period, does not exceed the background noise level measured in the absence of the source by more than 5 dB(A). This is often termed the Intrusiveness Criterion.

- $L_{Aeq, 15min}$ = Rating Background noise Level (RBL) + 5 dB

The 'Rating Background Level' (RBL) is the background noise level to be used for assessment purposes and is determined by the methods given in the NSW NPI. Using the rating background noise level approach results in the intrusiveness criterion being met for 90% of the time. Adjustments are to be applied to the level of noise produced by the source that is received at the assessment point where the noise source contains annoying characteristics such as tonality or impulsiveness.

Intrusiveness noise levels are not used directly as regulatory limits. They are used in combination with the amenity noise level to assess the potential impact of noise, assess reasonable and feasible mitigation options and subsequently determine achievable noise requirements.

In some rural situations, the RBL may be the same for the day, evening and night. In these cases, it is recognised that excursions of noise above the project intrusiveness noise level during the day would not usually have the same impact as they would during the evening or night. This is due to the more sensitive nature of activities likely to be disturbed at night (for example, sleep and relaxation).

In some rural situations, the RBL may be the same for the day, evening and night. In these cases, it is recognised that excursions of noise above the project intrusiveness noise level during the day would not usually have the same impact as they would during the evening or night. This is due to the more sensitive nature of activities likely to be disturbed at night (for example, sleep and relaxation).

Section A1.2 of NSW NPI which states that:

> *"Where the rating background noise level is found to be less than 30 dB(A) for the evening and night periods, then it is set to 30 dB(A); where it is found to be less than 35 dB(A) for the daytime period, then it is set to 35 dB(A)"*

The minimum intrusiveness noise levels for unattended measurements that show a background noise level lower than the minimum background level specified in the NSW NPI are as follows:

Table 3 Minimum assumed RBLs and project intrusiveness noise levels

Location	Time of Day	Minimum assumed rating background noise level[1] (dBA)	Minimum project intrusiveness noise levels (dBA)
Residences	Day	35	40
	Evening	30	35
	Night	30	35

Note 1: From Table 2.1 of the NPI "Minimum assumed RBLs and project intrusiveness noise levels"

3.1.2 Protecting Noise Amenity (All Receivers)

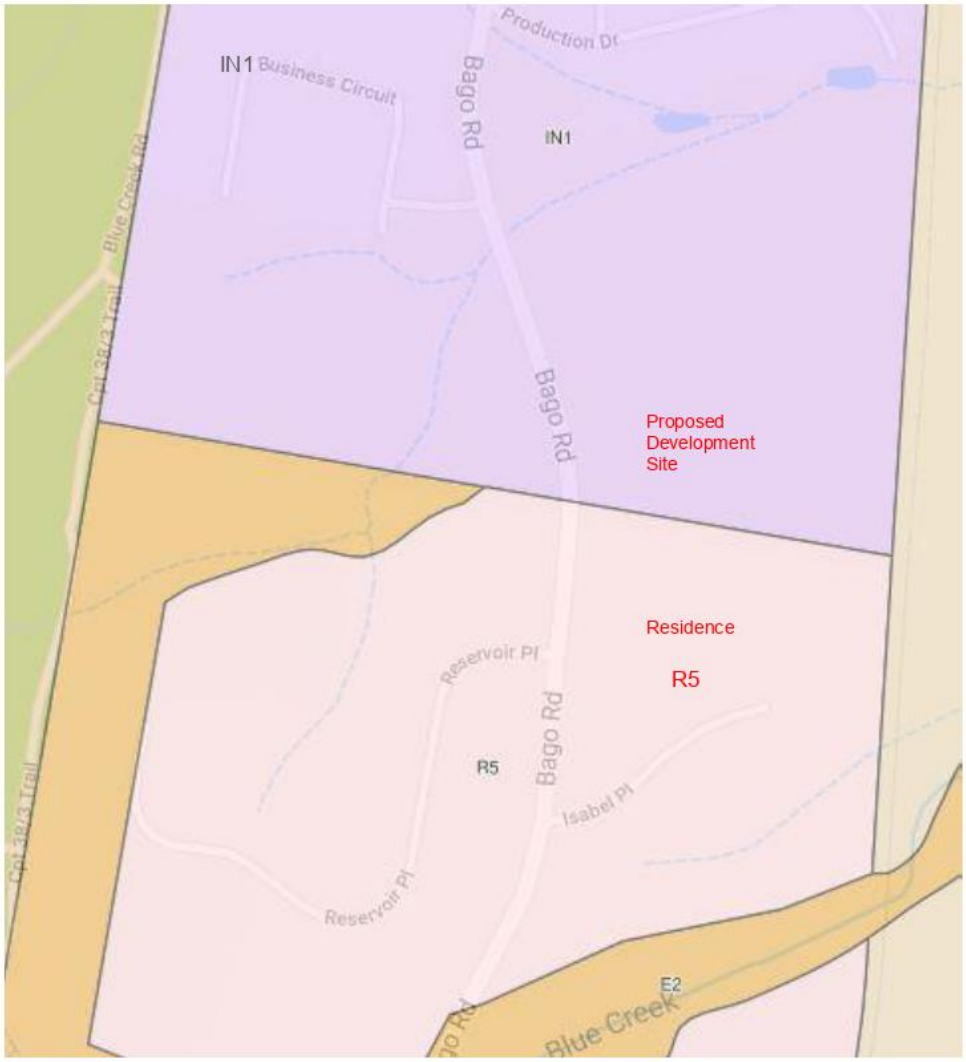
To limit continuing increase in noise levels, the maximum ambient noise level within an area from industrial noise sources should not normally exceed the acceptable noise levels specified in Table 2.2 of the NSW NPI. That is, the ambient L_{Aeq} noise level should not exceed the level appropriate for the particular locality and land use. This is often termed the 'Background Creep' or Amenity Criterion.

The amenity assessment is based on noise criteria specified for a particular land use and corresponding sensitivity to noise. The cumulative effect of noise from industrial sources needs to be considered in assessing the impact. These criteria relate only to other continuous industrial-type noise and do not include road, rail or community noise. If the existing (measured) industrial-type noise level approaches the criterion value, then the NSW NPI sets maximum noise emission levels from new sources with the objective of ensuring that the cumulative levels do not significantly exceed the criterion.

3.1.2.1 Area Classification

The residential area located in close proximity to the industrial area subject to the proposed subdivision, falls under the "rural" area classification in accordance with the zoning map shown in Figure 7 (residential areas located within R5 zones are classified as "rural" in Table 2.3 of the NSW NPI). This is shown in the zoning map included in Figure 7 (obtained from the NSW Government Planning Portal website).

Figure 7 Zoning Map



The NSW NPI characterises the "Rural" noise environment as an area with an acoustical environment that is dominated by natural sounds, having little or no road traffic noise and generally characterised by low background noise levels. Settlement patterns would be typically sparse.

For residential and non-residential receivers in a Rural area, the recommended amenity criteria are shown in Table 5 below.

Table 4 NSW NPI – Recommended L_{Aeq} Noise Levels from

Type of Receiver	Indicative Noise Amenity Area	Time of Day[1]	Recommended Amenity Noise Level ($L_{Aeq, period}$)[2]
Residence	Rural	Day	50
		Evening	45
		Night	40
Commercial premises	All	When in use	65
Industrial premises	All	When in use	70

Note 1: For Monday to Saturday, Daytime 7:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 7:00 am. On Sundays and Public Holidays, Daytime 8:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 8:00 am

Note 2: The L_{Aeq} is the energy average sound level. It is defined as the steady sound level that contains the same amount of acoustical energy as a given time-varying sound

When the existing noise level from industrial noise sources is close to the recommended "Amenity Noise Level" (ANL) given above, noise from the new source must be controlled to preserve the amenity of the area in line with the requirements of the NSW NPI.

3.1.3 Project Trigger Noise Levels

Table 5 presents the intrusive and amenity criteria for industrial noise emissions, these criteria are nominated for the purpose of determining the operational noise limits for activities and equipment associated with the operation of the development which can potentially affect noise sensitive receivers. The acoustic assessment will be assessed by the more stringent criteria between the intrusiveness and amenity criteria.

Table 5 External noise level criteria in accordance with the NSW NPI

Location	Time of Day	Project Amenity Noise Level, $L_{Aeq, period}$ [1] (dBA)	Measured $L_{A90, 15\ min}$ (RBL) [2] (dBA)	Measured $L_{Aeq, period}$ Noise Level (dBA)	Intrusive $L_{Aeq, 15\ min}$ Criterion for New Sources [3] (dBA)	Amenity $L_{Aeq, 15\ min}$ Criterion for New Sources (dBA) [4,5]
27 Isabel Pl, Wauchope, NSW	Day	45	32	51	**40**[6]	48
	Evening	40	33	46	**38**	43
	Night	35	31	46	**36**	39[4]
2, Reservoir Pl, Wauchope, NSW	Day	45	35	52	**40**	48
	Evening	40	34	53	**39**	46[4]
	Night	35	34	54	**39**	47[4]
Commercial	When in use	60	-	-	-	**63**
Industrial	When in use	65	-	-	-	**68**

Note 1: Project Amenity Noise Levels corresponding to "Rural" areas, equivalent to the Recommended Amenity Noise Levels (Table 4) minus 5 dBA

Note 2: L_{A90} Background Noise or Rating Background Level

Note 3: Project Noise Trigger Levels are shown in bold.

Note 4: Where the resultant project amenity noise level is 10 dB or more lower than the existing industrial noise level, the project amenity noise levels can be set at 10 dB below existing industrial noise levels (if it can be demonstrated that existing industrial noise levels are unlikely to reduce over time).

Note 5: According to Section 2.2 of the NSW NPI, the LAeq, 15 minutes is equal to the LAeq, period + 3 dB

Note 6: The Intrusiveness Criterion is derived from Table 3

Therefore, the noise criteria for the residential premises are indicated as shown below.

Table 6 Project Trigger Noise Level ($L_{Aeq(15\ min)}$)

Location	Time of Day	Project Trigger Level (dBA)
Residences (27 Isabel Pl, Wauchope)	Day	40
	Evening	38
	Night	36
Residences (2, Reservoir Pl, Wauchope)	Day	40
	Evening	39
	Night	39
Industrial	When in use	63
Commercial	When in use	68

Note 1: Project Trigger Level is given in terms of an $L_{Aeq(15\ min)}$ noise levels

3.2 Construction Noise Criteria

The Interim Construction Noise Guideline (ICNG) sets out ways to deal with the potential impacts of construction noise on residences and other sensitive land uses. It does this by presenting assessment approaches that are tailored to the scale of construction projects.

A portion of the main objectives from Section 1.3 of the ICNG is presented below:

- Promote a clear understanding of ways to identify and minimise noise from construction works
- Focus on applying all "feasible" and "reasonable" work practices to minimise construction noise impacts
- Encourage construction to be undertaken only during the recommended standard hours unless approval is given for works that cannot be undertaken during these hours
- Streamline the assessment and approval stages and reduce time spent dealing with complaints at the project implementation stage
- Provide flexibility in selecting site-specific feasible and reasonable work practices in order to minimise noise impacts

The ICNG contains a quantitative assessment method which is applicable to this project. Guidance levels are given for airborne noise at residences and other sensitive land uses, including commercial and industrial premises.

The quantitative assessment method involves predicting noise levels at sensitive receivers and comparing them with the guidance, or Noise Management Levels (NMLs). The various NML categories for residential receivers have been reproduced from the guideline and are presented in Table 7 below.

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Table 7 Noise Management Levels for Airborne Construction Noise at Residences

Location	Time of Day	Project Trigger Level (dBA)
Recommended standard hours: • Monday to Friday 7 am to 6 pm • Saturday 8 am to 1 pm • No work on Sundays or public holidays	Noise affected RBL + 10 dB	The noise affected level represents the point above which there may be some community reaction to noise. Where the predicted or measured • $L_{Aeq(15minute)}$ is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level. • The proponent should also inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details.
	Highly noise affected 75 dBA	The highly noise affected level represents the point above which there may be strong community reaction to noise. • Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur, taking into account: 1. Times identified by the community when they are less sensitive to noise (such as before and after school for works near schools, or mid-morning or mid-afternoon for works near residences). 2. If the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.
Outside recommended standard hours	Noise affected RBL + 5 dB	A strong justification would typically be required for works outside the recommended standard hours. The proponent should apply all feasible and reasonable work practices to meet the noise affected level. Where all feasible and reasonable practices have been applied and noise is more than 5 dB above the noise affected level, the proponent should negotiate with the community.

Note 1: Noise levels apply at the property boundary that is most exposed to construction noise, and at a height of 1.5 m above ground level. If the property boundary is more than 30 m from the residence, the location for measuring or predicting noise levels is at the most noise-affected point within 30 m of the residence. Noise levels may be higher at upper floors of the noise affected residence.

Note 2: The RBL is the overall single-figure background noise level measured in each relevant assessment period (during or outside the recommended standard hours). The term RBL is described in detail in the NSW Noise Policy for Industry.

Specific non-residential receivers in the vicinity of the proposed construction site and their "Recommended Management Levels', are presented in Table 8 below.

Table 8 Noise at Sensitive Land Uses (other than Residences) and Commercial and Industrial Premises

Location	$L_{Aeq(15minute)}$ Construction NML
Commercial Premises	External noise level 70 dBA
Industrial Premises	External noise level 75 dBA

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3.3 Summary of the Noise Construction Criteria

Therefore, based on the guidelines in Section 3.2, the noise construction criteria (NML) for the receivers affected by the industrial development are outlined in Table 9.

Table 9 Construction Noise Management Levels Criteria

Location	NML, dBA LAeq(15minute)	
	Standard Hours Monday to Friday: 7 am to 6 pm Saturday: 8 am to 1 pm	Outside Standard Hours Saturday: 1 pm to 5 pm
27 Isabel Pl, Wauchope, NSW	45	40
2, Reservoir Pl, Wauchope, NSW	45	40
30 Production Dr (Industrial Receiver)	75	75
14 Production Dr (Commercial Receiver)	70	75

3.4 EPA Road Noise Policy (RNP)

The EPA RNP outlines the noise assessment criteria for the road traffic generated by the development. The requirements are as follows:

3.4.1 Noise Assessment Criteria

Figure 11 sets out the assessment criteria for residences to be applied to particular types of project, road category and land use. These criteria are for assessment against façade-corrected noise levels when measured in front of a building façade.

Table 10 Road Traffic Noise Assessment Criteria for Residential Land Uses

Road Category	Type of project/land use	Assessment Criteria (dBA)	
		Day (7 am – 10 pm)	Night (10 pm – 7am)
Local Roads	1. Existing residences affected by noise from new local corridors 2. Existing residences affected by noise from redevelopment of existing local roads 3. Existing residences affected by additional traffic on existing local roads generated by land use developments	LAeq,(15 hour) 55 (external)	LAeq, (9 hour) (external)

Note 1: Land use developers must meet internal noise goals in the Infrastructure SEPP (Department of Planning NSW 2007) for sensitive developments near busy roads

3.4.2 Relative Increase Criteria

For existing residences and other sensitive land uses affected by additional traffic on existing roads, the NSW Road Noise Policy (NSW RNP) states that for noise associated with increased road traffic generated by land use developments, any increase in the total traffic noise level should be limited to 2 dB during both day and night time periods. An increase of 2 dB represents a minor impact that is considered barely perceptible to the average person.

It should be noted that:

- The assessment for road traffic generation shall be conducted as per Section 3.4 of the EPA RNP document.
- A proponent will not be able to gain approval for multiple increases in the overall level of traffic noise simply by dividing a large development into small segments.

4 ACOUSTIC ASSESSMENT

A 3D computational model of the site and surrounding area was created and subsequently analysed using the iNoise 2018 acoustic modelling software. The noise modelling software was used to model:

- The acoustic assessment undertaken to ensure that the cumulative noise emission of all future developments inside the industrial subdivision do not exceed the NSW NPI criteria defined in Section 3.1.3.
- The noise impact assessment of the future construction activities on the noise sensitive receivers

4.1 Industrial Lot Noise Assessment

4.1.1 Methodology

Worst case scenarios were generated to assess the noise impact of future industrial development on residential receivers. The worst case assumes the noise emission at 4 different stages of the development:

- First Stage: Lot 1 to Lot 16 have been developed
- Second Stage: Lot 1 to Lot 26 have been developed
- Third Stage: Lot 1 to Lot 35 have been developed
- Fourth Stage: All the lots have been developed

Figure 8 Industrial Subdivision Proposed Development Stages

The noise emissions of the lots have been assumed to be comprised of noise generated inside the building and external noise (such as noise generated by mechanical services, carpark activities and loading dock activities). The noise impact assessment will determine the noise levels at the sensitive receivers from these noise emissions.

This assessment provides a maximum recommended internal and external noise level for each industrial lot.

It should be noted that the following assumptions have been made for the noise impact assessment:

- Every lot inside the subdivision will contain a building. The dimensions of the building have been assumed to be approximately 20 m in length, 15 m in width, and 6 m in height. Additionally, it was assumed that the walls were made out of a 3mm thick steel sheet. It should be noted that no openings have been considered.
- A 3m high acoustic barrier is assumed to be constructed along the southern boundary of the proposed development in the noise model. This barrier will provide acoustic shielding to the residences.
- We expect that there will be a reduced level of activity during the evening period throughout the subdivision generally, and we have conservatively assumed a reduction in noise level of 5 dBA for each development lot to account for this effect.
- It is assumed that the industrial subdivision will not operate during night time.

4.1.2 Noise Level Predictions

Following the discussions in Section 4.1.2, the maximum recommended noise levels for each industrial lot have been outlined in Table 11. The table outlines the recommended internal reverberant noise level and the external noise level for the specified lot.

Table 11 Maximum Recommended Noise Level (Noise Budget per lot)

Location	Maximum Recommended Noise Level (dBA)					
	Day		Evening		Night[1]	
	Internal[2]	External[3]	Internal[2]	External[3]	Internal[2]	External[3]
• Lot 25 • Lot 30 to Lot 33	90	75	85	70	-	-
• Lot 1 to Lot 2 • Lot 17 to Lot 24	86	72	81	67	-	-
• Lot 3 to Lot 6	93	78	88	73	-	-
• Lot 7 to Lot 11 • Lot 39 to Lot 40 • Lot 34	99	75	94	70	-	-
• Lot 12 to Lot 16 • Lot 26 to Lot 29 • Lot 35 to Lot 38	97	82	92	77	-	-

Note 1: It is assumed that the industrial site will not be operational during the night
Note 2: The reverberant internal noise level represents the noise level inside the industrial building
Note 3: The external noise level represents the total sound power level distributed over the external area of a lot. This sound power level comprises of external noise sources such as mechanical services, loading dock activities, and carparks.

4.1.3 Noise Impact Assessment

Based on the information discussed in Section 4, the predicted noise levels around the precinct have been modelled and the results for all three stages are outlined as follows.

4.1.3.1 Stage 1

The noise contours during the first stage of the development of the development are shown in Figure 9 and Figure 10.

Figure 9 Stage 1 Daytime Noise Contour

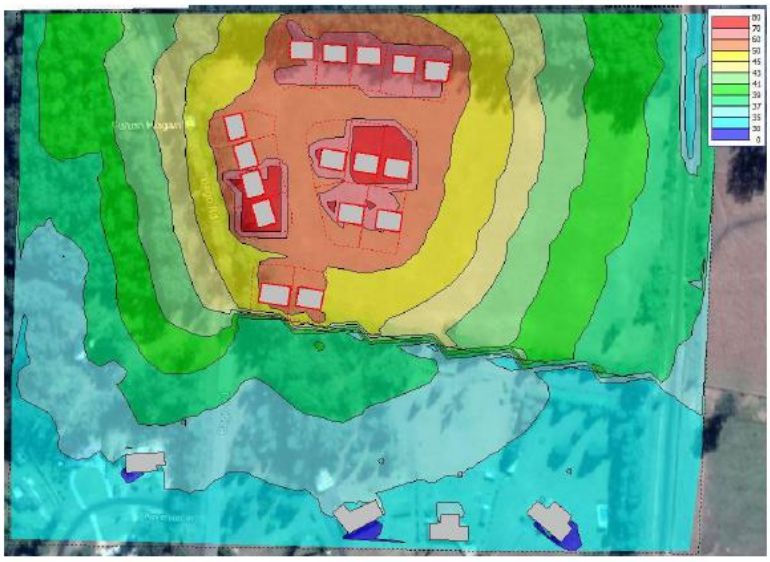

Figure 10 Stage 1 Evening Noise Contour

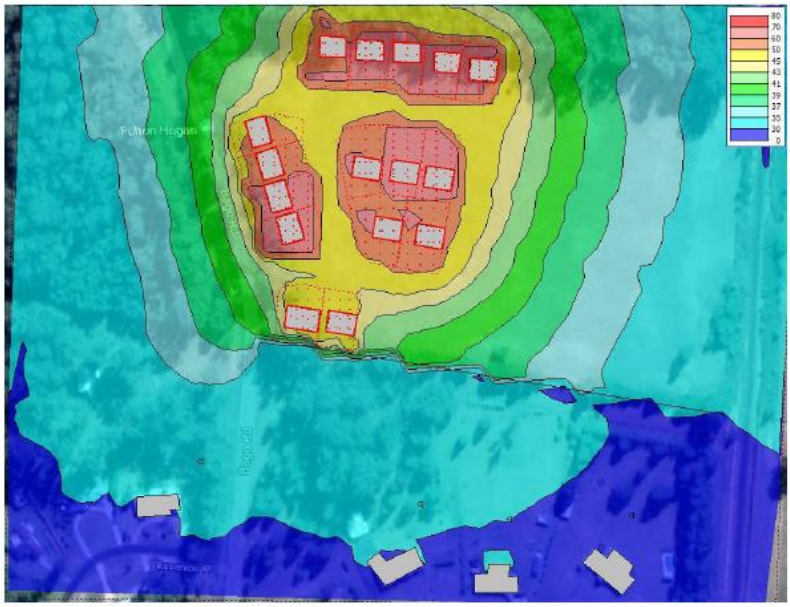

Table 12 Stage 1 Noise Level at the Residences, $L_{Aeq(15\ min)}$

Location	Noise criteria (Day/Evening/Night)	Noise Levels at the Receiver [2]		
		Day [1] (7:00 am–6:00 pm)	Evening (6:00pm–10:00pm)	Night (10:00pm–7:00am)
17 Isabel Pl	40 / 38 / 36	36	31	-
2 Reservoir Pl	40 / 39 / 39	37	32	-
23 Isabel Pl	40 / 38 / 36	35	30	-
27 Isabel Pl	40 / 38 / 36	34	29	-
14 Production Dr (Commercial Receiver)	63	40	35	-
30 Production Dr (Industrial Receiver)	68	37	32	-

Note 1: For Monday to Saturday, Daytime 7:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 7:00 am. On Sundays and Public Holidays, Daytime 8:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 8:00 am

Note 2: The $L_{Aeq(15\ min)}$ noise levels is the energy average sound level over a 15 minute period. It is defined as the steady sound level that contains the same amount of acoustical energy as a given time-varying sound

Table 12 shows the noise level at the residences from the industrial subdivision noise emissions during Stage 1 of the development. It is observed that the noise levels at all the residential, commercial and industrial receivers are lower than the criteria outlined in Table 6. Therefore, the assessment shows that stage 1 of the industrial development complies with the NSW NPI.

4.1.3.2 Stage 2

The noise contours during the second stage of the development of the development are shown in Figure 11 and Figure 12.

Figure 11 Stage 2 Daytime Noise Contour

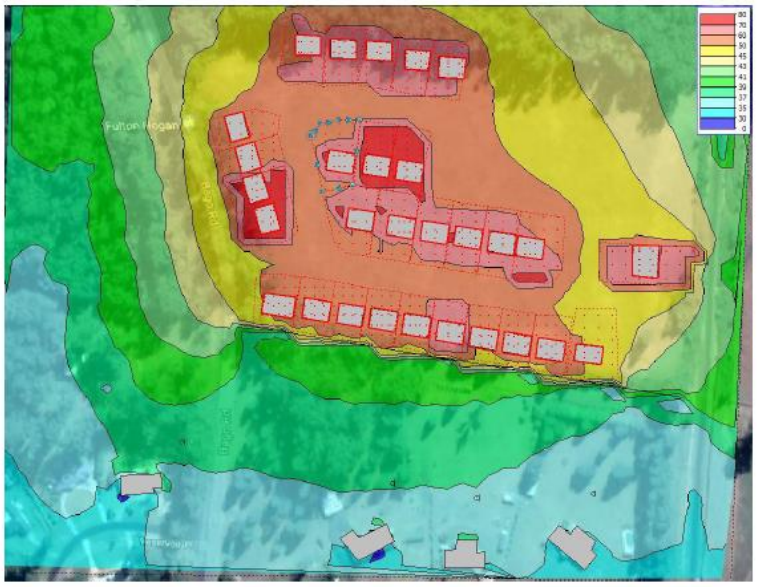

Figure 12 Stage 2 Evening Noise Contour

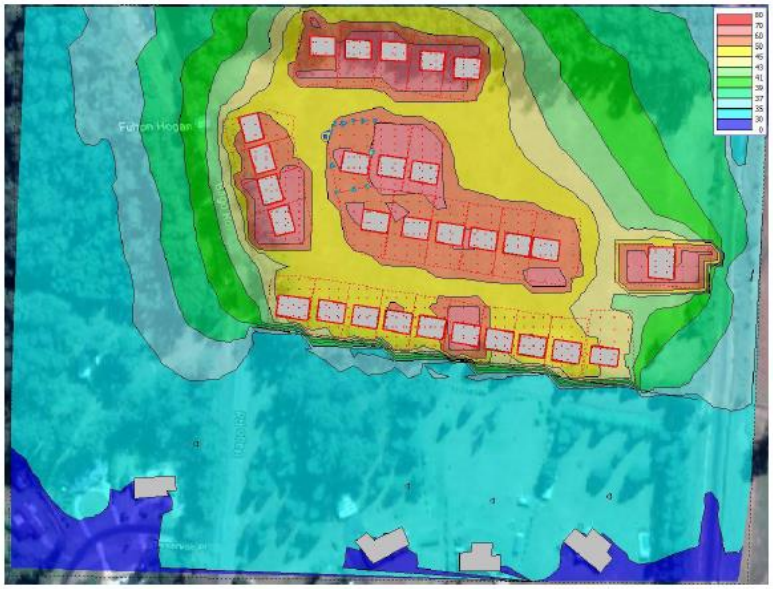

Table 13 Stage 2 Noise Level at the Residences

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Location	Noise criteria	Noise Levels at the Receiver[2]		
	(Day/Evening/Night)	Day [1] (7:00 am–6:00 pm)	Evening (6:00pm–10:00pm)	Night (10:00pm–7:00am)
17 Isabel Pl	40 / 38 / 36	37	32	-
2 Reservoir Pl	40 / 39 / 39	38	33	-
23 Isabel Pl	40 / 38 / 36	37	32	-
27 Isabel Pl	40 / 38 / 36	36	31	-
14 Production Dr (Commercial Receiver)	63	40	35	-
30 Production Dr (Industrial Receiver)	68	38	33	-

Note 1: For Monday to Saturday, Daytime 7:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 7:00 am. On Sundays and Public Holidays, Daytime 8:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 8:00 am

Note 2: The $L_{Aeq(15\ min)}$ noise levels is the energy average sound level over a 15 minute period. It is defined as the

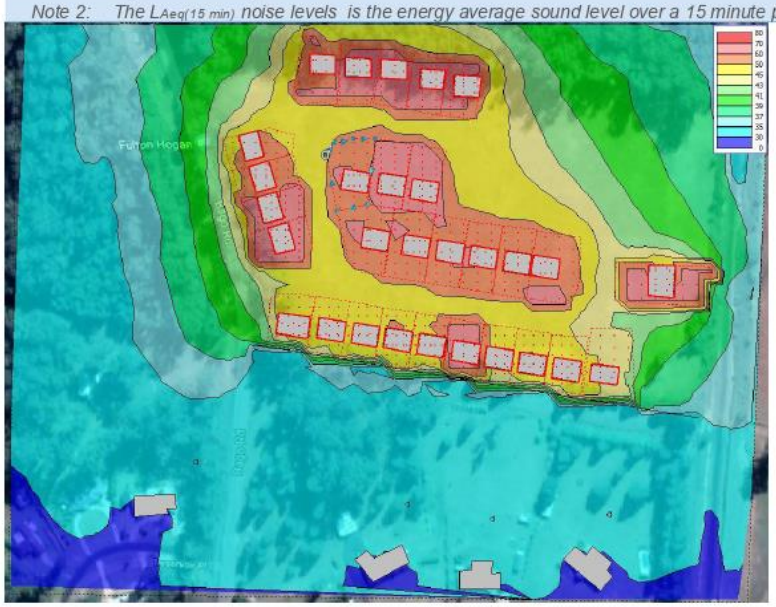

Table 13 shows the noise level at the residences from the industrial subdivision noise emissions during stage 2 of the development. It is observed that the noise levels all the residential, commercial and industrial receivers are lower than the criteria outlined in Table 6. Therefore, the assessment shows that the stage 2 of the industrial development complies with the NSW NPI.

4.1.3.3 Stage 3

The noise contours during the third stage of the development of the development are shown in Figure 13 and Figure 14.

Figure 13 Stage 3 Daytime Noise Contour

Figure 14 Stage 3 Evening Noise Contour

Table 14 Stage 3 Noise Level at the Residences

Location	Noise criteria	Noise Levels at the Receiver[2]		
	(Day/Evening/Night)	Day [1] (7:00 am–6:00 pm)	Evening (6:00pm–10:00pm)	Night (10:00pm–7:00am)
17 Isabel Pl	40 / 38 / 36	38	33	-
2 Reservoir Pl	40 / 39 / 39	38	33	-
23 Isabel Pl	40 / 38 / 36	37	32	-
27 Isabel Pl	40 / 38 / 36	37	32	-
14 Production Dr (Commercial Receiver)	63	41	36	-
30 Production Dr (Industrial Receiver)	68	39	34	-

Note 1: For Monday to Saturday, Daytime 7:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 7:00 am. On Sundays and Public Holidays, Daytime 8:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 8:00 am

Note 2: The $L_{Aeq(15\ min)}$ noise levels is the energy average sound level over a 15 minute period. It is defined as the

Table 14 shows the noise level at the residences from the industrial subdivision noise emissions during stage 3 of the development. It is observed that the noise levels at all the residential, commercial and industrial receivers are lower than the criteria outlined in Table 6. Therefore, the assessment shows that the stage 3 of the industrial development complies with the NSW NPI.

4.1.3.4 Stage 4

The noise contours during the fourth stage of the development of the development are shown in Figure 13 and Figure 14.

Figure 15 Stage 4 Daytime Noise Contour

Figure 16 Stage 4 Evening Noise Contour

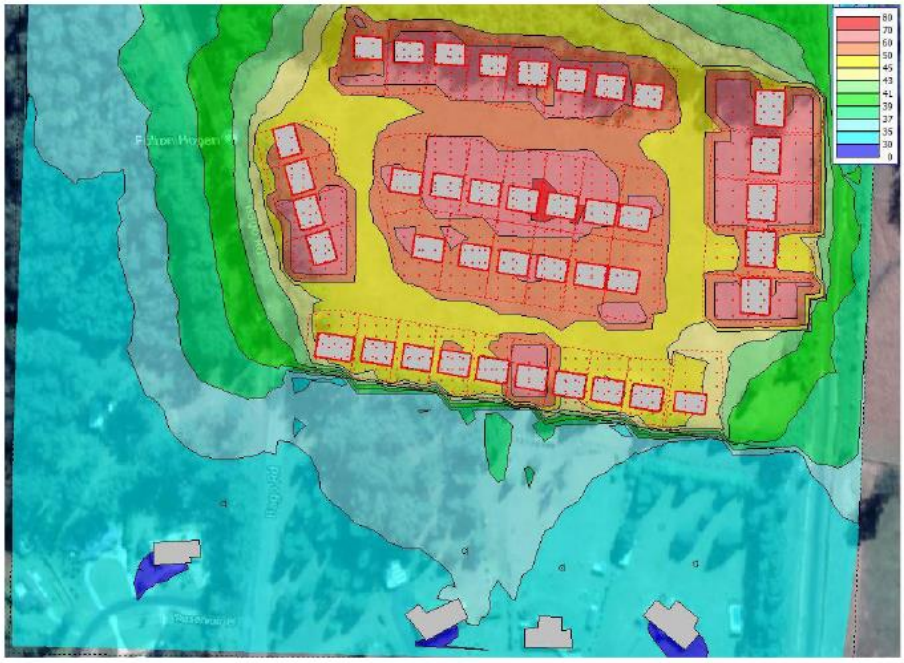

Table 15 Stage 4 Noise Level at the Residences

Location	Noise criteria	Noise Levels at the Receiver[2]		
	(Day/Evening/Night)	Day [1] (7:00 am–6:00 pm)	Evening (6:00pm–10:00pm)	Night (10:00pm–7:00am)
17 Isabel Pl	40 / 38 / 36	40	35	-
2 Reservoir Pl	40 / 39 / 39	39	34	-
23 Isabel Pl	40 / 38 / 36	39	34	-
27 Isabel Pl	40 / 38 / 36	38	33	-
14 Production Dr (Commercial Receiver)	63	43	38	-
30 Production Dr (Industrial Receiver)	68	42	37	-

Note 1: For Monday to Saturday, Daytime 7:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 7:00 am. On Sundays and Public Holidays, Daytime 8:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 8:00 am

Note 2: The $L_{Aeq(15\ min)}$ noise levels is the energy average sound level over a 15 minute period. It is defined as the

Table 14 shows the noise level at the residences from the industrial subdivision noise emissions during stage 4 of the development. It is observed that the noise levels at all the residential, commercial and industrial receivers are lower than the criteria outlined in Table 6. Therefore, the assessment shows that the stage 4 of the industrial development complies with the NSW NPI.

4.2 Construction Noise Management Assessment

4.2.1 Methodology

At the time of issuing this report, detailed information about the construction management plan was not available. Therefore, a generic scenario has been devised as an initial assessment. The scenario consists of:

- Site establishment and earthworks: Earthworks (i.e. scraping, loading, etc.)
- Substructure – Road Construction
- No acoustic barrier will be installed at the property boundary of the industrial subdivision during the construction stage of the development

The noise levels at the residential receivers are predicted using iNoise noise modelling software which takes into account design ground elevations within the project site as well as existing terrain elevations outside the project site. Vehicle movements were modelled as line sources with sound power levels corrected for length, assessment time (i.e. 15 minutes), and number of movements.

Additionally, all short-term activities related to the constructions were modelled as point sources with the sound power levels corrected for the assessment time and occurrence. Hence, the following equation has been used:

$$SWL_{corrected} = SWL_{base\ sound\ power\ level} + 10 \log (t_{event} / t_{assessment\ period}) + 10 \log (N)$$

Where:

$SWL_{corrected}$:	Sound power level corrected for the worst-case scenario
$SWL_{base\ sound\ power\ level}$:	Base sound power levels
t_{event}:	Duration of individual event in seconds
$t_{assessment\ period}$:	Assessment period in seconds (900 seconds which corresponds to 15 minutes)
N:	Number of events

Table 16 summarises the sound power level produced by the equipment used for the construction of the proposed development.

Table 16 Construction scenarios and associated plant and equipment

Construction scenario	Equipment Type	Number of Equipment	Sound power level $L_{Aeq(15min)}$ dBA
Site establishment and earthworks - Earthworks (i.e. scraping, loading, etc.)	40t excavator	1	115
	D8 Bulldozer	1	118
	Trucks (Semi-Trailer)	1	106
	Hand tools	2	94
		Total Sound Power Levels	**120**
Substructure – Road Construction	Paving Machine (Concrete)	1	104
		Total Sound Power Levels	**104**

Note 1: Sound power levels are given in terms of $L_{Aeq(15mins)}$ levels
Note 2: The total sound power levels include a 15-minute duty factor for all individual items when applicable (i.e. they are used continuously)

4.2.2 Noise Impact Assessment

The noise contours obtained from the construction noise assessment are shown in Figure 17 and Figure 18 below.

Figure 17 Site Establishment and Earthworks Noise Contours

Figure 18 Substructure – Road Construction

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An assessment of the predicted noise levels, based on the NML criteria discussed in Section 4.2.1, has been conducted and this is summarised in Table 17 below.

Table 17 Construction Noise Receiver

Location	Noise criteria	Noise Levels at the Receiver (dBA)	
	(Standard hours / Out of hours)	Site establishment and earthworks	Road Construction
17 Isabel Pl	45 / 40	67	51
2, Reservoir Pl	45 / 40	65	49
23 Isabel Pl	45 / 40	67	51
27 Isabel Pl	45 / 40	67	51
14 Production Dr (Commercial Receiver)	70 / 75	65	49
30 Production Dr (Industrial Receiver)	75 / 75	63	48

The results in Table 17 show that for the both construction stages:

- The construction noise will exceed the NML criteria at the residential receivers during the recommended standard operational hours (See Table 7).
- The construction noise complies with the NML criteria at the industrial and commercial receivers during the recommended standard operational hours (See Table 7).

It should be noted that the noise level from the site establishment and earthworks are significantly higher than the road construction. Therefore, the likelihood to create disturbance during the site establishment and earthworks is much higher. Where the predicted or measured $L_{Aeq(15minute)}$ is greater than the noise affected level:

- The proponent should apply all feasible and reasonable work practices to meet the noise affected level.
- The proponent should also inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details.

It should be noted that the construction work is expected to be completed after 1 week, as confirmed by Hopkins Consultants. Additionally, the noise barrier will be installed as soon as is practicable prior to any noise generating land-use of the property.

4.3 Noise Impact on Local Roads

There is currently no traffic data available for the development. However, it is noted that vehicle numbers on surrounding roads would need to increase by around 60% of the existing traffic volumes, for a 2 dB increase to be apparent.

Therefore, it is recommended that a traffic survey should be undertaken to confirm the expected traffic volumes generated by the development.

4.3.1 Strategies for Traffic-generating Developments on Existing Roads

New industrial, commercial or residential developments that generate additional traffic on existing roads are likely to provide limited potential for noise control, because these developments are not usually linked to road improvements. However, strategies to minimise noise from traffic associated with the development should be applied. Mitigation that is implemented should be applied to the location along the public road from the development to the location where road traffic noise levels from the development are contained within the existing road traffic noise levels.

Examples of applicable strategies include the appropriate location of private access roads, regulating times of use, clustering vehicle movements, using 'quiet' vehicles and using barriers and acoustic treatments. Strategies should be appropriate to the type of development. For example, it is not appropriate or possible to control vehicle types and movements for residential developments, but it may be possible when traffic is being generated from an industrial site.

5 RECOMMENDATIONS

5.1 Industrial Site Layout

Although we acknowledge that future properties are unknown, the layout of the industrial lots is recommended as follows:

- Figure 19 shows the recommended layouts for the industrial subdivision. Each zone has corresponding noise budgets that have been outlined in Table 18. It is recommended that Zone 1, 2 and 3 contain buildings within each Lots to provide acoustic shielding from the noise emitted from Zone 4 and Zone 5.
- Additionally, the noisiest industrial properties shall be located in Zone 4 and Zone 5 to minimise the noise impact to the residences located south of the industrial subdivision. It should be noted that there are only commercial and industrial premises that are located north of Zone 5. Therefore, it is unlikely that the noise emission from the Zone 5 will negatively impact these receivers.

Figure 19 Site Layout Recommendation

- The buildings located inside the Lots of Zone 1 shall be oriented such that there is no line of sights between the noise sources inside the lot and the residential receiver. For example, it is recommended to locate most of the noise sources so that the building acts as a noise shield for the residential receivers. Additionally, all the major openings should be located on the northern façade of the building property.

Given that this configuration is followed, the maximum recommended noise level for each individual lot is outlined in Table 18. The table includes the maximum noise level allowed inside the industrial building and the maximum noise level allowed outside the building.

Table 18 Summary of the Recommended Noise Level

Location[4]	Lots	Maximum Recommended Noise Level (dBA)					
		Day		Evening		Night[1]	
		Internal[2]	External[3]	Internal[2]	External[3]	Internal[2]	External[3]
Zone 1	• Lot 25 • Lot 30 to Lot 33	90	75	85	70	-	-
Zone 2	• Lot 1 to Lot 2 • Lot 17 to Lot 24	86	72	81	67	-	-
Zone 3	• Lot 3 to Lot 6	93	78	88	73	-	-
Zone 4	• Lot 7 to Lot 11 • Lot 39 to Lot 40 • Lot 34	99	75	94	70	-	-
Zone 5	• Lot 12 to Lot 16 • Lot 26 to Lot 29 • Lot 35 to Lot 38	97	82	92	77	-	-

Note 1: It is assumed that the industrial site will not be operational during the night
Note 2: The reverberant internal noise level represents the noise level inside the industrial building
Note 3: The external noise level represents the total sound power level distributed over the external area of a lot. This sound power level comprises of external noise sources such as mechanical services, loading dock activities, and carparks.
Note 4: Refer to Figure 19 to find the appropriate zone

It should be noted that a detailed acoustic assessment will be required for the development of each lot to ensure that the noise emissions are within the limit of Table 18.

5.2 Installation of a Noise Barrier

It is a recommended that a 3m high acoustic barrier shall be installed at the southern boundary of the property. This will break the line-of sight from the noise source to surrounding receivers resulting in some noise attenuation which can be maximised if the barrier is constructed as close as possible to the noise source. The barrier must be free from holes or penetrations and may be constructed with a material that has a minimum surface density of approximately 3.5 kg/m^2. A corrugated metal fence (with steel thickness of 0.48mm) will be acceptable. This will in general provide approximately 10 dB of barrier attenuation.

It should be noted that the noise barrier will be installed prior to the release of the subdivision certificate, as confirmed by Hopkins.

5.3 Hours of Construction

In order to minimise the potential noise and vibration impacts upon nearby sensitive receivers, most of the construction works should be undertaken during standard daytime hours (7.00 am to 6.00 pm Monday to Friday and 8.00 am to 1.00 pm on Saturdays) as much as practicable. It should be noted that no "Out of Hours Works" are proposed.

5.4 Community Consultation

Active community consultation and the maintenance of positive relations with local residents would assist in alleviating concerns and thereby minimising complaint. It is common for construction projects to provide community consultation if an exceedance of the NMLs has been predicted. This communication is commonly conducted in the form of a letter box drop. This form of notification can provide specific notification of the duration and timing of the construction activities so that residents are informed about the proposed works ahead of time.

5.5 General Mitigation Measures (Australia Standard 2436-2010)

As well as the above project specific noise mitigation controls, AS 2436-2010 "Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites" sets out numerous practical recommendations to assist in mitigating construction noise emissions. Examples of strategies that could be implemented on the subject project are listed below, including the typical noise reduction achieved, where applicable.

5.5.1 Adoption of Universal Work Practices

- Regular reinforcement (such as at toolbox talks) of the need to minimise noise and vibration.
- Regular identification of noisy activities and adoption of improvement techniques.
- Avoiding the use of portable radios, public address systems or other methods of site communication that may unnecessarily impact upon nearby residents.
- Where possible, avoiding the use of equipment that generates impulsive noise.
- Use of broadband audible alarms on vehicles and elevating work platforms used on site.
- Minimising the movement of materials and plant and unnecessary metal-on-metal contact

5.5.2 Plant and Equipment

- Choosing quieter plant and equipment based on the optimal power and size to most efficiently perform the required tasks.
- Selecting plant and equipment with low vibration generation characteristics.
- Operating plant and equipment in the quietest and most efficient manner.

5.5.3 On Site Noise Mitigation

- Maximising the distance between noise activities and noise sensitive land uses.
- Installing purpose-built noise barriers, acoustic sheds and enclosures (where practical)
- Maximising the distance between noise activities and noise sensitive land uses.
- Installing purpose-built noise barriers, acoustic sheds and enclosures (where practical)

5.5.4 Work Scheduling

- Providing respite periods which could include restricting noisy activities to the mid-morning and mid-afternoon periods.
- Scheduling work to coincide with non-sensitive periods.
- Including contract conditions that include penalties for non-compliance with reasonable instructions by the principal to minimise noise or arrange suitable scheduling.

5.5.5 Source Noise Control Strategies

Some ways of controlling noise at the source are:

- Where reasonably practical, noisy plant or processes should be replaced by less noisy alternatives,
- Modify existing equipment: Engines and exhausts are typically the dominant noise sources on mobile plant. In order to minimise noise emissions, residential grade mufflers should be fitted on all plant utilised on site. Use of siting of equipment: Siting noisy equipment behind structures that act as barriers, or at the greatest distance from the noise-sensitive area; or orienting the equipment so that noise emissions are directed away from any sensitive areas, to achieve the maximum attenuation of noise.
- Regular and effective maintenance.

5.5.6 Noise Barrier Control Strategies

Temporary noise barriers are recommended where feasible, between the noise sources and all nearby potentially affected noise sensitive receivers, wherever possible. Typically, 7 dBA to 15 dBA of attenuation can be achieved with a well-constructed barrier. Specific strategies include:

- Where possible, orientate the noisy equipment whereby the least noisy side of the equipment is facing the closest receiver.

The positioning of any site huts/maintenance sheds adjacent to the noisy equipment, in the direction of the closest receiver to provide some acoustic shielding.

6 CONCLUSIONS

An acoustic impact assessment has been carried out for the development application of a Proposed Industrial Subdivision located on Bago Road, Wauchope. A maximum of 40 industrial lots will be located within the proposed development. This report outlines the following:

- The acoustic assessment of the noise emissions by the industrial subdivision against the NSW NPI.
- The acoustic assessment of the construction noise emission against the Interim Construction Noise Guideline (ICNG)

6.1 NSW NPI Assessment

The noise impact assessment was undertaken against the NSW NPI during the daytime and evening period only.

Two noise loggers were set up at 27 Isabel Place and 2 Reservoir Place from 19 February 2019 to 4 March 2019 to measure the ambient noise of the sensitive receivers. The noise criteria were established according to the NSW NPI and are summarised in Table 6 of this report.

3D computational models were created to determine the maximum noise level allowed for each industrial lot. Section 4 outlines the noise assessment for operations located within the subdivision. Recommendations for the subdivision layout and maximum recommended noise levels are outlined in Table 18.

It should be noted that the recommended noise level serves as an initial guideline for the site-wide assessment. Further detailed acoustic assessments will be required during the development of the individual lots to ensure that the noise emissions are within the limits outlined in Table 18 of this report. The detailed acoustic assessment for each lot shall assess the noise emissions from:

- Mechanical services (e.g. plantrooms, air conditioning units, exhaust fans etc.)
- Traffic noise generated from the vehicular movements by the proposed development
- Sleep arousal assessment if the operational hours of the development extend during the night time period.

6.2 Construction Noise Management

At the time of issuing this report, detailed information about the construction management plan was not available. Therefore, a generic scenario has been devised as an initial assessment. The scenario consists of:

- Site establishment and earthworks - Earthworks (i.e. scraping, loading, etc.)
- Road Construction
- No acoustic barrier was installed at the boundary of the industrial subdivision during the construction stage of the development

The noise levels at the residential receivers are predicted using iNoise noise modelling software which takes into account design ground elevations within the project site as well as the existing terrain elevations outside the project site. The results provided in Table 17 show that:

- The construction noise emission will exceed the NML criteria at the residential receivers during the recommended standard operational hours (See Table 7).
- The construction noise emission complies with the NML criteria at the industrial and commercial receivers during the recommended standard operational hours (See Table 7).

Provided the conceptual noise mitigation and management recommendations provided in Section 5 are implemented and developed further during later stage of the development, then it is our opinion that the development can be considered satisfactory in terms of noise impacts to the surrounding noise sensitive locations.

6.3 Noise Impact on Local Roads

There is currently no traffic data available for the development. However, it is noted that vehicle numbers on surrounding roads would need to increase by around 60% of the existing traffic volumes, for a 2 dB increase to be apparent.

Therefore, it is recommended that a traffic survey should be undertaken to confirm the expected traffic volumes generated by the development.

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APPENDIX A: ACOUSTIC TERMINOLOGY

Ambient Sound	The totally encompassing sound in a given situation at a given time, usually composed of sound from all sources near and far.
Audible Range	The limits of frequency which are audible or heard as sound. The normal ear in young adults detects sound having frequencies in the region 20 Hz to 20 kHz, although it is possible for some people to detect frequencies outside these limits.
Character, acoustic	The total of the qualities making up the individuality of the noise. The pitch or shape of a sound's frequency content (spectrum) dictate a sound's character.
Decibel [dB]	The level of noise is measured objectively using a Sound Level Meter. The following are examples of the decibel readings of every day sounds; 0dB the faintest sound we can hear 30dB a quiet library or in a quiet location in the country 45dB typical office space. Ambience in the city at night 60dB Martin Place at lunch time 70dB the sound of a car passing on the street 80dB loud music played at home 90dB the sound of a truck passing on the street 100dB the sound of a rock band 115dB limit of sound permitted in industry 120dB deafening
dB(A)	*A-weighted decibels* The ear is not as effective in hearing low frequency sounds as it is hearing high frequency sounds. That is, low frequency sounds of the same dB level are not heard as loud as high frequency sounds. The sound level meter replicates the human response of the ear by using an electronic filter which is called the "A" filter. A sound level measured with this filter switched on is denoted as dB(A). Practically all noise is measured using the A filter. The sound pressure level in dB(A) gives a close indication of the subjective loudness of the noise.
Frequency	Frequency is synonymous to *pitch*. Sounds have a pitch which is peculiar to the nature of the sound generator. For example, the sound of a tiny bell has a high pitch and the sound of a bass drum has a low pitch. Frequency or pitch can be measured on a scale in units of Hertz or Hz.
Loudness	A rise of 10 dB in sound level corresponds approximately to a doubling of subjective loudness. That is, a sound of 85 dB is twice as loud as a sound of 75 dB which is twice as loud as a sound of 65 dB and so on
L_{Max}	The maximum sound pressure level measured over a given period.
L_{Min}	The minimum sound pressure level measured over a given period.
L_1	The sound pressure level that is exceeded for 1% of the time for which the given sound is measured.
L_{90}	The level of noise exceeded for 90% of the time. The bottom 10% of the sample is the L_{90} noise level expressed in units of dB(A).
L_{eq}	The "equivalent noise level" is the summation of noise events and integrated over a selected period of time.
Background Sound Level	The average of the lowest levels of the sound levels measured in an affected area in the absence of noise from occupants and from unwanted, external ambient noise sources. Usually taken to mean the L_{A90} value
dB (A)	'A' Weighted overall sound pressure level
Noise Reduction	The difference in sound pressure level between any two areas. The term "noise reduction" does not specify any grade or performance quality unless accompanied by a specification of the units and conditions under which the units shall apply

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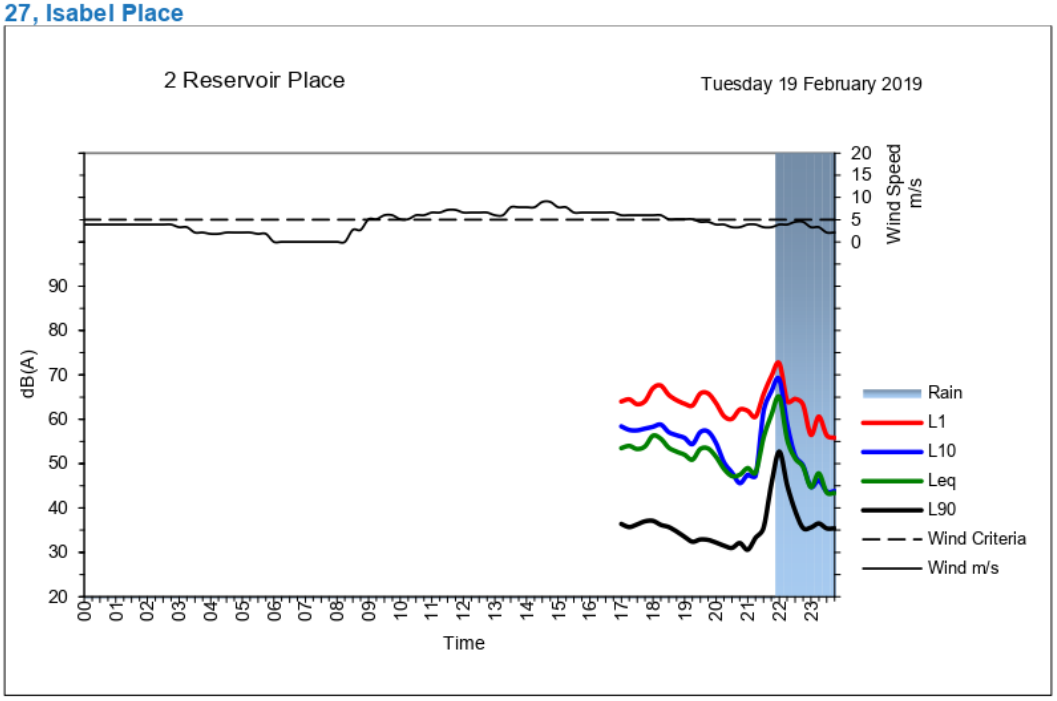
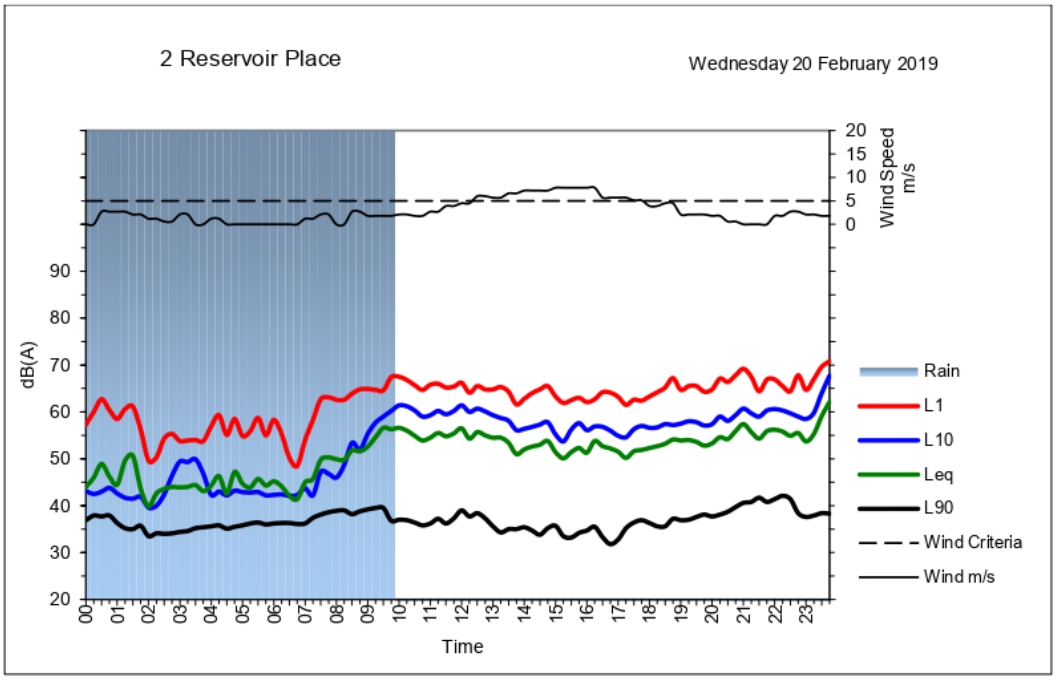
APPENDIX B: NOISE LOGGING

27, Isabel Place





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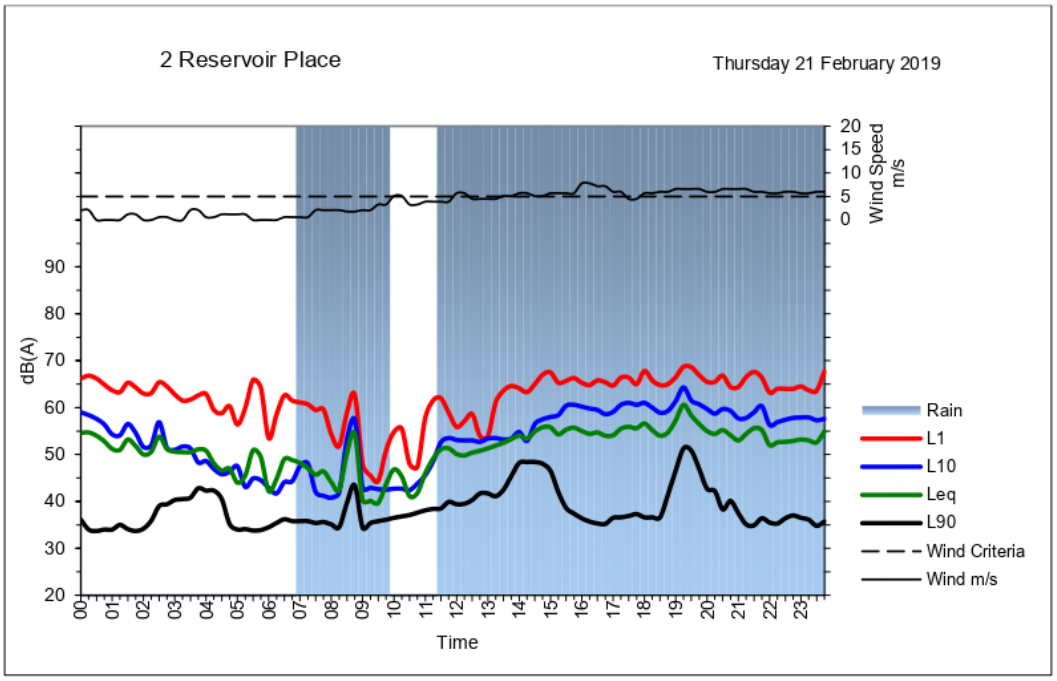

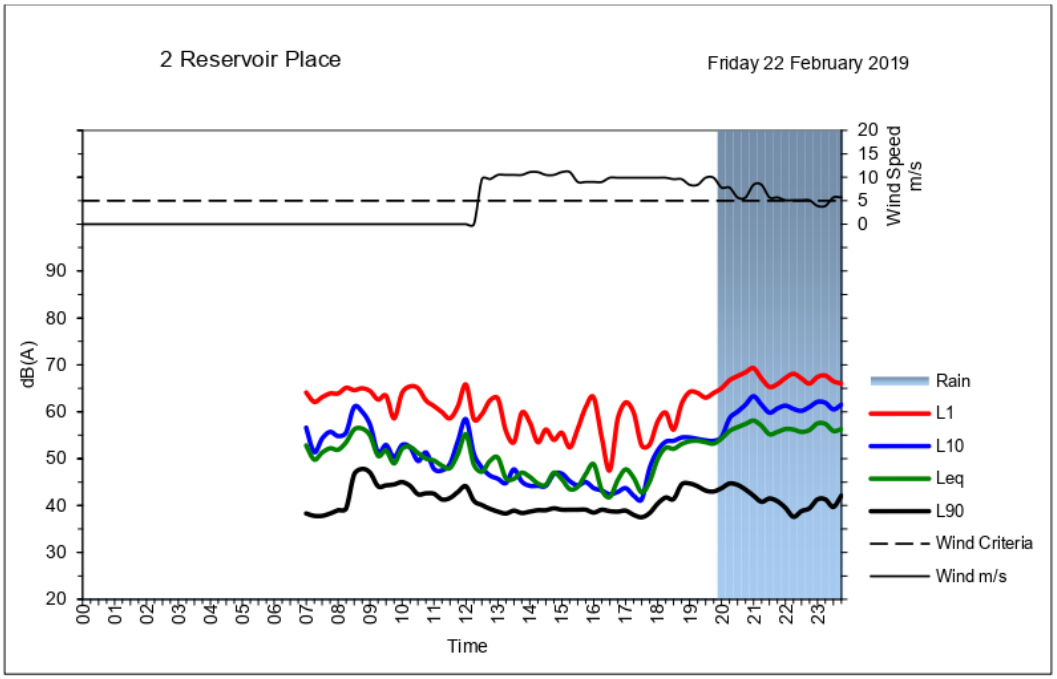

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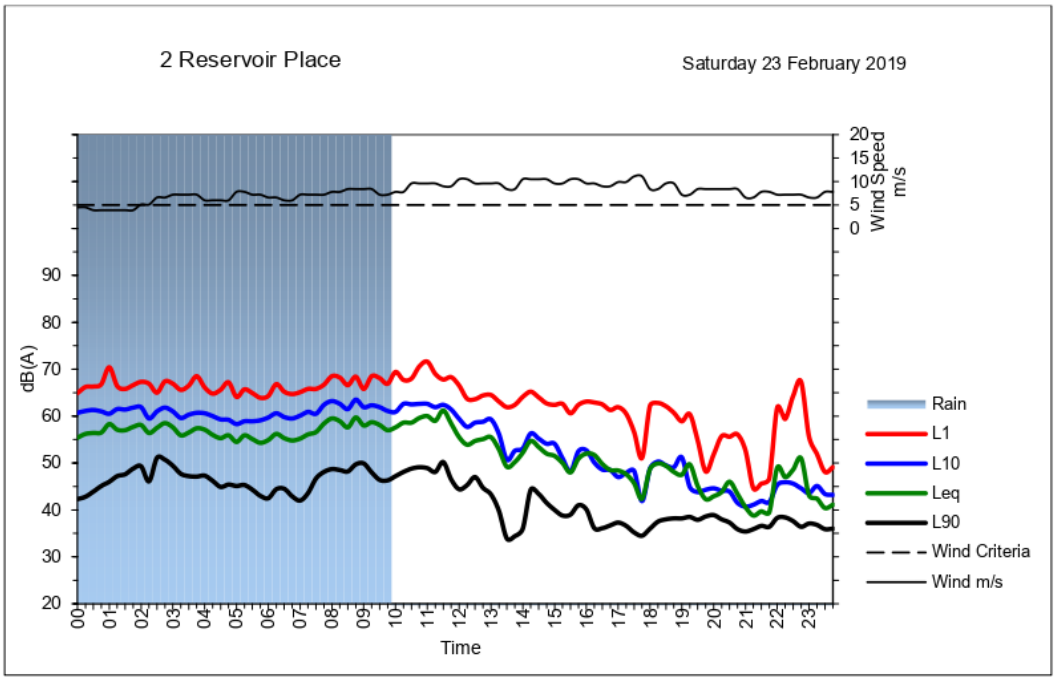

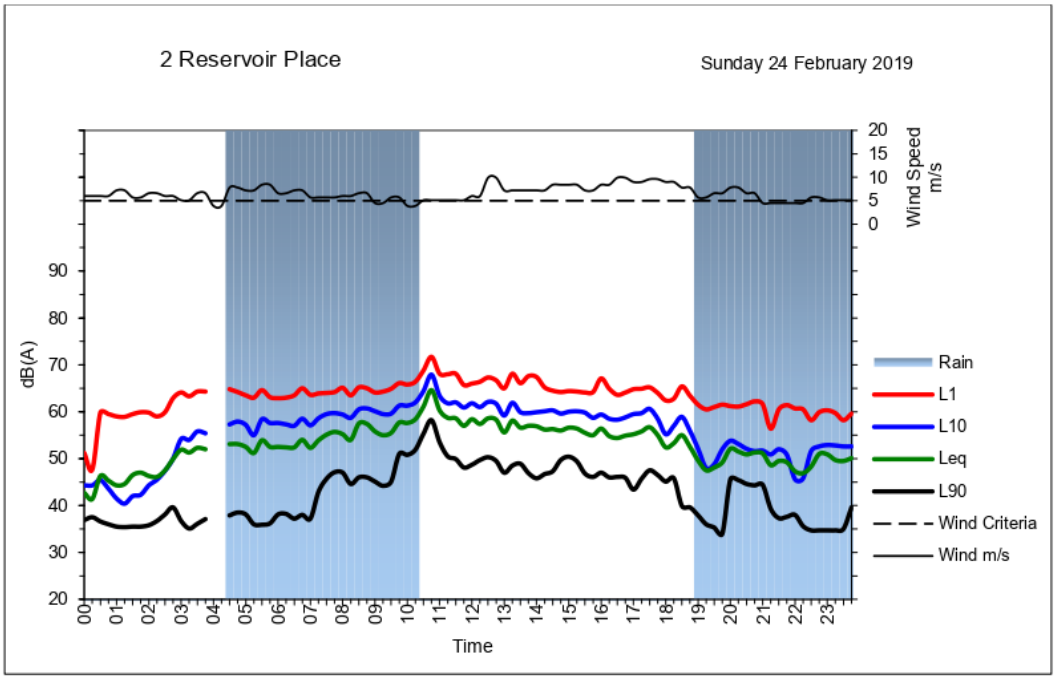

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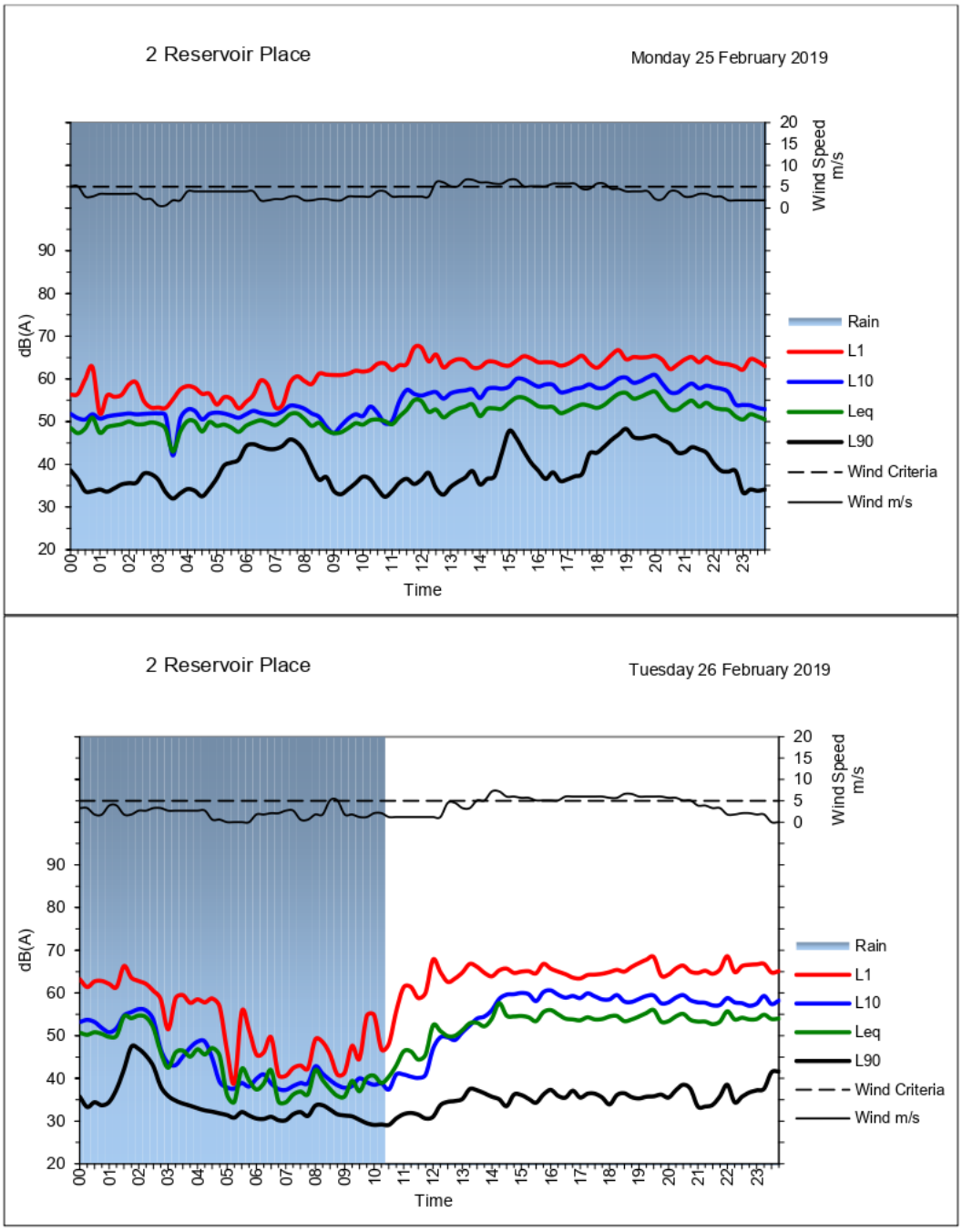

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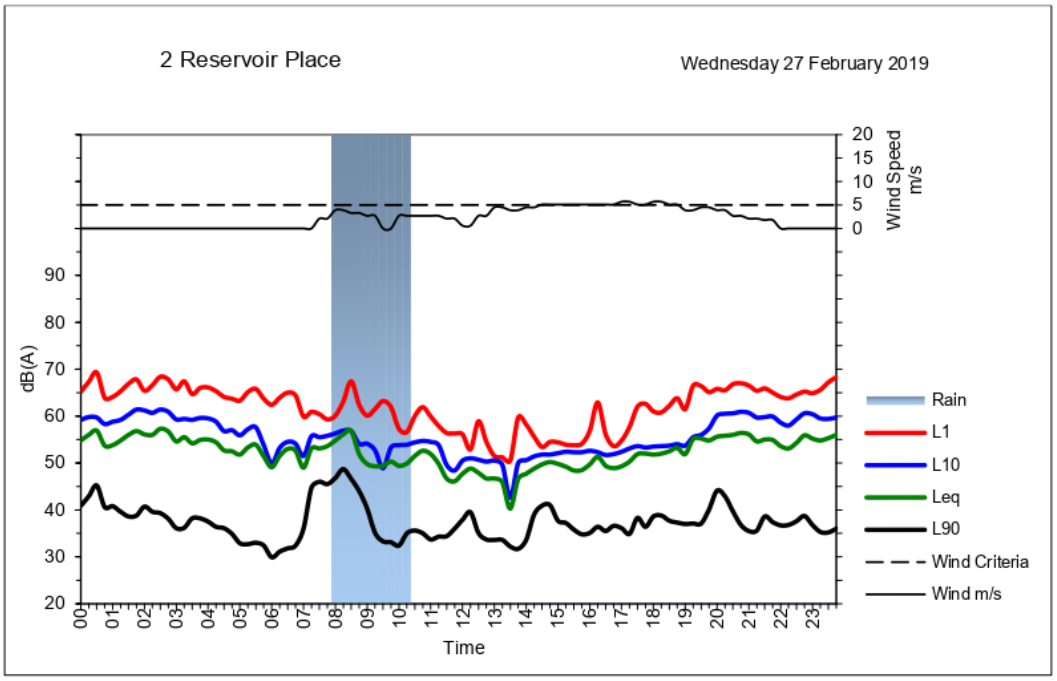

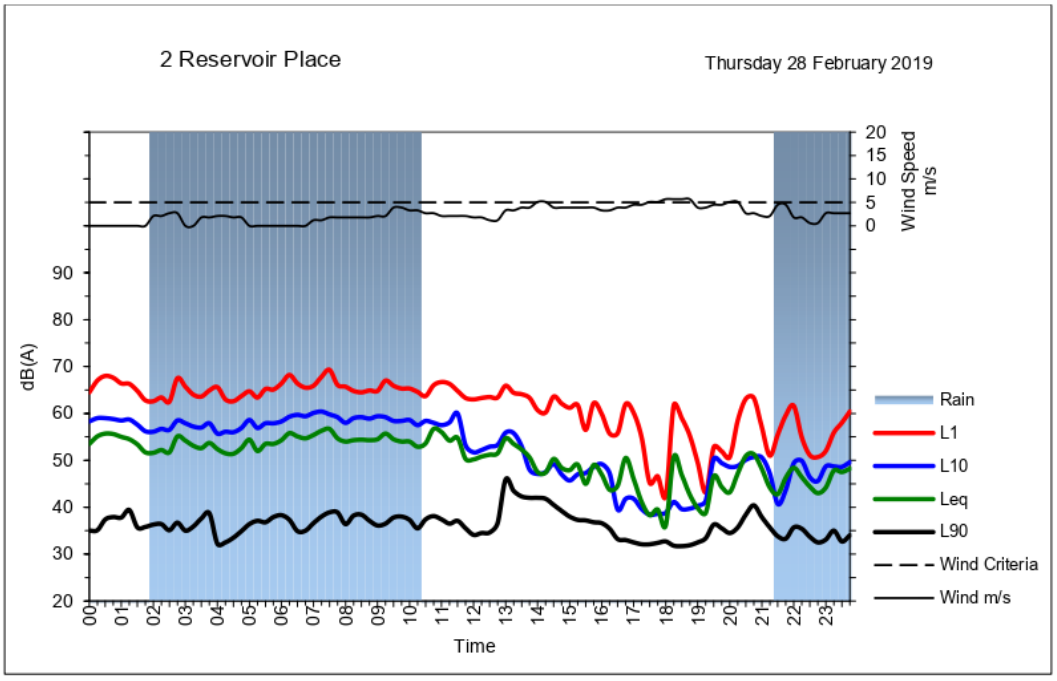

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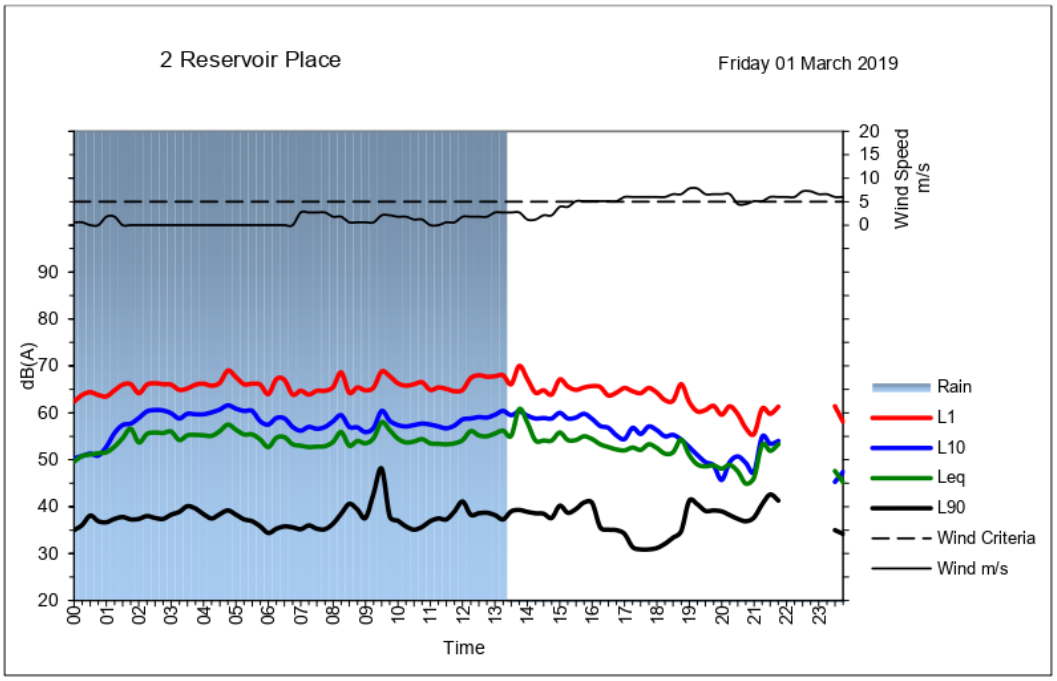

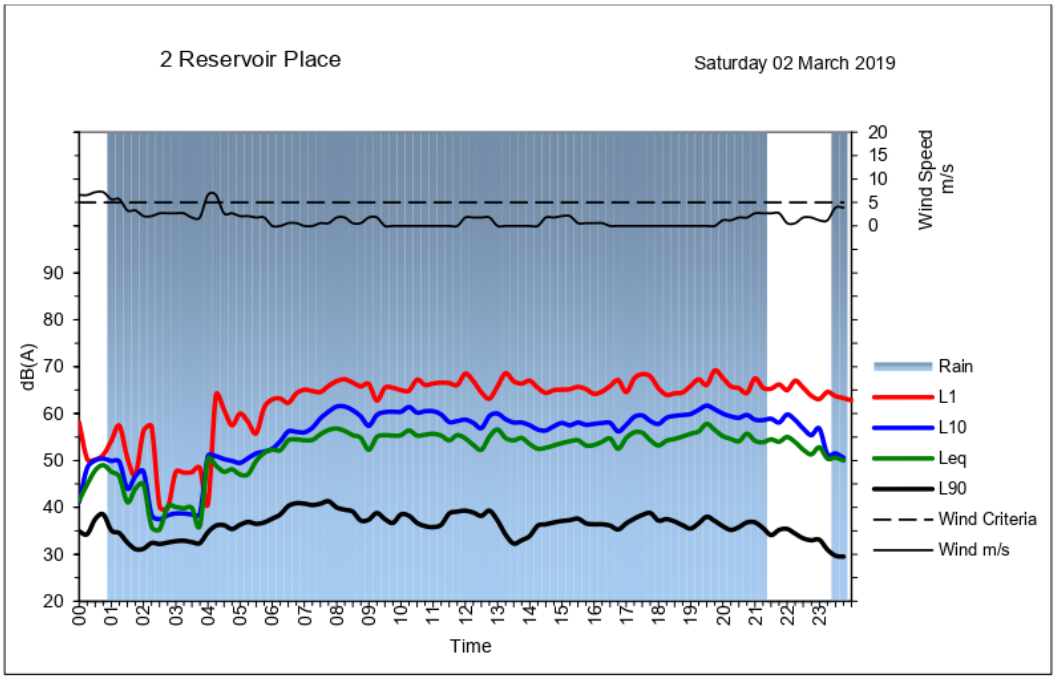

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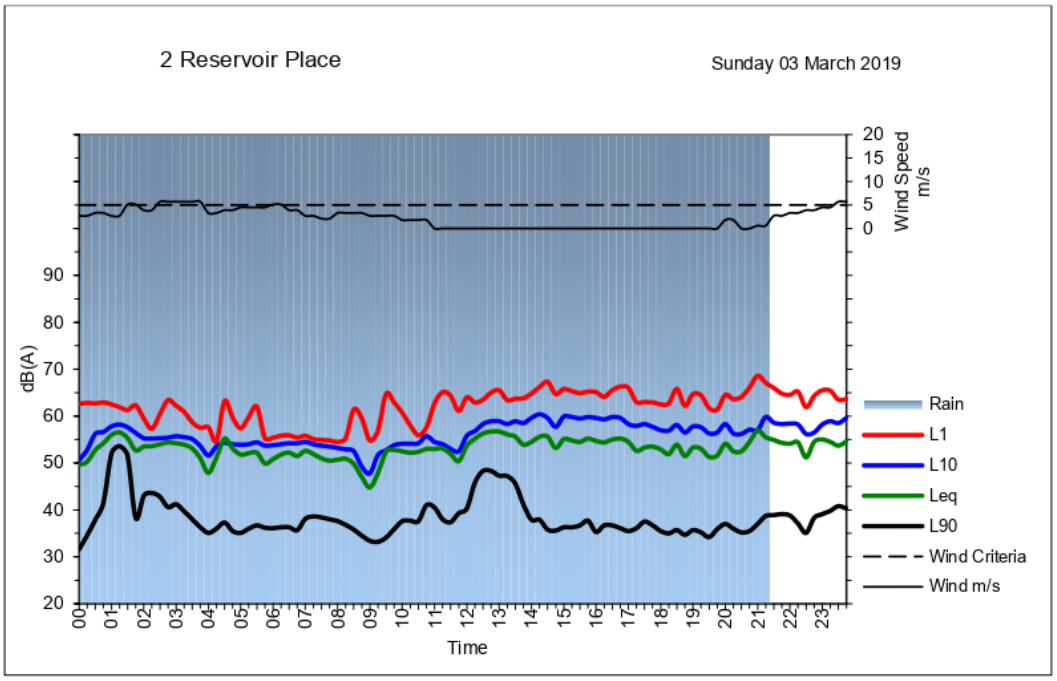

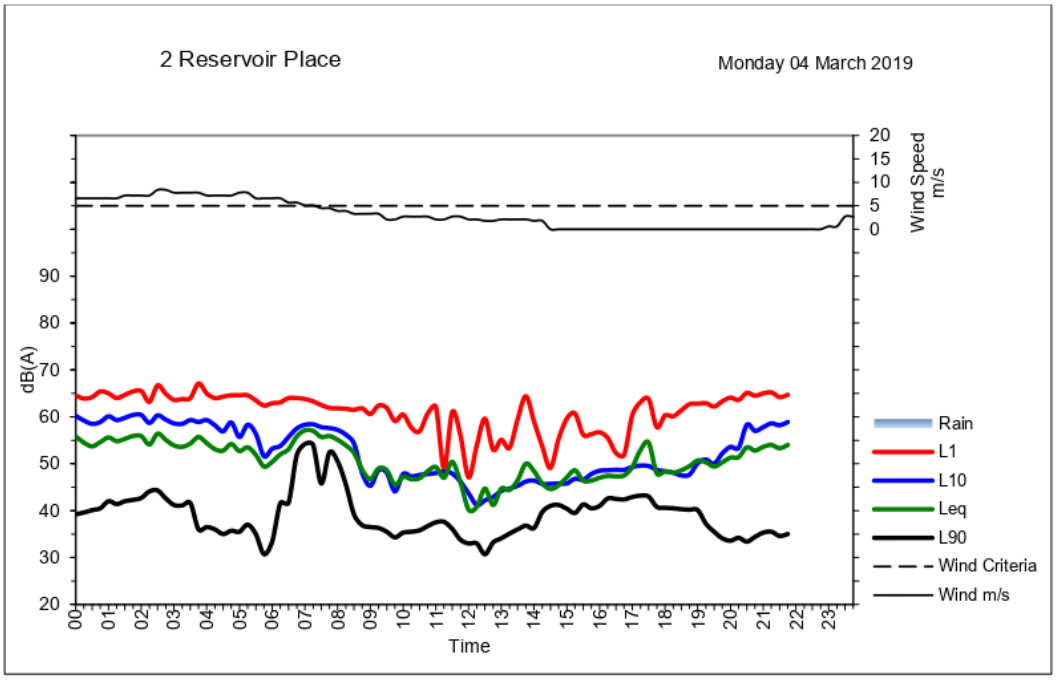

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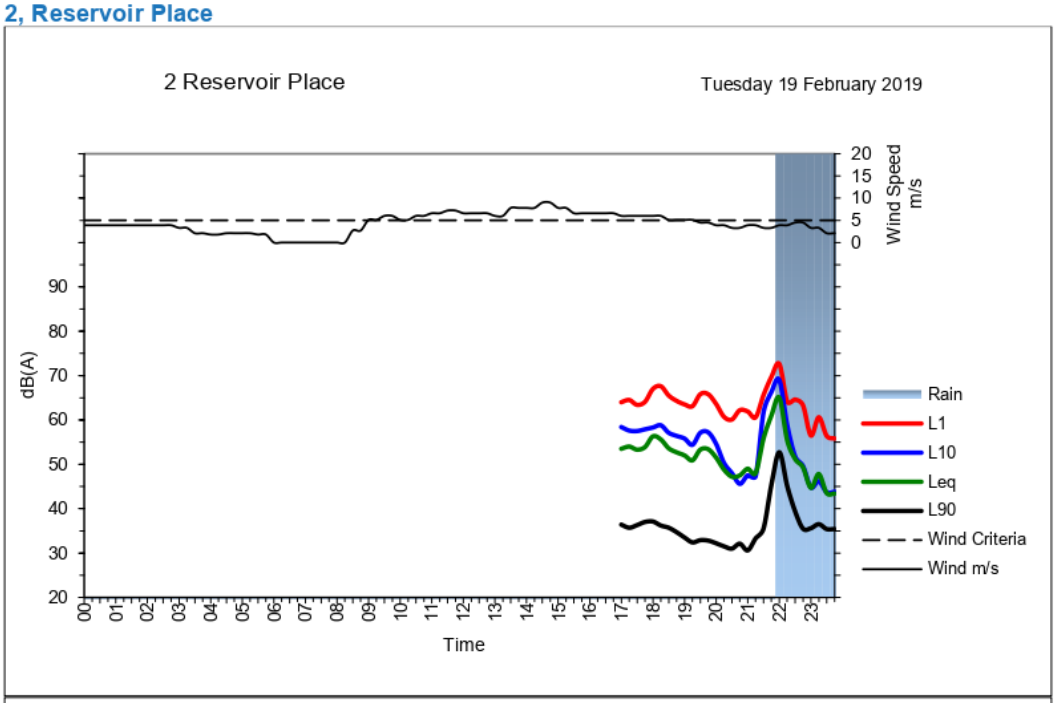
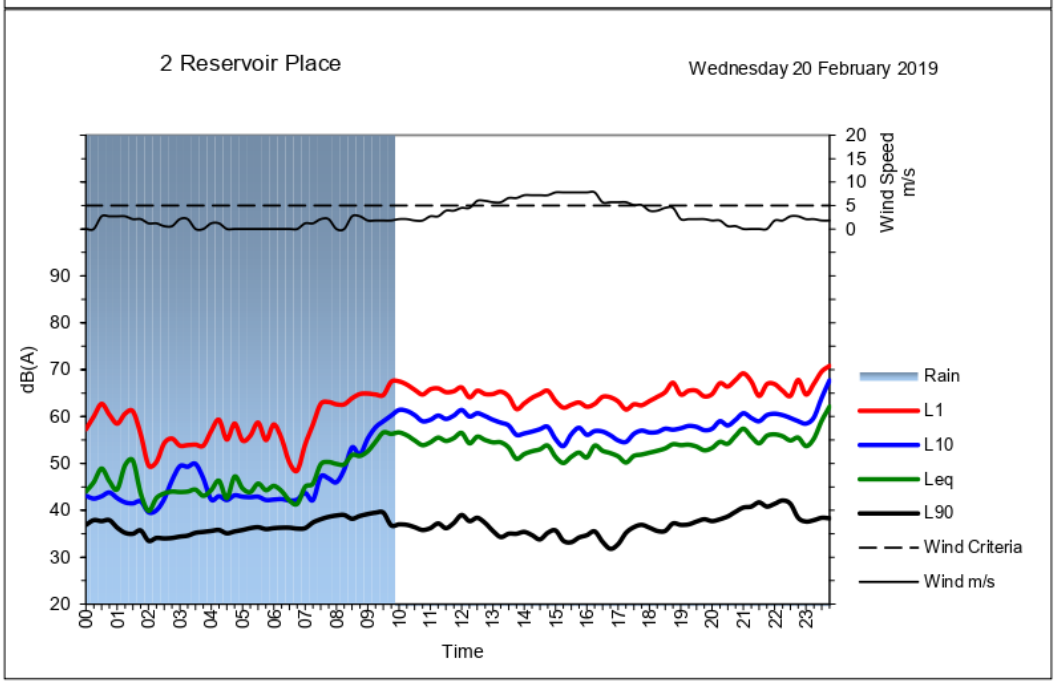
2, Reservoir Place





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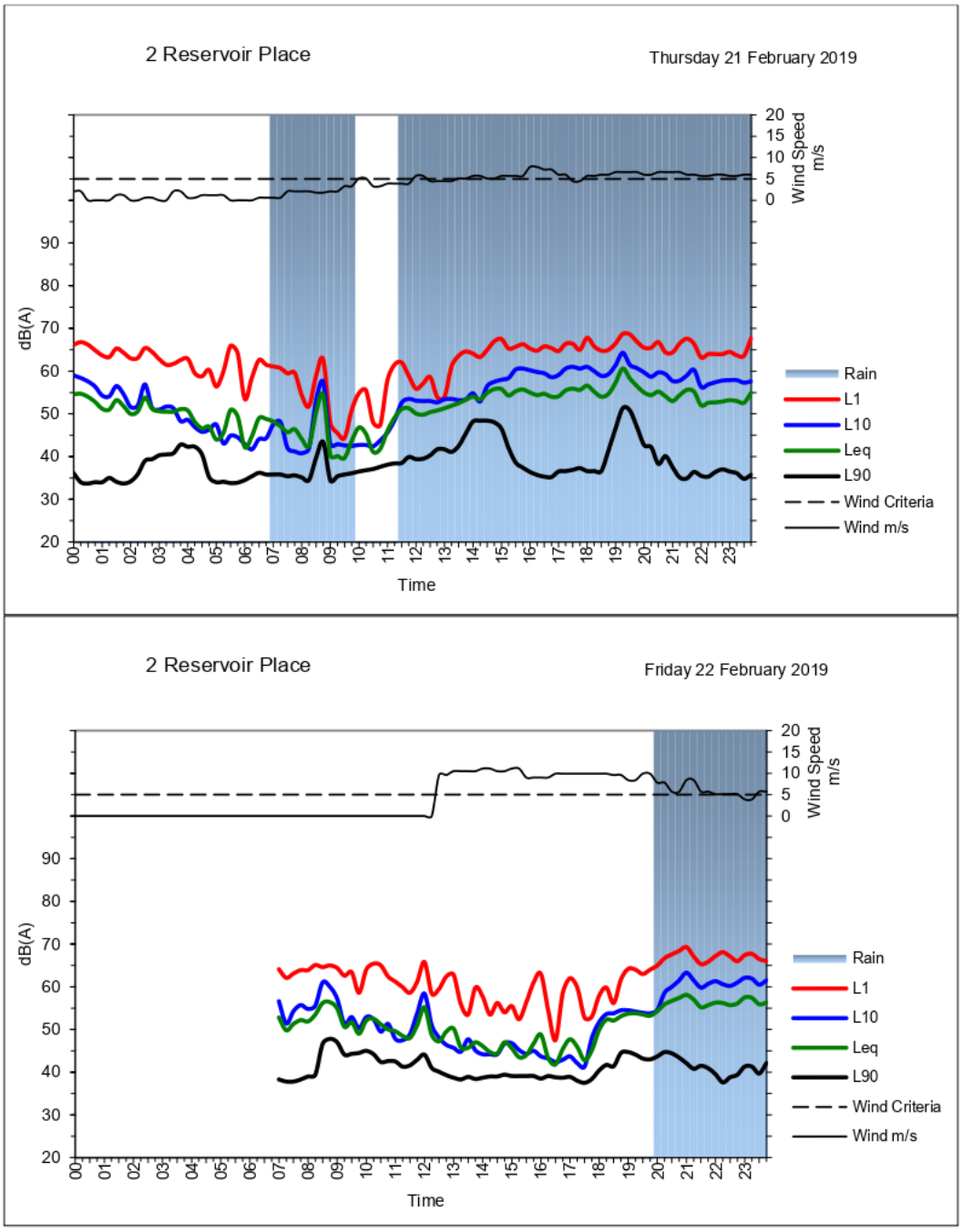

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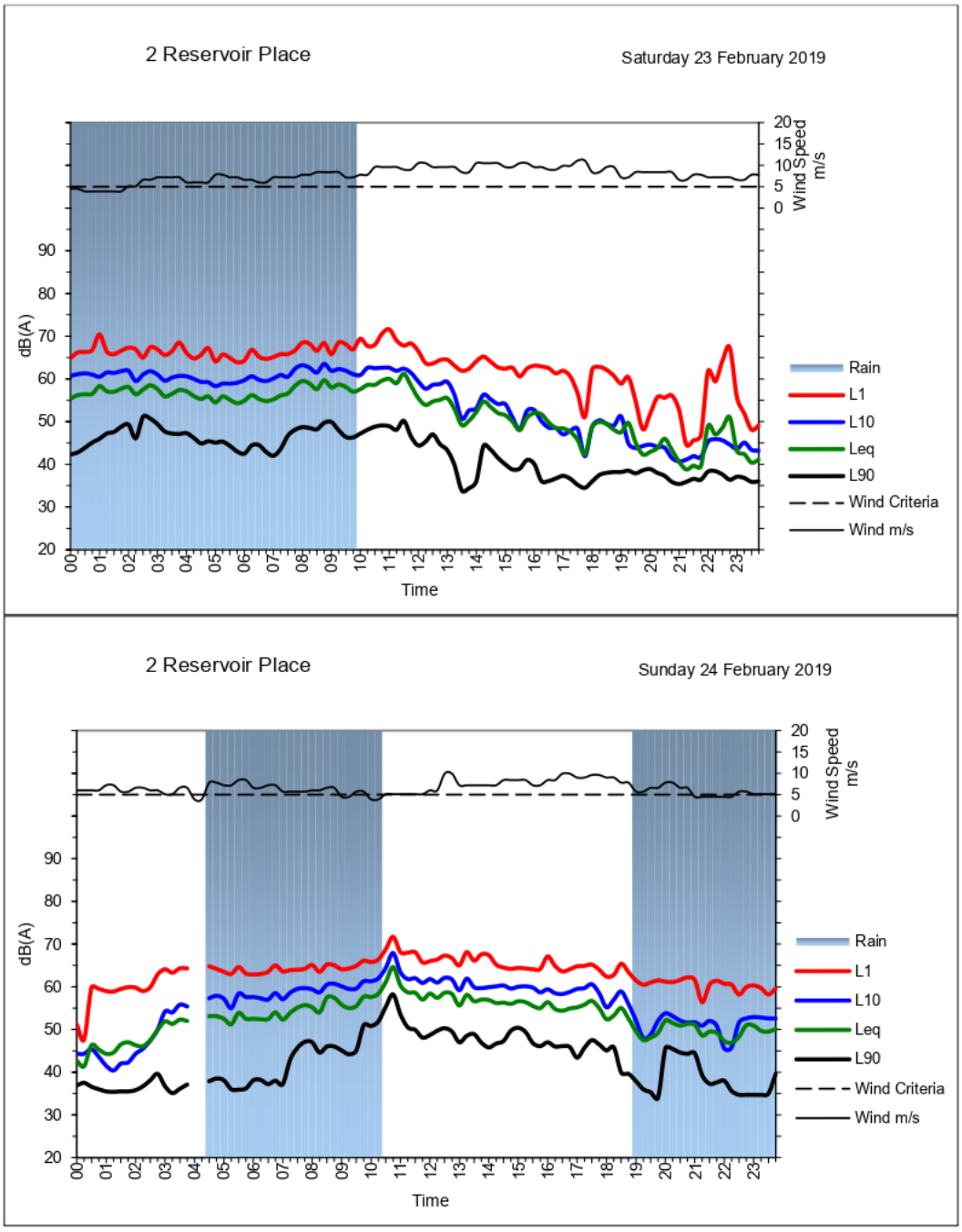

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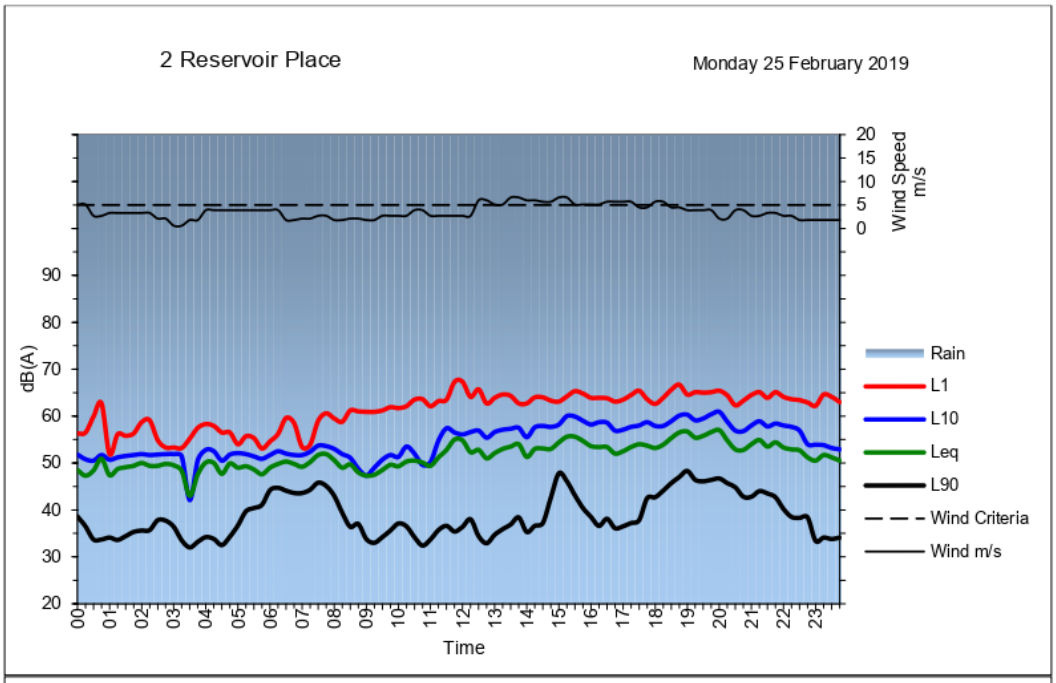

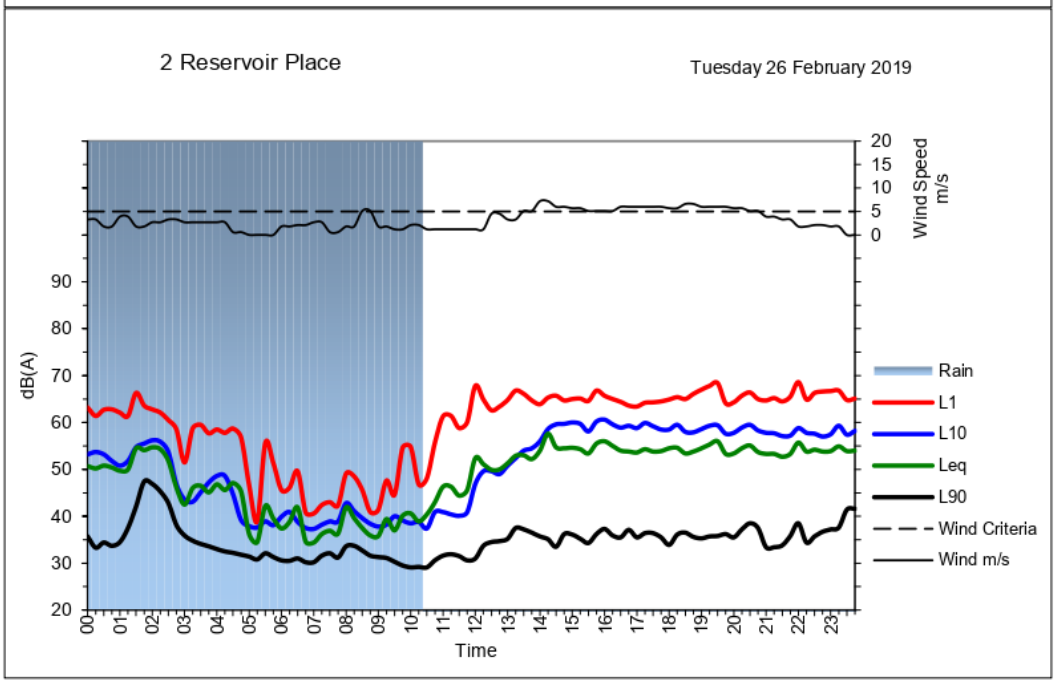

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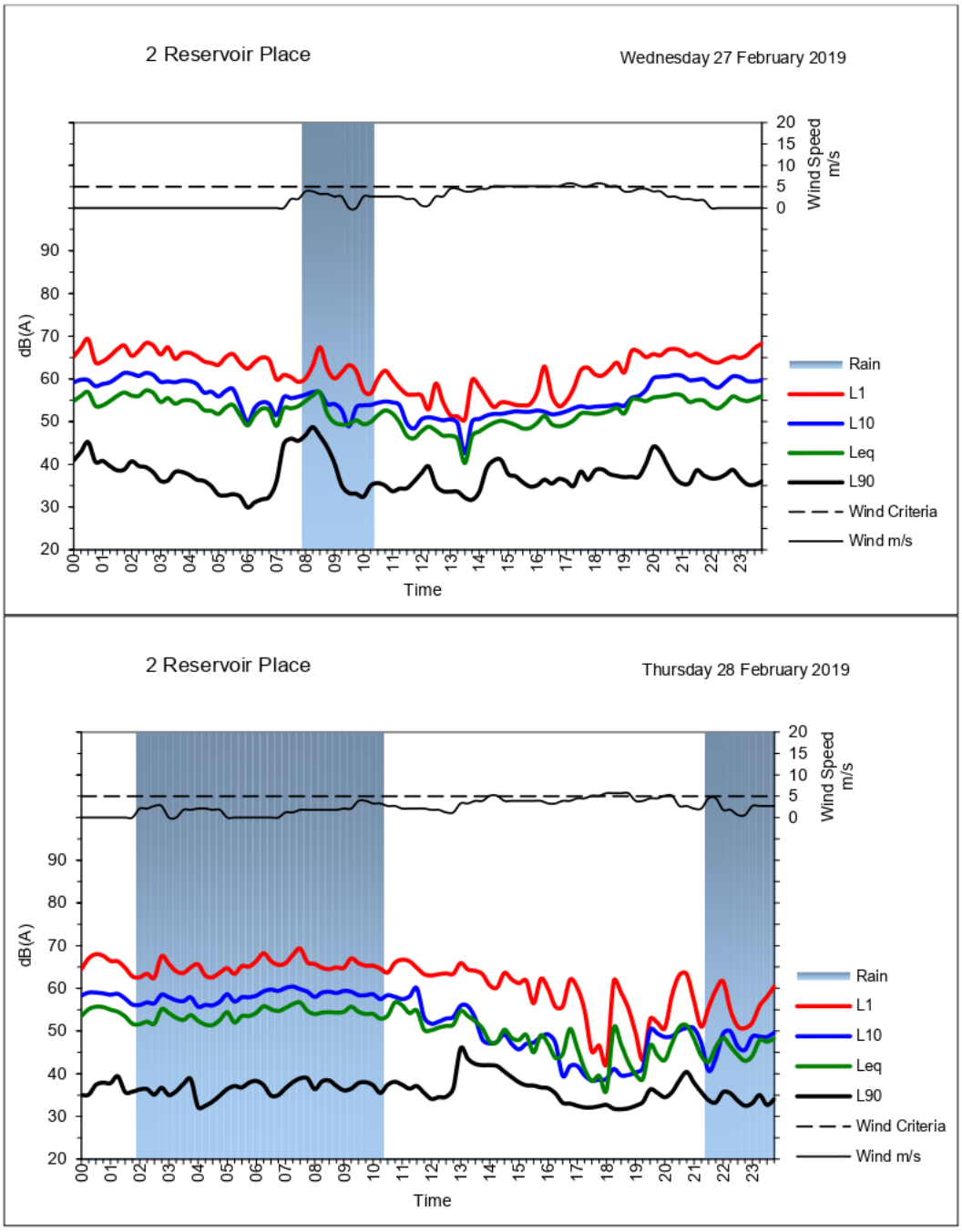
Port Macquarie 2444 NSW



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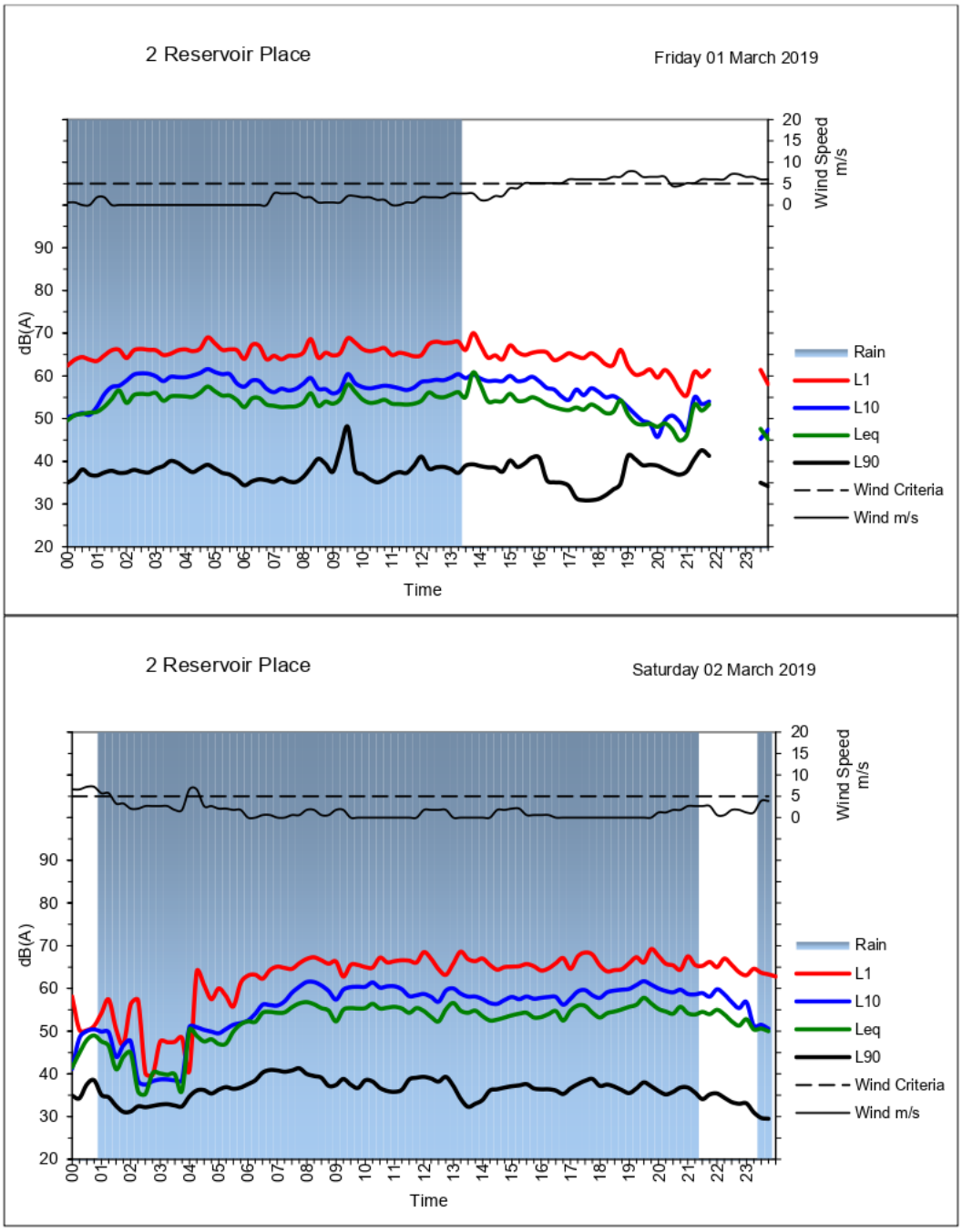

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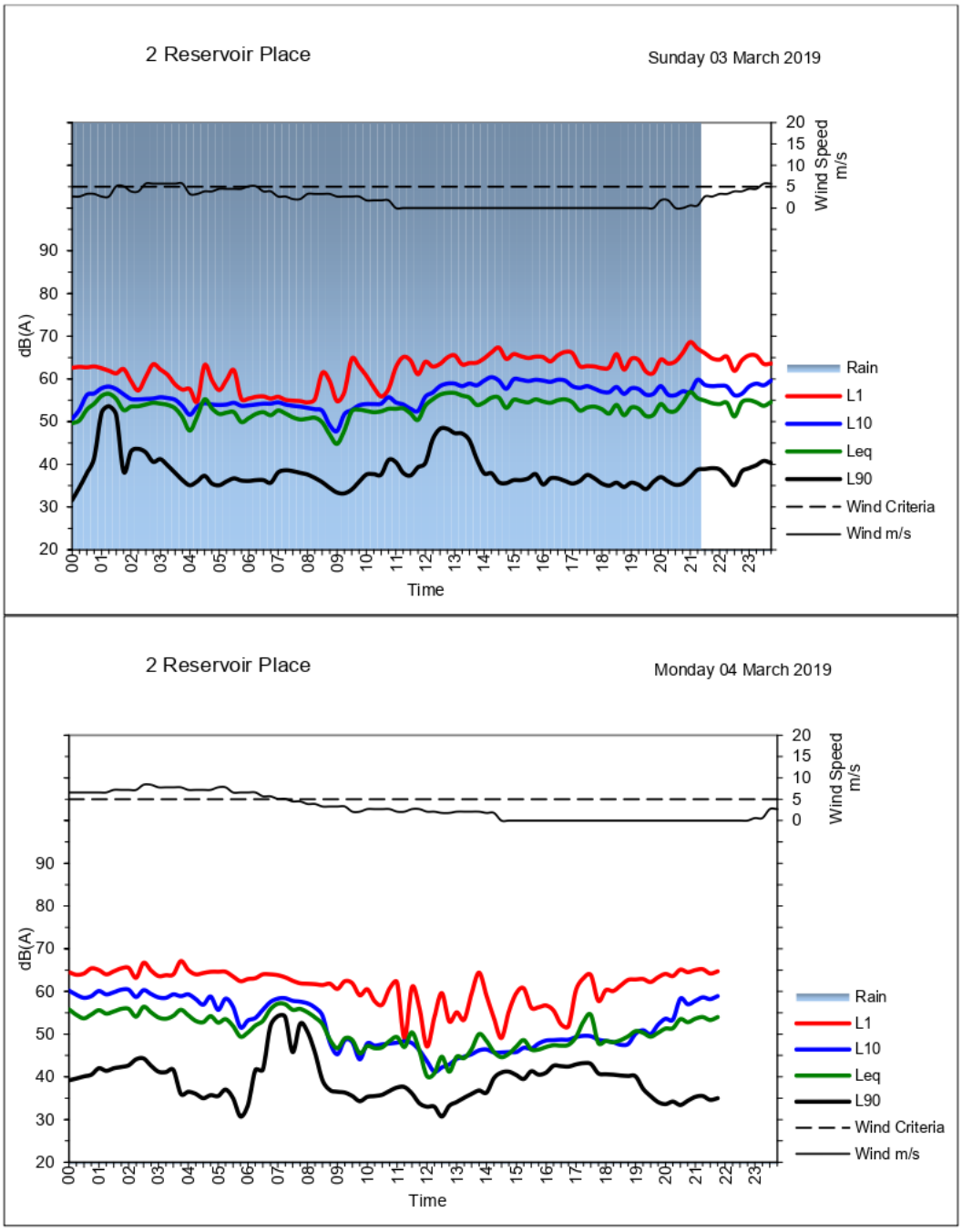
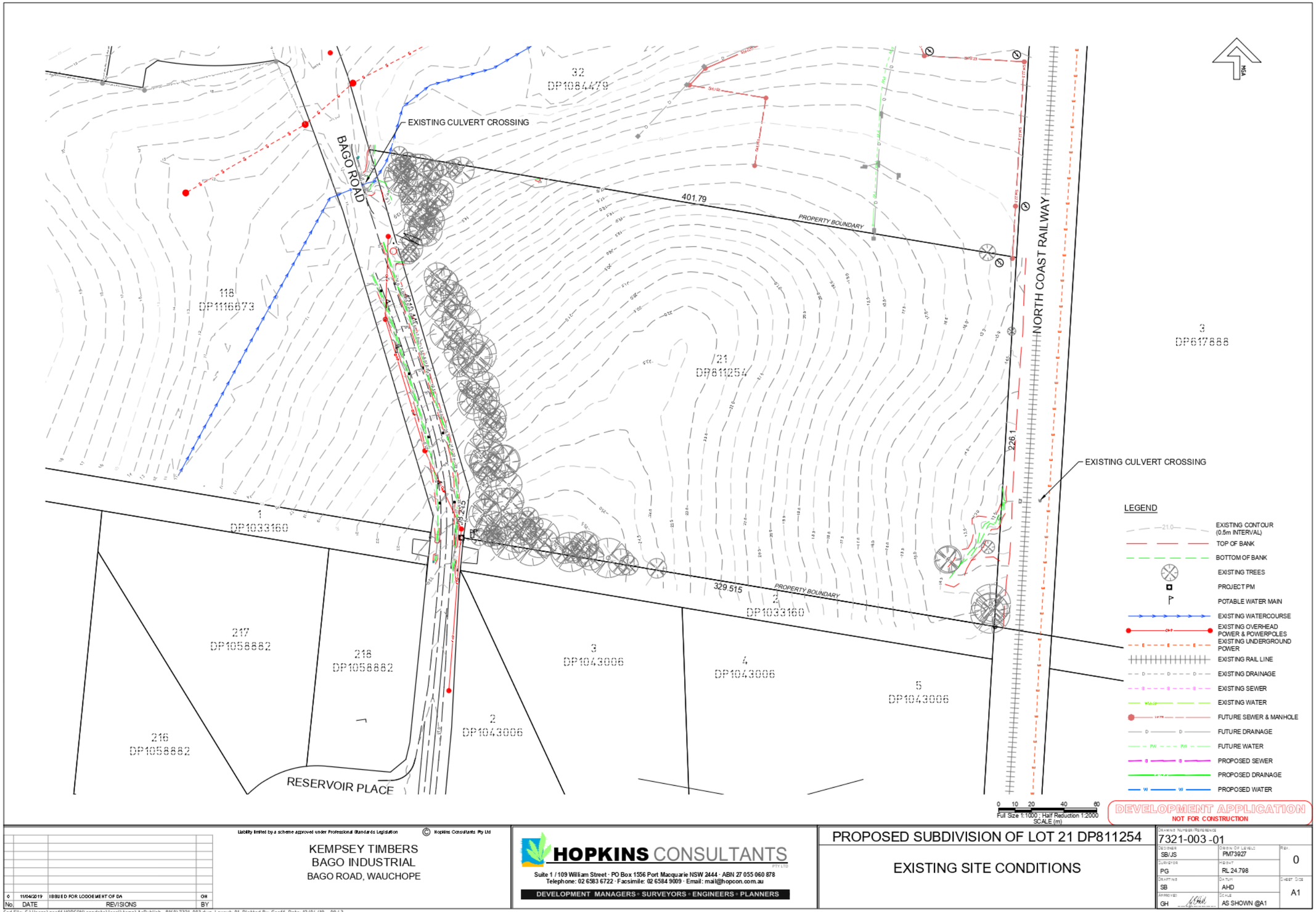


APPENDIX B

Proposed Plans of Subdivision



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PROPOSED SUBDIVISION OF LOT 21 DP811254

EXISTING SITE CONDITIONS

Drawing Number/Reference	7321-003 -01		
Designer SB/JS	Origin of Levels PM73927	Rev.	0
Surveyor PG	Height RL 24.798		
Drafting SB	Datum AHD	Sheet Size	A1
Approved GH	Scale AS SHOWN @A1		

Cad File: C:\Users\geoff.HOPCON\appdata\local\temp\AcPublish_8160\7321-003.dwg, Layout: 01, Plotted By: Geoff, Date: 12/04/19 - 09:43,

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LOT LAYOUT

Drawing Number/Reference	7321-003 -02
Designed: SB/JS	Origin Of Levels: PM73927
Surveyed: PG	Height: RL 24.798
Drafting: SB	Datum: AHD
Approved: GH	Scale: AS SHOWN @A1
Rev:	0
Sheet Size:	A1

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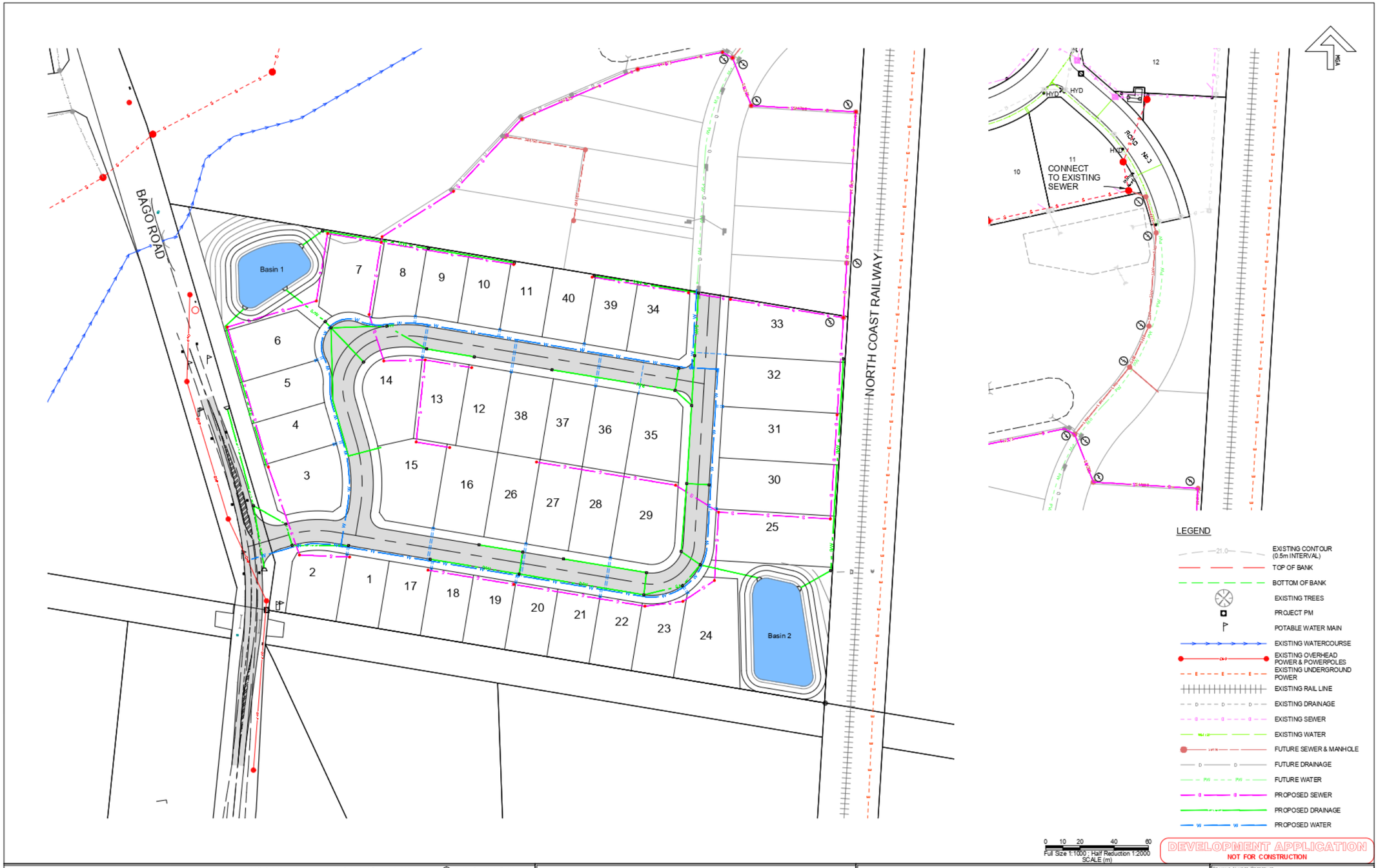

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SERVICES PLAN

Drawing Number/Reference	7321-003 -03
Designer: SB/JS	Origin Of Levels: PM73927
Surveyor: PG	Height: RL 24.798
Drafting: SB	Datum: AHD
Approved: GH	Scale: AS SHOWN @A1
Rev: 0	Sheet Size: A1

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No.	DATE	REVISIONS	BY
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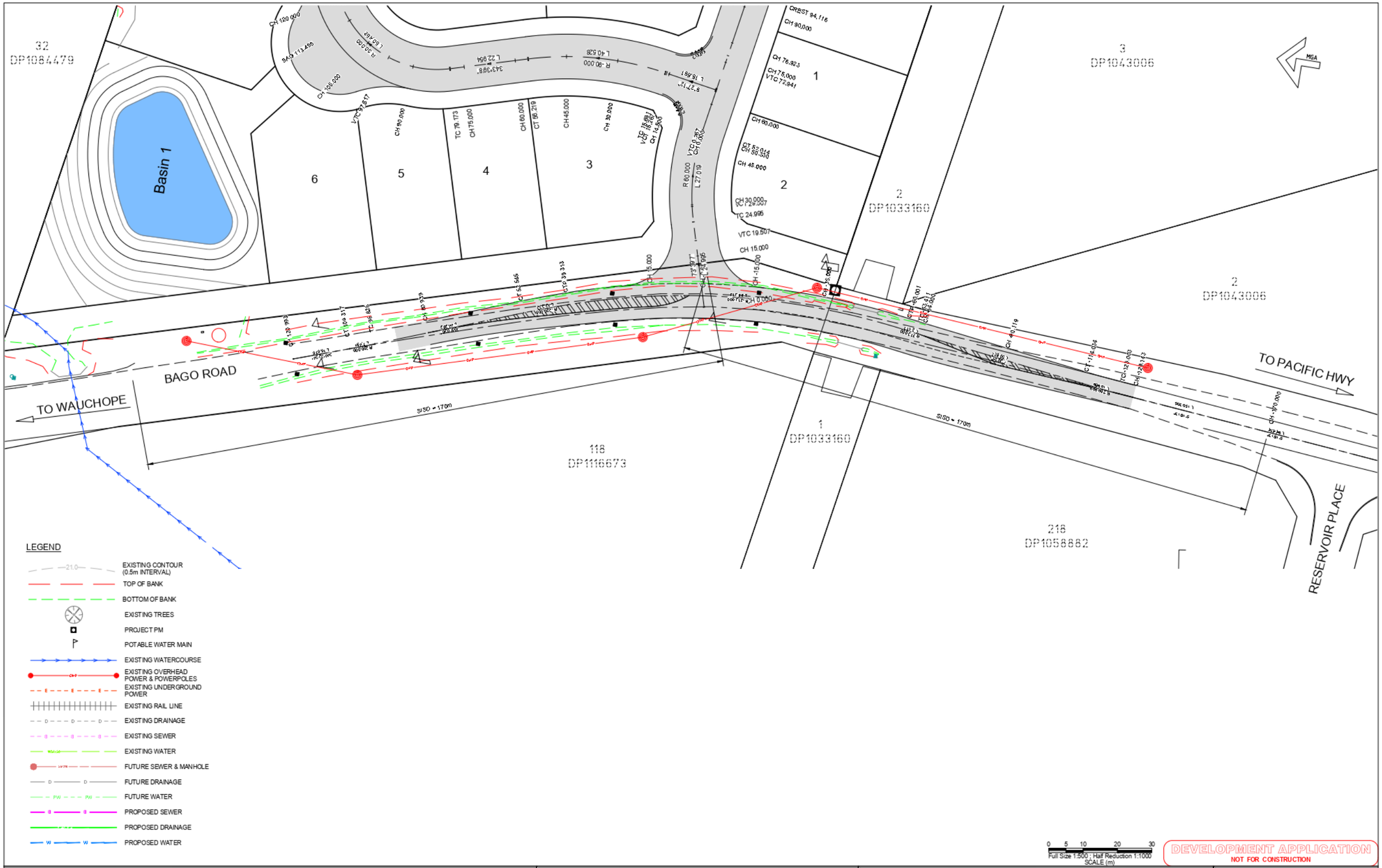
ROAD ALIGNMENT PLAN

DRAWING NUMBER/REFERENCE	7321-003 -04
DESIGNED: SB/JS	DATUM OF LEVELS: PM73927
SURVEYOR: PG	HEIGHT: RL 24.798
DRAFTING: SB	DATUM: AHD
APPROVED: GH	SCALE: AS SHOWN @A1
REV.	0
SHEET SIZE	A1

Cad File: C:\Users\geoff.HOPCON\appdata\local\temp\AcPublish_8160\7321-003.dwg, Layout: 04, Plotted By: Geoff, Date: 12/04/19 – 09:43,



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INTERSECTION PLAN

Drawing Number/Reference	7321-003 -05	
Designer: SB/JS	Datum Of Levels: PM73927	Rev: 0
Surveyor: PG	Height: RL 24.798	
Drafting: SB	Datum: AHD	Sheet Size: A1
Approved: GH	Scale: AS SHOWN @A1	

Cad File: C:\Users\geoff.HOPCON\appdata\local\Temp\AcPublish_8160\7321-003.dwg, Layout: 05, Plotted By: Geoff, Date: 12/04/19 - 09:43,

0 10 20 40 60
Full Size 1:1000 : Half Reduction 1:2000
SCALE (m)

FOR INFORMATION ONLY
NOT FOR CONSTRUCTION

No.	DATE	REVISIONS	BY
1	16/04/2021	NEW RECEIVING MANHOLE ADDED	GH
0	26/03/2021	ISSUED FOR INFORMATION	GH

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PROPOSED SUBDIVISION OF LOT 21 DP811254

SEWER STRATEGY
SEWER PUMP STATION & SEWER RISING MAIN

Drawing Number/Reference	7321-003 -SEWER-SPS
Designer	-
Origin Of Levels	PM73927
Rev	1
Surveyor	-
Height	RL 24.798
Drafting	GH
Datum	AHD
Sheet Size	A1
Approved	-
Scale	AS SHOWN @A1

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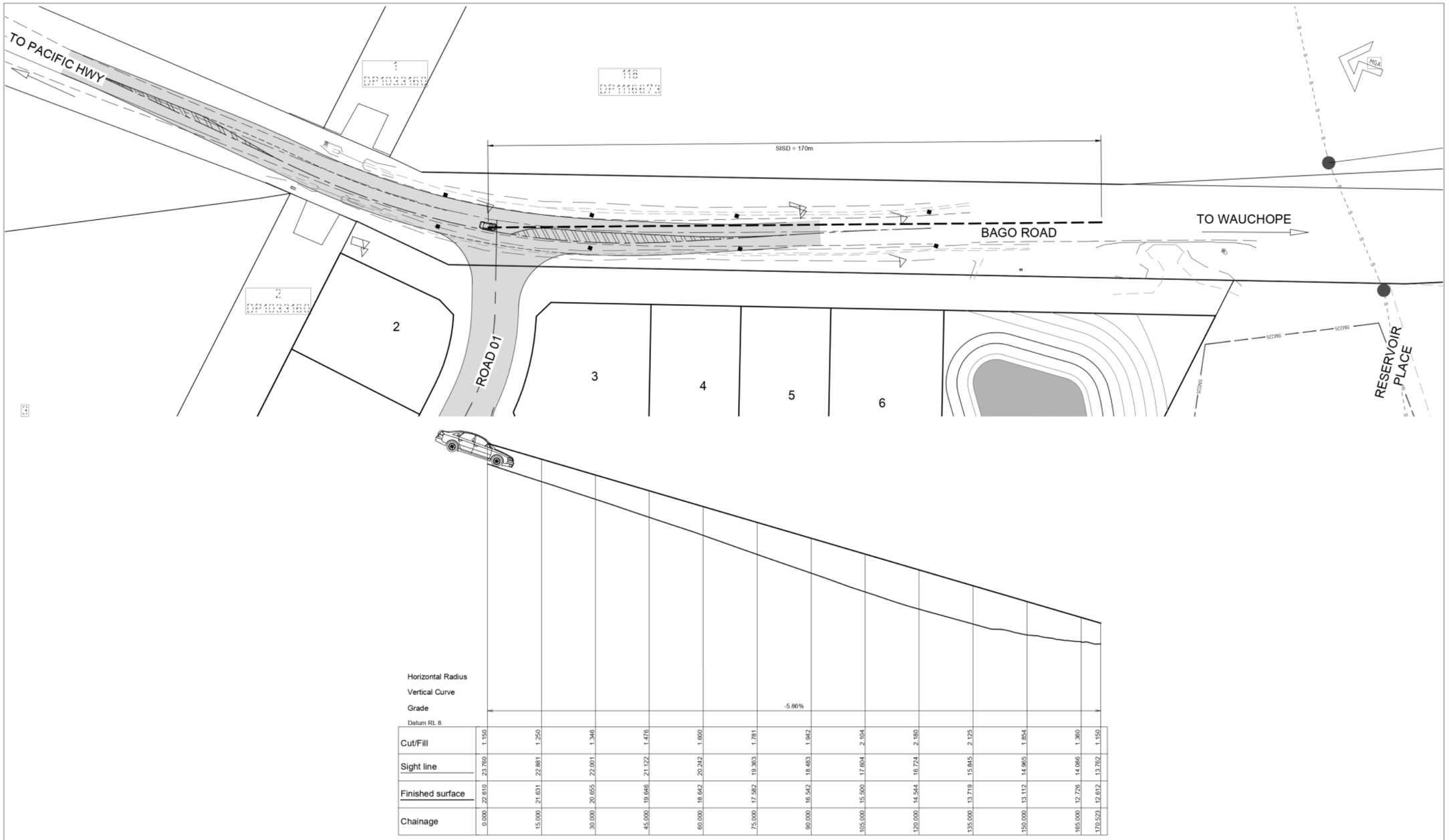

Horizontal Scale 1:500
Vertical Scale 1:100

LONGITUDINAL SECTION SISD 170m Rt1.5s Entry RHT - SOUTH BOUND TRAFFIC BAGO ROAD

0 1 2 4 6
Full Size 1:100 ; Half Reduction 1:200
SCALE (m)

0 5 10 20 30
Full Size 1:500 ; Half Reduction 1:1000
SCALE (m)

DEVELOPMENT APPLICATION
NOT FOR CONSTRUCTION

No.	DATE	REVISIONS	BY
1	23/04/2021	STAGE 5 ADDED, LOT NUMBERS AMENDED	GH
0	11/04/2019	ISSUED FOR LODGEMENT OF DA	GH

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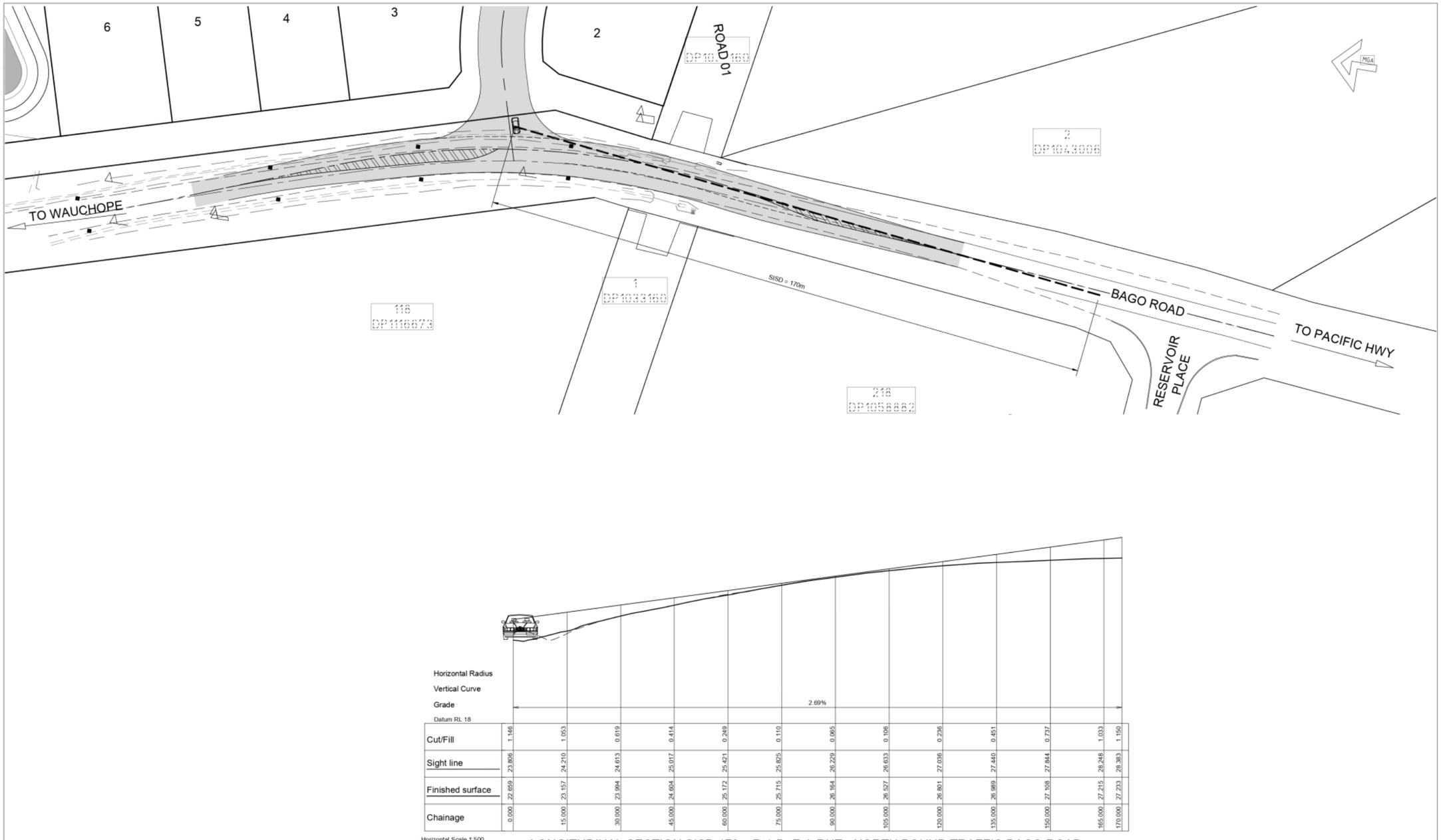
PROPOSED SUBDIVISION OF LOT 21 DP811254

INTERSECTION SIGHT LINES
ENTRY SOUTH BOUND BAGO TRAFFIC

DRAWING NUMBER/REFERENCE	7321-003 -06
DESIGNER SB/JS	DIVISION OF LEVELS PM73927
SURVEYOR PG	DATUM RL 24.798
DRAFTING SB	DATUM AHD
APPROVED GH	SCALE AS SHOWN @ A1
REV.	1
SHEET SIZE	A1



Horizontal Scale 1:500
Vertical Scale 1:100

LONGITUDINAL SECTION SISD 170m Rt1.5s Exit RHT - NORTH BOUND TRAFFIC BAGO ROAD

0 1 2 4 6
Full Size 1:100 ; Half Reduction 1:200
SCALE (m)

0 5 10 20 30
Full Size 1:500 ; Half Reduction 1:1000
SCALE (m)

DEVELOPMENT APPLICATION
NOT FOR CONSTRUCTION

No.	DATE	REVISIONS	BY
1	23/04/2021	STAGE 5 ADDED, LOT NUMBERS AMENDED	GH
0	11/04/2019	ISSUED FOR LODGEMENT OF DA	GH

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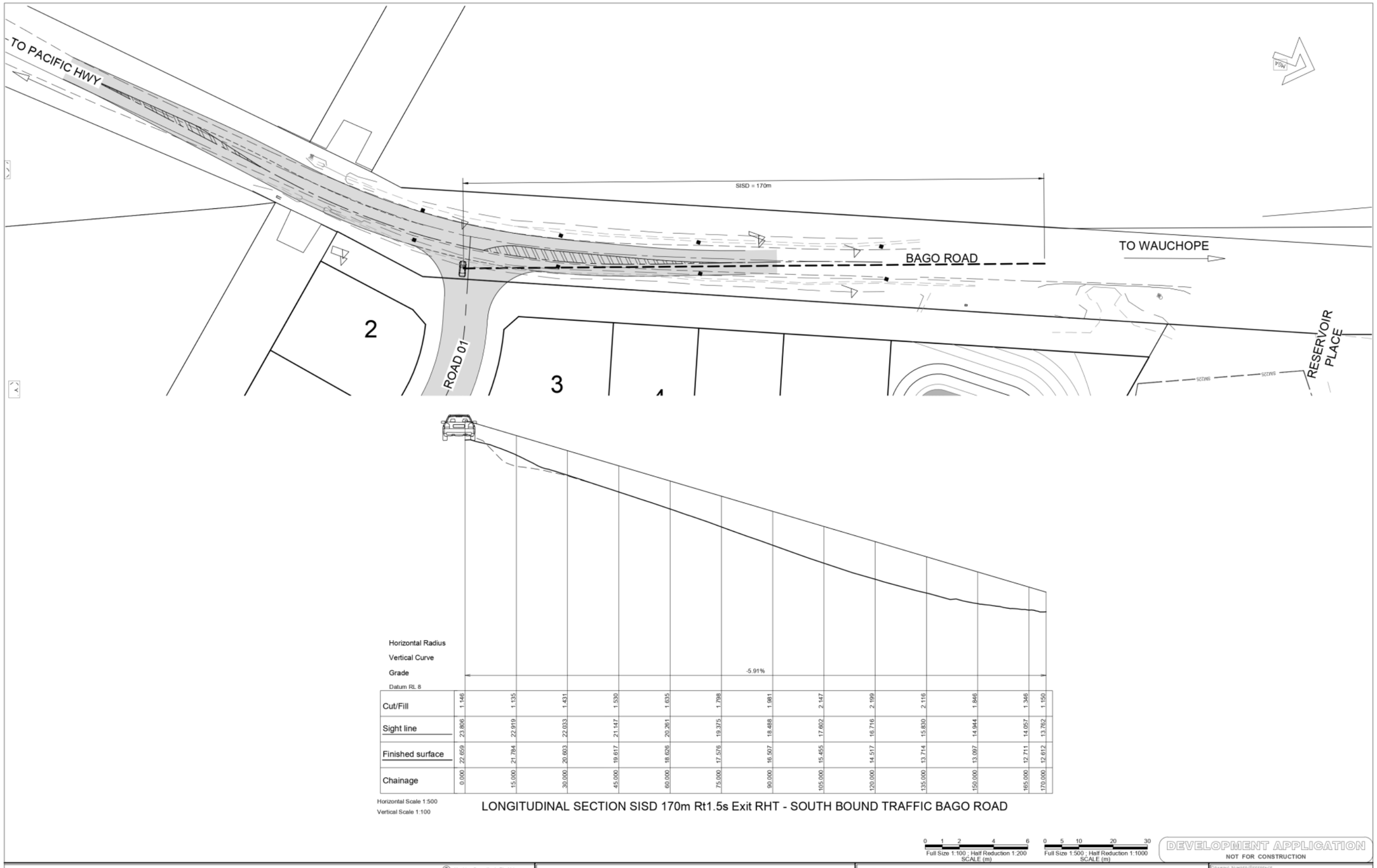
PROPOSED SUBDIVISION OF LOT 21 DP811254

INTERSECTION SIGHT DISTANCE
EXIT NORTH BOUND BAGO TRAFFIC

DRAWING NUMBER/REFERENCE	7321-003 -07		
DESIGNER	SB/JS	ORIGIN OF LEVELS	PM73927
REV.	1		
SURVEYOR	PG	HEIGHT	RL 24.798
DRAFTING	SB	DATUM	AHD
SHEET SIZE	A1		
APPROVED	GH	SCALE	AS SHOWN @ A1

Cad File: C:\Users\geoff.HOPCON\AppData\Local\Temp\AcPublish_16220\7321-003.dwg, Layout: 07, Plotted By: Geoff, Date: 24/08/21 - 14:23,



Horizontal Radius														
Vertical Curve														
Grade														
Datum RL 8														
Cut/Fill	1.146	1.135	1.431	1.530	1.635	1.798	1.981	2.147	2.199	2.116	1.846	1.346	1.150	
Sight line	23.806	22.919	22.033	21.147	20.261	19.375	18.488	17.602	16.716	15.830	14.944	14.057	13.782	
Finished surface	22.659	21.784	20.603	19.617	18.626	17.576	16.507	15.455	14.517	13.714	13.097	12.711	12.612	
Chainage	0.000	15.000	30.000	45.000	60.000	75.000	90.000	105.000	120.000	135.000	150.000	165.000	170.000	

Horizontal Scale 1:500
Vertical Scale 1:100

LONGITUDINAL SECTION SISD 170m Rt1.5s Exit RHT - SOUTH BOUND TRAFFIC BAGO ROAD

0 1 2 4 6
Full Size 1:100 ; Half Reduction 1:200
SCALE (m)

0 5 10 20 30
Full Size 1:500 ; Half Reduction 1:1000
SCALE (m)

DEVELOPMENT APPLICATION
NOT FOR CONSTRUCTION

No.	DATE	REVISIONS	BY
1	23/04/2021	STAGE 5 ADDED, LOT NUMBERS AMENDED	GH
0	11/04/2019	ISSUED FOR LODGEMENT OF DA	GH

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PROPOSED SUBDIVISION OF LOT 21 DP811254

INTERSECTION SIGHT DISTANCE
EXIT SOUTH BOUND BAGO TRAFFIC

DRAWING NUMBER/REFERENCE	7321-003 -08		
DESIGNER	SB/JS	ORIGIN OF LEVELS	PM73927
REV.	1		
SURVEYOR	PG	HEIGHT	RL 24.798
DRAFTING	SB	DATUM	AHD
SHEET SIZE	A1		
APPROVED	GH	SCALE	AS SHOWN @ A1

Cad File: C:\Users\geoff.HOPCON\AppData\Local\Temp\AcPublish_16204\7321-003.dwg, Layout: 08, Plotted By: Geoff, Date: 24/08/21 - 14:23,