

Flood Control Certificate

Date: 18/11/2024
Client: Josh & Rebecca Lisle

Job No. 2302002
Engineer: WF

Site: 56 Crescent Road, Newport

NB Consulting Engineers has assessed the architectural plans prepared by Network Design (dated April 2024) for a proposed new dwelling at the above site address in reference to potential flood issues.

Flood levels have been obtained from council. This assessment has been based on the Newport Flood Study 2019 information and has considered that the development is within the predicted flood extent and flood affected area.

Northern Beaches Council flood management information (refer appendix B) indicates the following:

• Flood Planning Level (FPL) (Max)	9.61 m AHD
• 1% AEP Flood Level (Max)	N/A m AHD
• 1% AEP Flood Depth (Max)	N/A m
• 1% AEP Flood Velocity (Max)	N/A m/s
• Probable Maximum Flood Level (PMF) (Max)	10.05 m AHD
• Probable Maximum Flood Depth (PMF) (Max)	0.62 m
• Probable Maximum Velocity (Max)	1.96 m/s
• Flood Category	N/A
• Flood life hazard classification	H1-H4
• Provisional Flood Hazard	Low - Medium Risk Precinct

The proposed ground floor level of the new dwelling (RL 10.30m AHD) is located outside the extent of the 1% AEP flood level and above the Flood Planning Level (RL 9.61m AHD).

Therefore, the development is generally in accordance with Pittwater DCP provided that the following recommendations below are complied with.

Structural requirements

Any new structures are to be constructed of fit for purpose building materials in accordance with "Reducing vulnerability of buildings to flood damage"¹ and are to be designed and constructed to ensure structural integrity up to the FPL, taking into account the forces of floodwater, wave action, flowing water with debris and buoyancy and immersion.

Waterproofing requirements

Furthermore, the switchboard and main circuit unit must be fitted above the FPL. All new electrical equipment, power points, wiring, fuel lines, sewerage systems or any other service pipes and connections must be waterproofed and/or located above the FPL. Electrical conduits must be laid such that they are free draining. All existing electrical equipment and power points located below the FPL within the subject structure must have residual current devices installed that turn off all supply of electricity to the property when flood waters are detected.

Shelter in Place requirements

The proposed floor level (RL 10.30m AHD) is recommended to provide an on-site refuge above the PMF (RL 10.05m AHD). The on-site refuge must have appropriate access installed to enable access points from all areas within the development. The proposed on-site refuge is to be structurally adequate up to the PMF. **Refer appendix A for shelter in place location.**

The on-site refuge must provide:

- Sufficient clean water for all occupants
- Portable radio with spare batteries
- Torch with spare batteries
- First aid kit

If flooding is experienced:

- Evacuate to the designated on-site refuge location
- Evacuate if ordered by Emergency Services Personnel regardless of availability of on-site refuge.

The development is not envisaged to have a detrimental effect on neighbouring properties.

We trust that this certificate meets with your requirements. Please contact the author if further clarification is required.

NORTHERN BEACHES CONSULTING ENGINEERS P/L

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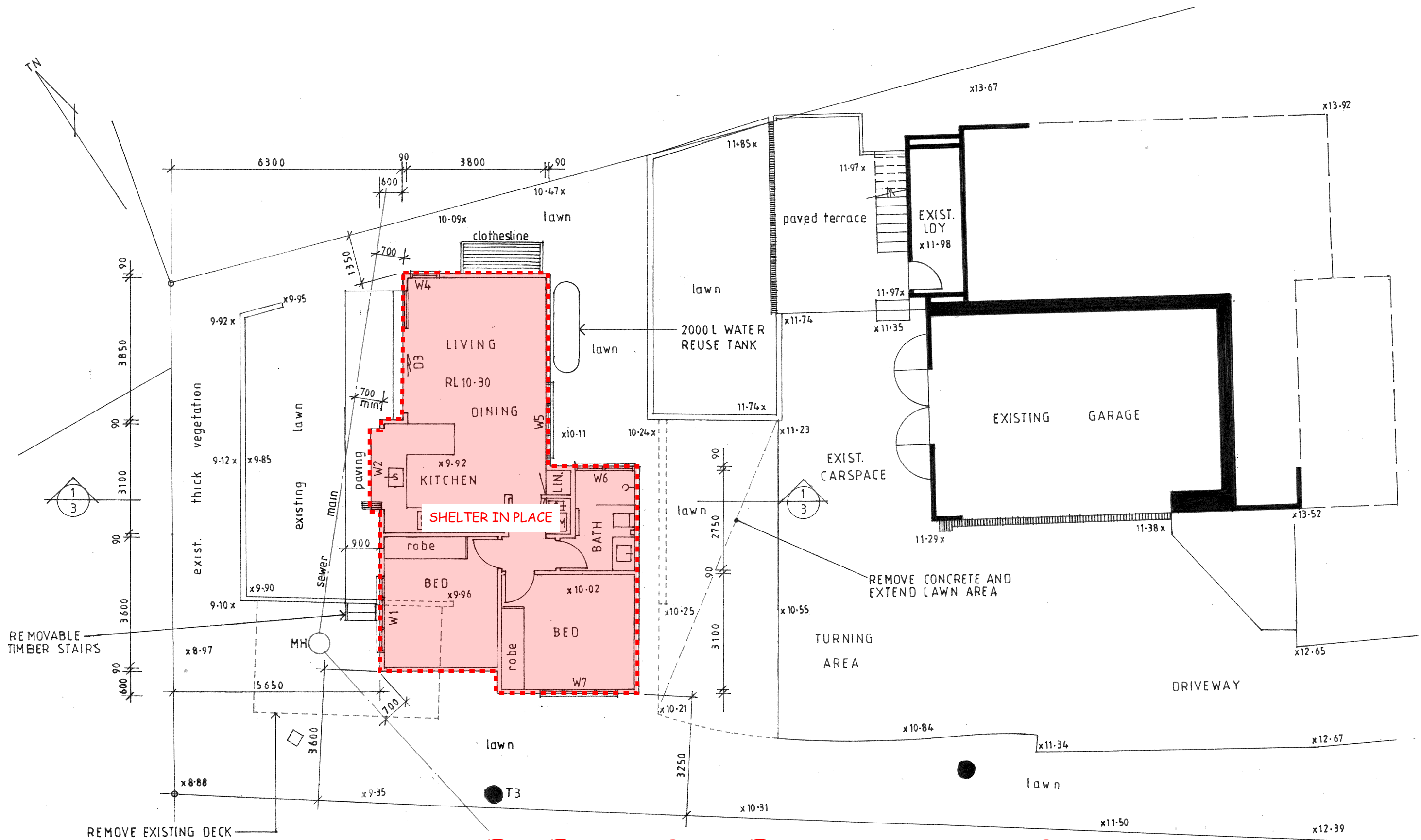
Michael Wachjo

Senior Engineer | Director | B.E.(Civil), MIEAust.

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¹Hawkesbury-Nepean Floodplain Management Steering Committee. (2006). Reducing Vulnerability of Buildings to Flood Damage. Parramatta: Hawkesbury-Nepean Floodplain Management Steering Committee.

APPENDIX A - SHELTER IN PLACE LOCATION



SHELTER IN PLACE LOCATION MAP

Window & Door Schedule

All windows and doors to be aluminium framed

Legend	Height x Width	Description
W1	1350 x 2100	Sliding windows
W2	1350 x 2100	Bifold servery windows
D3	2250 x 3300	Stacking glass doors
W4	1350 x 800	Awning window
W5	600 x 2100	Frosted awning windows
W6	600 x 1600	Frosted awning windows
W7	1350 x 2100	Sliding windows



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NETWORK DESIGN

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**PROPOSED SECONDARY DWELLING
AND RETAINING WALL**

56 CRESCENT ROAD, NEWPORT
LOT 37L DP402192

CLIENT

JOSH AND REBECCA LISLE

SECONDARY DWELLING PLAN

DATE	DRAWN	DRG. NO.
APRIL 2024	J.WRIGHT	04-24-CRE
SCALE	ISSUE:	SHEET NO.
1:100	DA	1



APPENDIX B - NORTHERN BEACHES COUNCIL FLOOD INFORMATION

BASIC FLOOD INFORMATION REPORT

Property: 56 Crescent Road NEWPORT NSW 2106

Lot DP: Lot 37L DP 402192

Issue Date: 01/10/2024

Flood Study Reference: Newport Flood Study 2019, Catchment Simulation Solutions

Flood Information¹:

Map A - Flood Risk Precincts

Maximum Flood Planning Level (FPL) ^{2, 3, 4}: 9.61 m AHD

Map B - 1% AEP Flood

1% AEP Maximum Water Level ^{2, 3}: N/A m AHD

1% AEP Maximum Depth from natural ground level³: N/A m

1% AEP Maximum Velocity: N/A m/s

Map C - 1% AEP Hydraulic Categorisation

1% AEP Hydraulic Categorisation: N/A

Map D - Probable Maximum Flood (PMF)

PMF Maximum Water Level ⁴: 10.05 m AHD

PMF Maximum Depth from natural ground level: 0.62 m

PMF Maximum Velocity: 1.96 m/s

Map E - Flood Life Hazard Category in PMF

- (1) The provided flood information does not account for any local overland flow issues nor private stormwater drainage systems.
- (2) Overland flow/mainstream water levels may vary across a sloping site, resulting in variable minimum floor/ flood planning levels across the site. The maximum Flood Planning Level may be in a different location to the maximum 1% AEP flood level.
- (3) Intensification of development in the former Pittwater LGA requires the consideration of climate change impacts which may result in higher minimum floor levels.
- (4) Vulnerable/critical developments require higher minimum floor levels using the higher of the PMF or FPL.

Notes

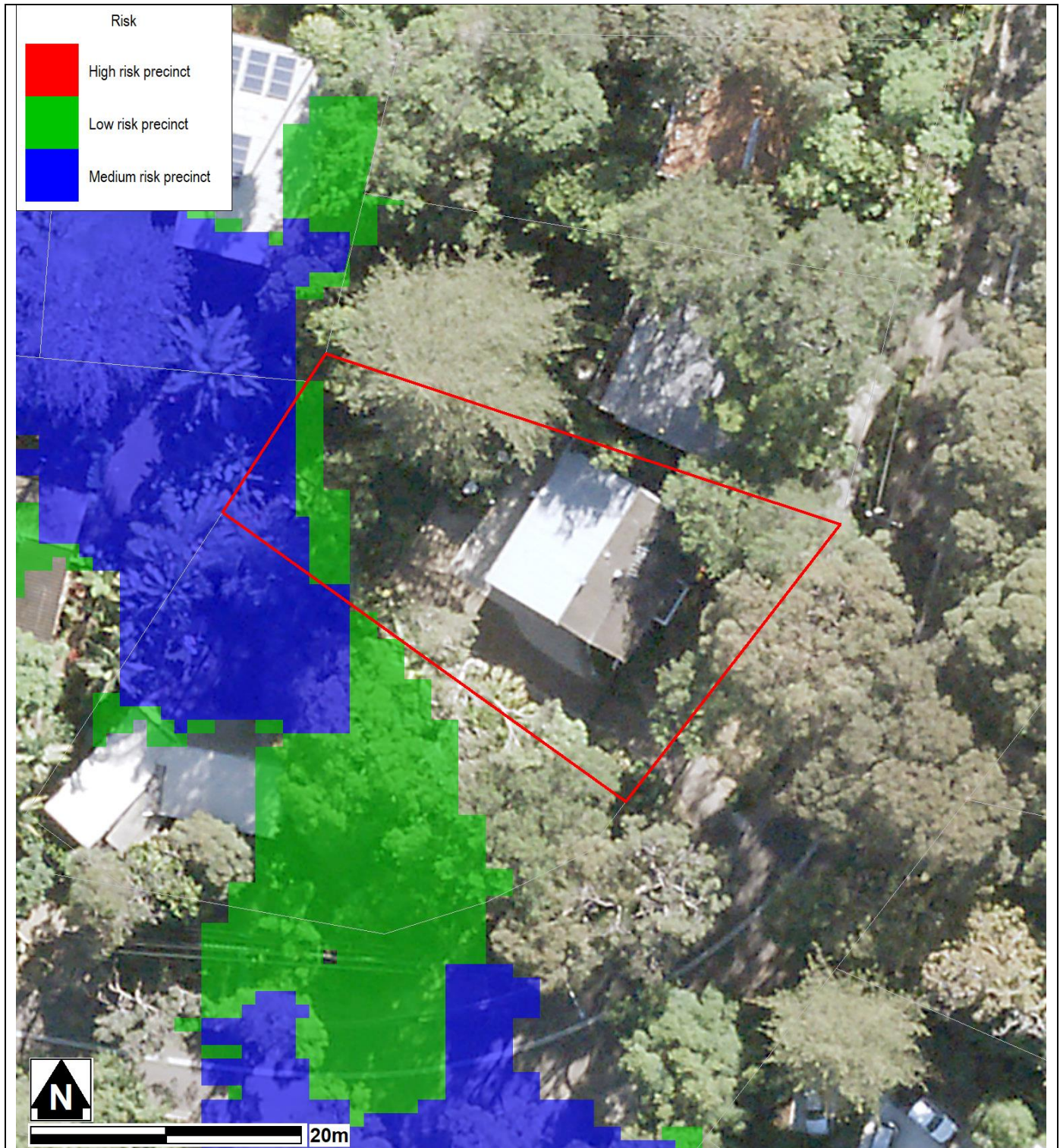
General

- All levels are based on Australian Height Datum (AHD) unless otherwise noted.
- This is currently the best available information on flooding; it may be subject to change in the future.
- Council recommends that you obtain a detailed survey of the above property and surrounds to AHD by a registered surveyor to determine any features that may influence the predicted extent or frequency of flooding. It is recommended you compare the flood level to the ground and floor levels to determine the level of risk the property may experience should flooding occur.
- Development approval is dependent on a range of issues, including compliance with all relevant provisions of Northern Beaches Council's Local Environmental Plans and Development Control Plans.
- Please note that the information contained within this letter is general advice only as a detail survey of the property as well as other information is not available. Council recommends that you engage a suitably experienced consultant to provide site specific flooding advice prior to making any decisions relating to the purchase or development of this property.
- The Flood Studies on which Council's flood information is based are available on Council's online [Flood Study Reports](#) webpage.
- If the FPL is higher than the PMF level, then the FPL should still be used as the FPL, as it includes freeboard which the PMF does not.
- If the property is affected by an Estuarine Planning Level (EPL) which is higher than the FPL, then the EPL should be used as the FPL.
- Areas affected by an EPL in the former Pittwater LGA are mapped on Council's online [Estuarine Hazard Map](#). Note that areas in the former Manly LGA affected by an EPL have been identified and will be soon added to this map.
- Council's drainage infrastructure is mapped on Council's [Stormwater Map](#). Note that locations are indicative only and may not be exactly as shown.

Property

- Please note that if a development on the property is proposed completely outside of the Flood Planning Area (Medium Flood Risk Precinct), a formal Flood Management Report would not need to be submitted to council with a Development Application for Residential Development.

MAP A: FLOOD RISK PRECINCTS



Notes:

- **Low Flood Risk precinct** means all flood prone land not identified within the High or Medium flood risk precincts.
- **Medium Flood Risk precinct** means all flood prone land that is (a) within the 1% AEP Flood Planning Area; and (b) is not within the high flood risk precinct.
- **High Flood Risk precinct** means all flood prone land (a) within the 1% AEP Flood Planning Area; and (b) is either subject to a high hydraulic hazard, within the floodway or subject to significant evacuation difficulties (H5 or H6 Life Hazard Classification)
- The **Flood Planning Area** extent is equivalent to the Medium Flood Risk Precinct extent and includes the High Flood Risk Precinct within it. The mapped extent represents the 1% annual Exceedance Probability (AEP) flood event + freeboard.
- None of these mapped extents include climate change.

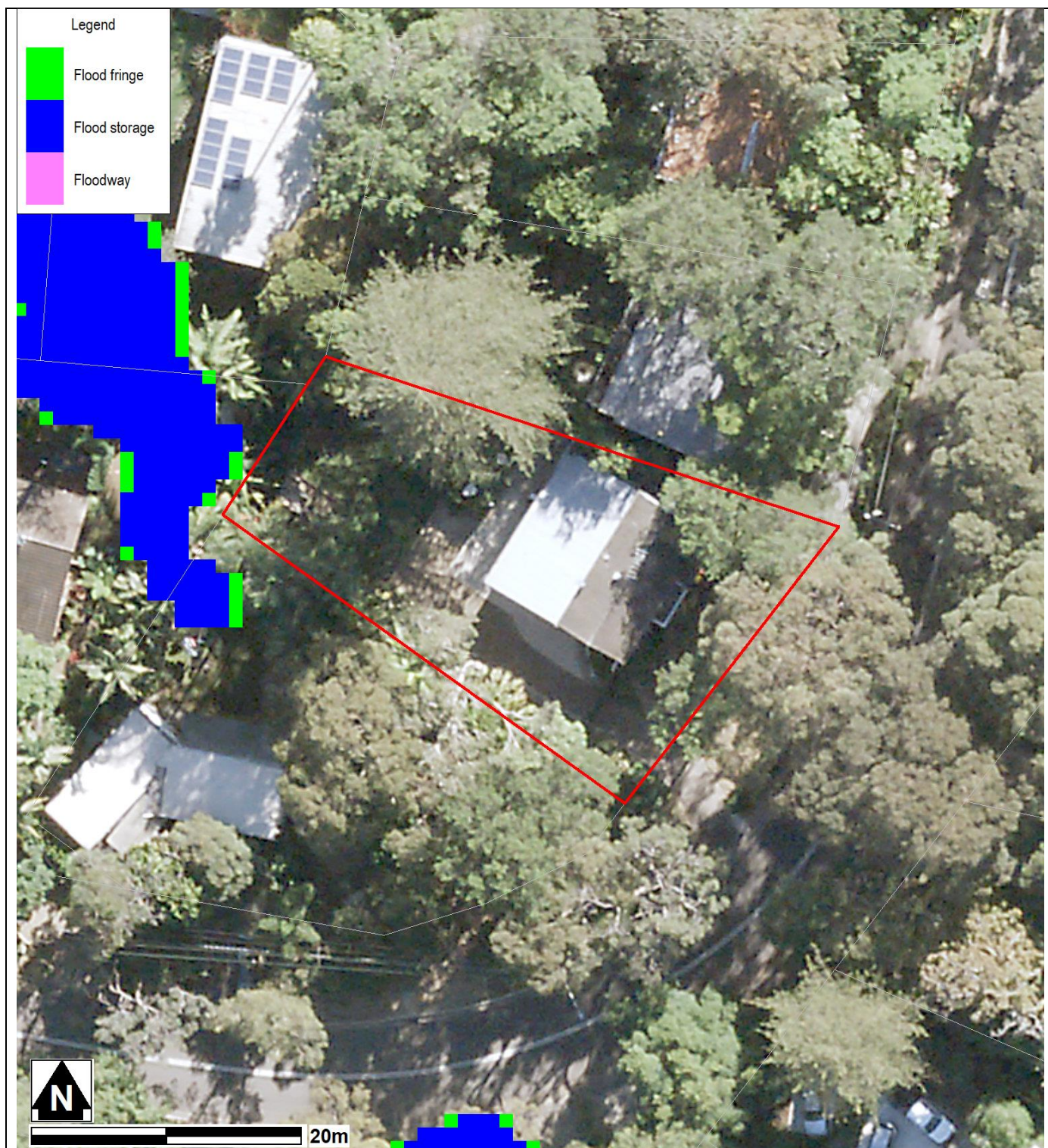
MAP B: FLOODING - 1% AEP EXTENT



Notes:

- Extent represents the 1% Annual Exceedance Probability (AEP) flood event.
- Flood events exceeding the 1% AEP can occur on this site.
- Extent does not include climate change.
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: Newport Flood Study 2019, Catchment Simulation Solutions) and aerial photography (Source: NearMap 2014) are indicative only.

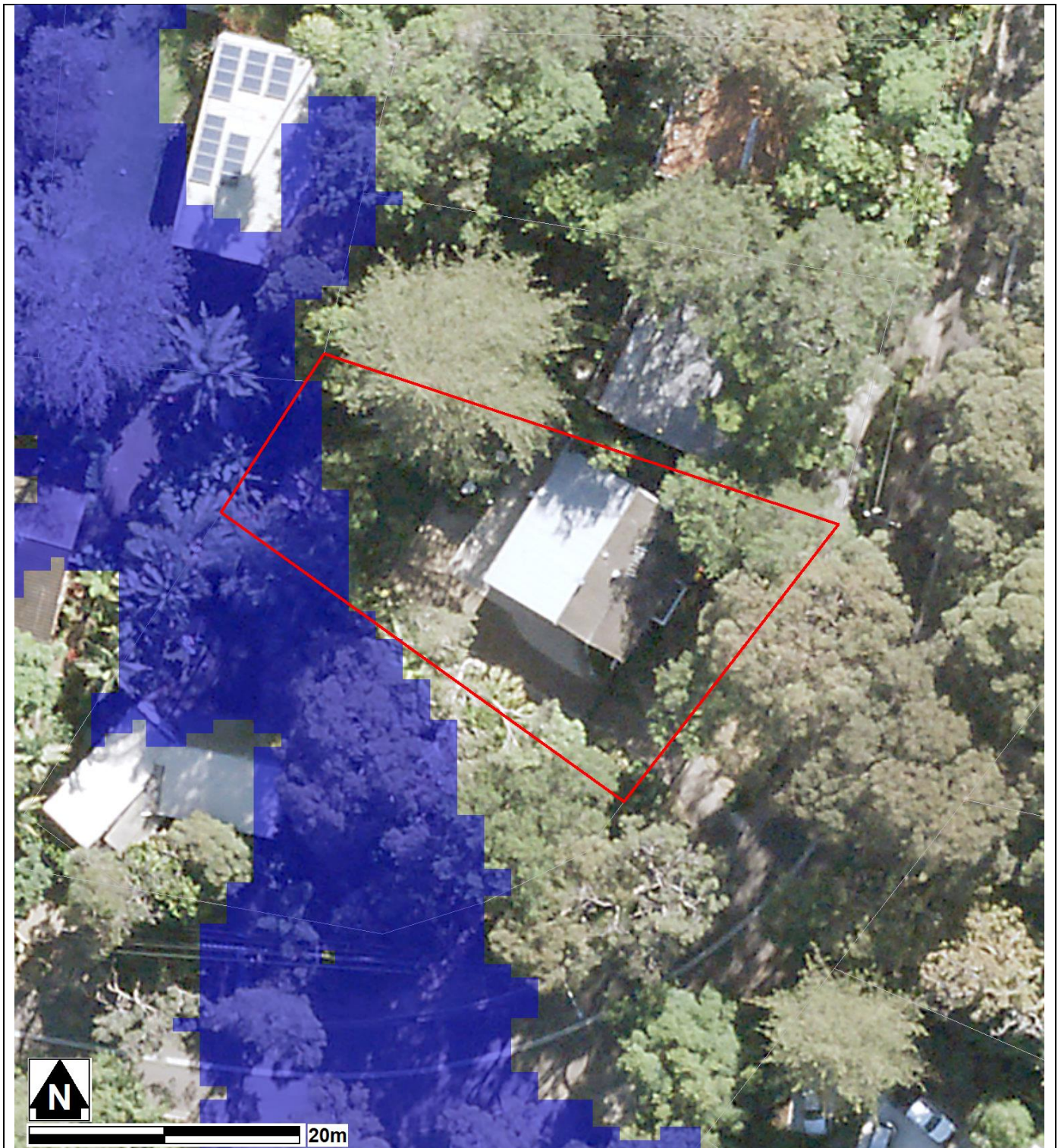
MAP C: 1% AEP FLOOD HYDRAULIC CATEGORY EXTENT MAP



Notes:

- Extent represents the 1% Annual Exceedance Probability (AEP) flood event.
- Extent does not include climate change.
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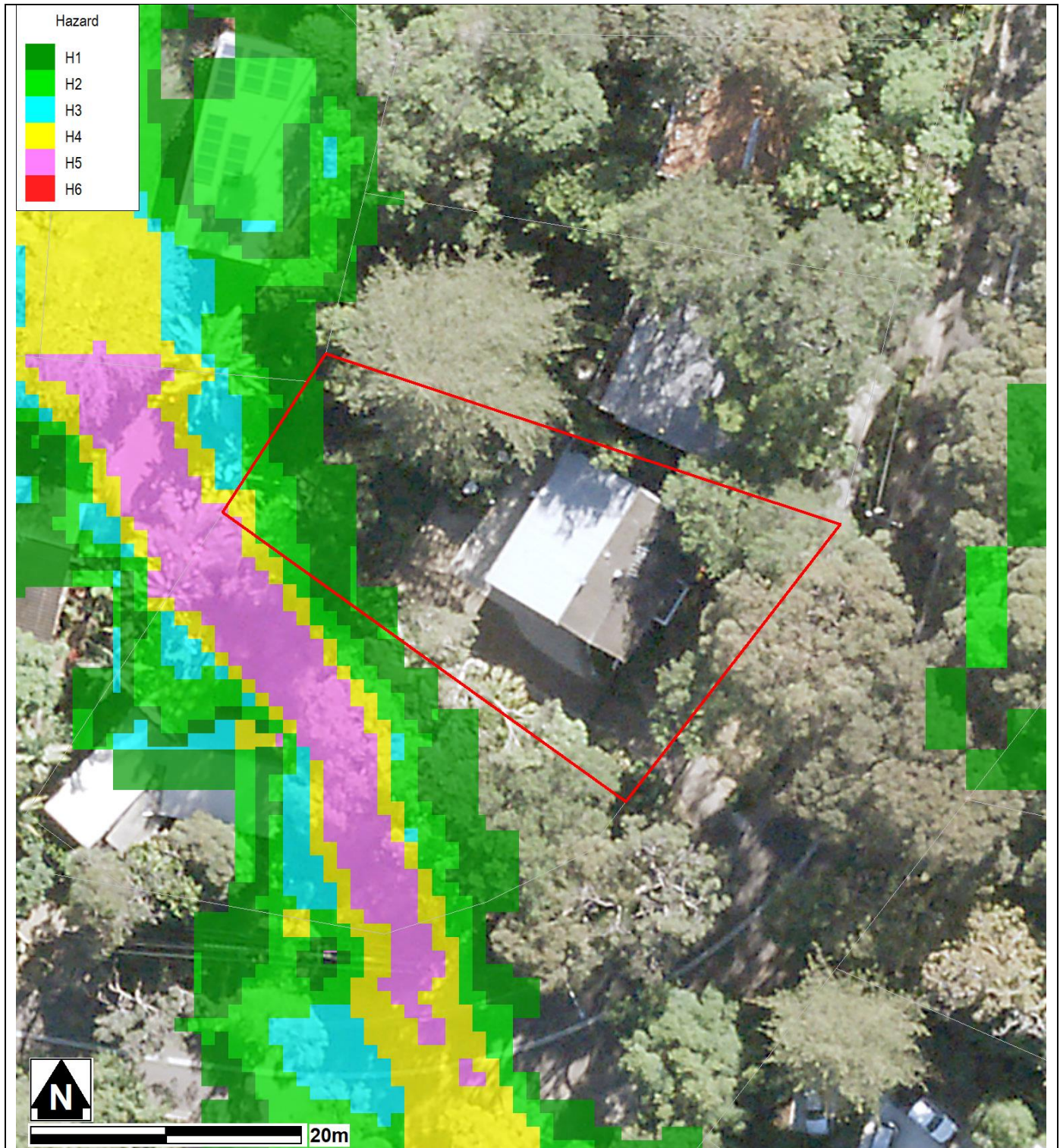
MAP D: PROBABLE MAXIMUM FLOOD EXTENT



Notes:

- Extent represents the Probable Maximum Flood (PMF) flood event.
- Extent does not include climate change.
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: Newport Flood Study 2019, Catchment Simulation Solutions) and aerial photography (Source: NearMap 2014) are indicative only.

MAP E: FLOOD LIFE HAZARD CATEGORY IN PMF



Notes:

- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: Newport Flood Study 2019, Catchment Simulation Solutions) and aerial photography (Source: NearMap 2014) are indicative only.

Preparation of a Flood Management Report

Introduction

These guidelines are intended to provide advice to applicants on how to determine what rules apply on flood prone land, and how to prepare a Flood Management Report. The purpose of a Flood Management Report is to demonstrate how a proposed development will comply with flood related planning requirements.

Planning Requirements for Flood Prone Land

Development must comply with the requirements for developing flood prone land set out in the relevant Local Environment Plan (LEP) and Development Control Plan (DCP). There are separate LEPs and DCPs for each of the former Local Government Areas (LGAs), although preparation of a LGA-wide LEP and DCP is currently under way.

The clauses specific to flooding in the LEPs and DCPs are as follows:

LEP Clauses	DCP Clauses
Manly LEP (2013) – 5.21 Flood Planning Manly LEP (2013) – 5.22 Special Flood Considerations	Manly DCP (2013) – 5.4.3 Flood Prone Land
Warringah LEP (2011) – 5.21 Flood Planning Warringah LEP (2011) – 5.22 Special Flood Considerations Warringah LEP (2000) – 47 Flood Affected Land *	Warringah DCP (2011) – E11 Flood Prone Land
Pittwater LEP (2014) – 5.21 Flood Planning Pittwater LEP (2014) – 5.22 Special Flood Considerations	Pittwater 21 DCP (2014) – B3.11 Flood Prone Land Pittwater 21 DCP (2014) – B3.12 Climate Change

* The Warringah LEP (2000) is relevant only for the “deferred lands” which affects only a very small number of properties, mostly in the Oxford Falls area.

Development on flood prone land must also comply with Council's Water Management for Development Policy, and if it is in the Warriewood Release Area, with the Warriewood Valley Water Management Specification and Clause C6.1 of the Pittwater 21 DCP (2014). Guidelines for Flood Emergency Response Planning are available for addressing emergency response requirements in the DCP. These documents can be found on Council's website on the [Flooding page](#).

Note that if the property is affected by estuarine flooding or other coastal issues, these need to be addressed separately under the relevant DCP clauses.

When is a Flood Management Report required?

A Flood Management Report must be submitted with any Development Application on flood prone land (with exceptions noted below), for Council to consider the potential flood impacts and applicable controls. For Residential or Commercial development, it is required for development on land identified within the Medium or High Flood Risk Precinct. For Vulnerable or Critical development, it is required if it is within any Flood Risk Precinct.

There are some circumstances where a formal Flood Management Report undertaken by a professional engineer may not be required. However the relevant parts of the DCP and LEP would still need to be addressed, so as to demonstrate compliance. Examples where this may apply include:

- If all proposed works are located outside the relevant Flood Risk Precinct extent
- First floor addition only, where the existing ground floor level is above the FPL

- Internal works only, where habitable floor areas below the FPL are not being increased

Note that development on flood prone land will still be assessed for compliance with the relevant DCP and LEP, and may still be subject to flood related development controls.

What is the purpose of a Flood Management Report?

The purpose of a Flood Management Report is to demonstrate how a proposed development will comply with flood planning requirements, particularly the development controls outlined in the relevant LEP and DCP clauses. The report must detail the design, measures and controls needed to achieve compliance, following the steps outlined below.

A Flood Management Report should reflect the size, type and location of the development, proportionate to the scope of the works proposed, and considering its relationship to surrounding development. The report should also assess the flood risk to life and property.

Preparation of a Flood Management Report

The technical requirements for a Flood Management Report include (where relevant):

1. Description of development
 - Outline of the proposed development, with plans if necessary for clarity
 - Use of the building, hours of operation, proposed traffic usage or movement
 - Type of use, eg vulnerable, critical, residential, business, industrial, subdivision, etc
2. Flood analysis
 - 1% AEP flood level
 - Flood Planning Level (FPL)
 - Probable Maximum Flood (PMF) level
 - Flood Risk Precinct, ie High, Medium or Low
 - Flood Life Hazard Category
 - Mapping of relevant extents
 - Flood characteristics for the site, eg depth, velocity, hazard and hydraulic category, and the relevance to the proposed development

If the property is affected by an Estuarine Planning Level (EPL) which is higher than the FPL, then the EPL should be used as the FPL. If the FPL is higher than the PMF level, then the FPL should still be used as the FPL, as it includes freeboard which the PMF does not.

3. Assessment of impacts
 - Summary of compliance for each category of the DCP, as per the table below.

	Compliance		
	N/A	Yes	No
A) Flood effects caused by Development			
B) Building Components & Structural Soundness			
C) Floor Levels			
D) Car parking			
E) Emergency Response			
F) Fencing			
G) Storage of Goods			

H) Pools			
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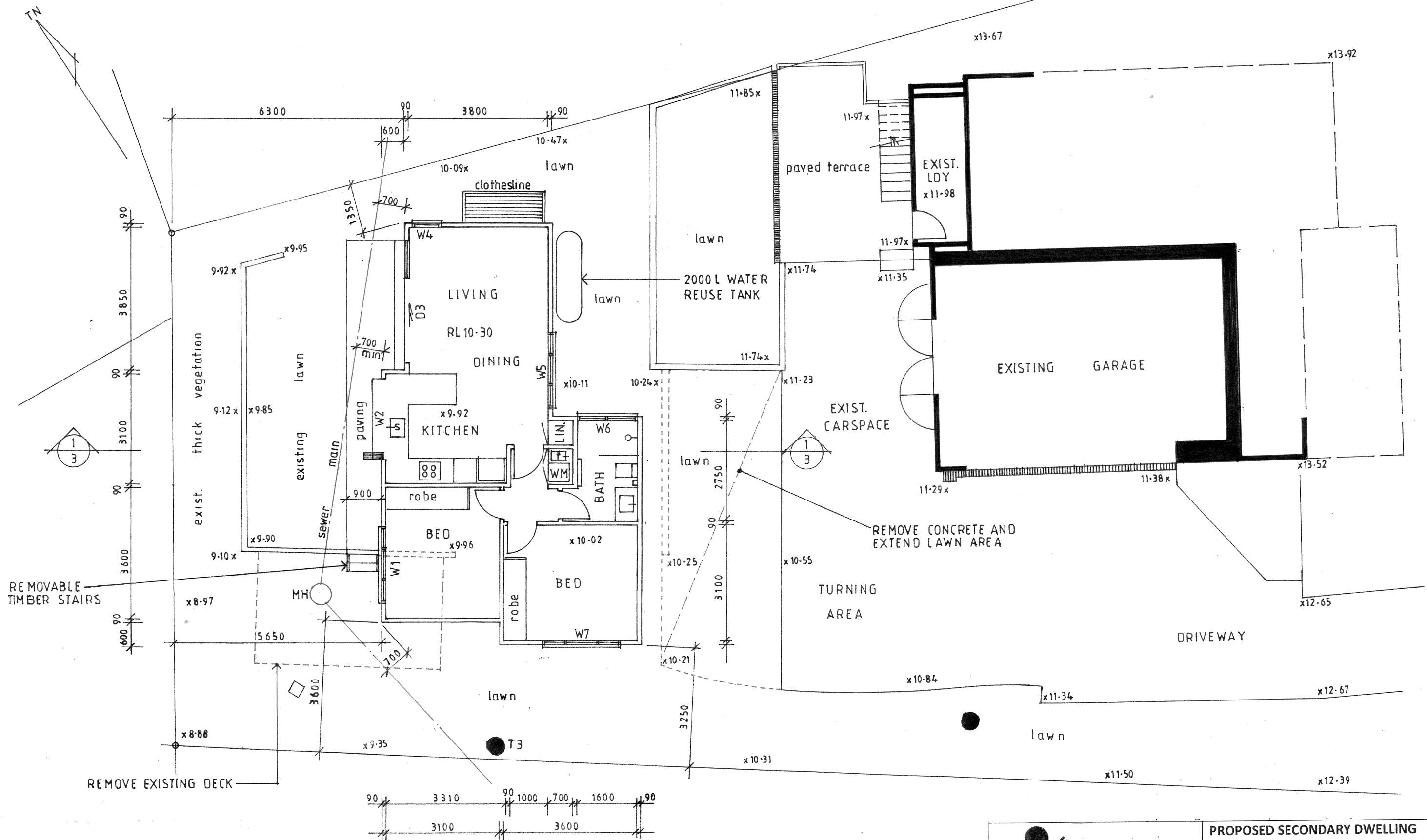
- Demonstration of how the development complies with any relevant flood planning requirements from the DCP, LEP, Water Management for Development Policy, and if it is in the Warriewood Valley Urban Land Release Area, with the Warriewood Valley Water Management Specification (2001)
- For any non-compliance, a justification for why the development should still be considered.
- Calculations of available flood storage if compensatory flood storage is proposed
- Plan of the proposed development site showing the predicted 1% AEP and PMF flood extents, as well as any high hazard or floodway affectation
- Development recommendations and construction methodologies
- Qualifications of author - Council requires that the Flood Management Report be prepared by a suitably qualified Engineer with experience in flood design / management who has, or is eligible for, membership to the Institution of Engineers Australia
- Any flood advice provided by Council
- Any other details which may be relevant

Further information and guidelines for development are available on Council's website at:

<https://www.northernbeaches.nsw.gov.au/planning-and-development/building-and-renovations/development-applications/guidelines-development-flood-prone-land>

Council's Flood Team may be contacted on 1300 434 434 or at floodplain@northernbeaches.nsw.gov.au .

APPENDIX C - ARCHITECTURAL PLANS



Window & Door Schedule

All windows and doors to be aluminium framed

Legend	Height x Width	Description
W1	1350 x 2100	Sliding windows
W2	1350 x 2100	Bifold servery windows
D3	2250 x 3300	Stacking glass doors
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PROPOSED SECONDARY DWELLING AND RETAINING WALL

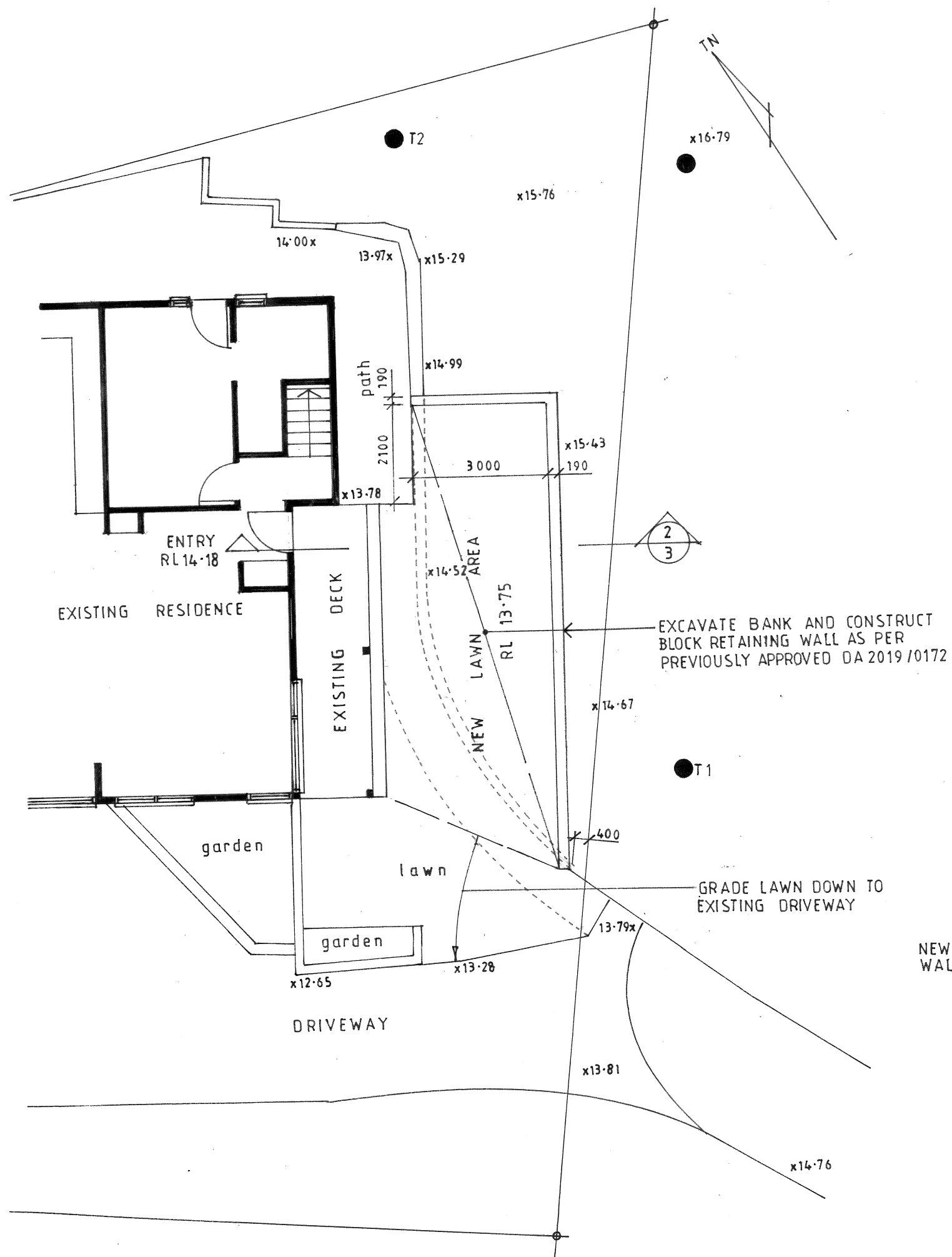
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LOT 37L DP402192

CLIENT

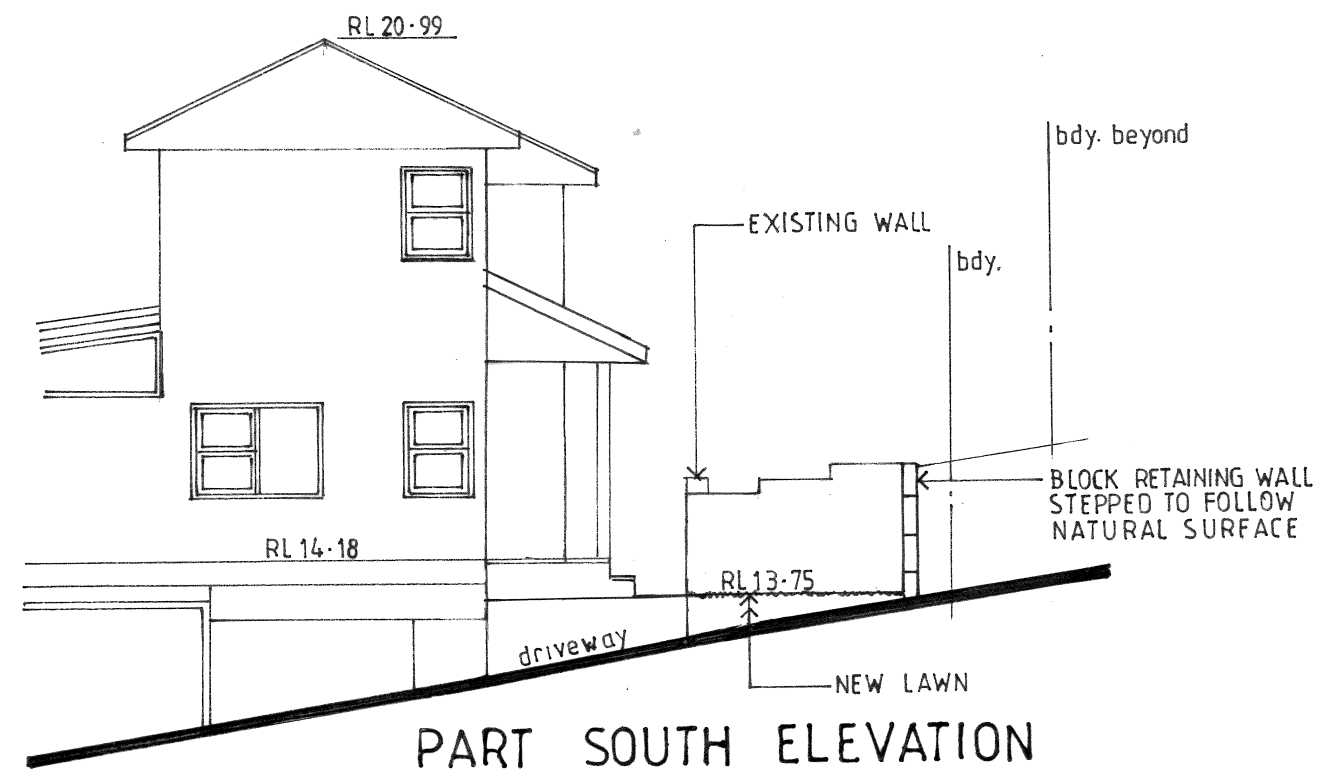
JOSH AND REBECCA LISLE

SECONDARY DWELLING PLAN

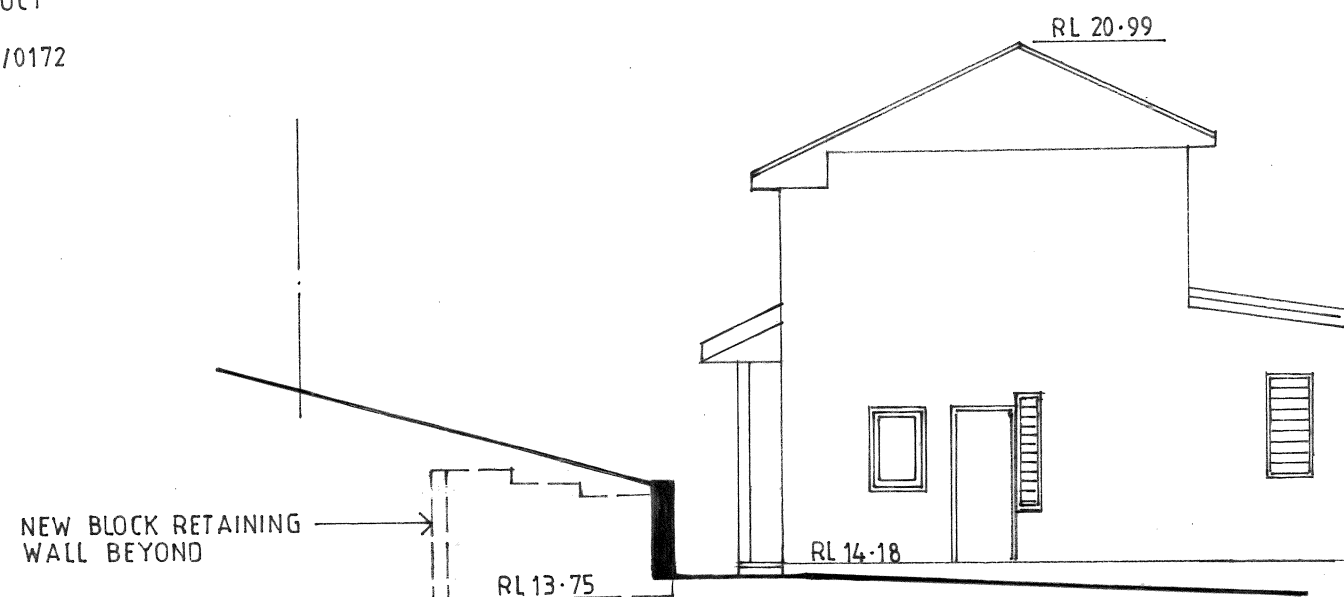
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FRONT YARD PLAN



PART SOUTH ELEVATION



PART NORTH ELEVATION



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**PROPOSED SECONDARY DWELLING
AND RETAINING WALL**

56 CRESCENT ROAD, NEWPORT
LOT 37L DP402192

CLIENT

JOSH AND REBECCA LISLE

FRONT YARD PLAN & ELEVATIONS

DATE
APRIL 2024

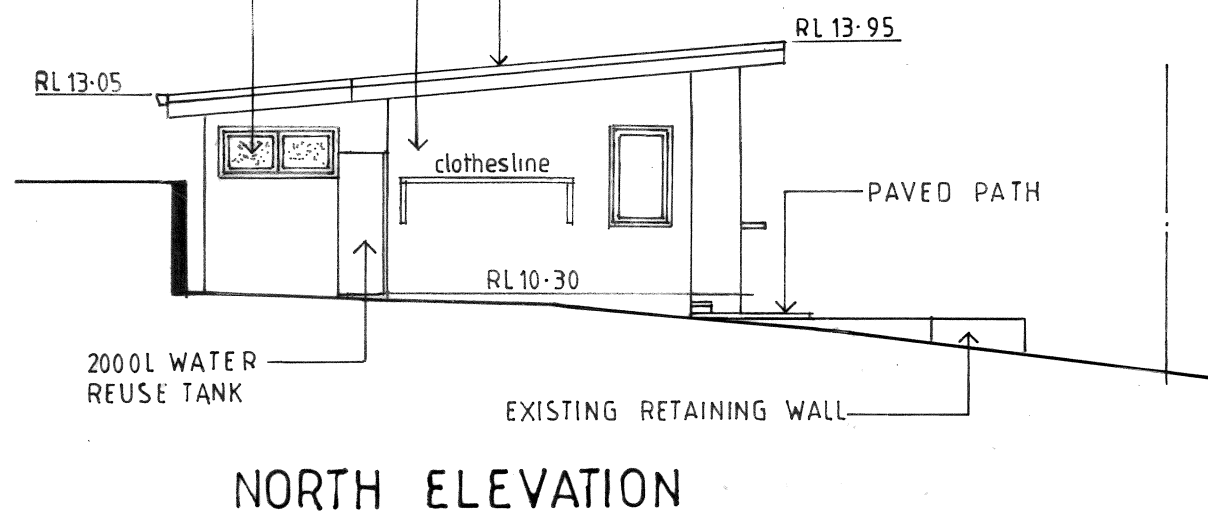
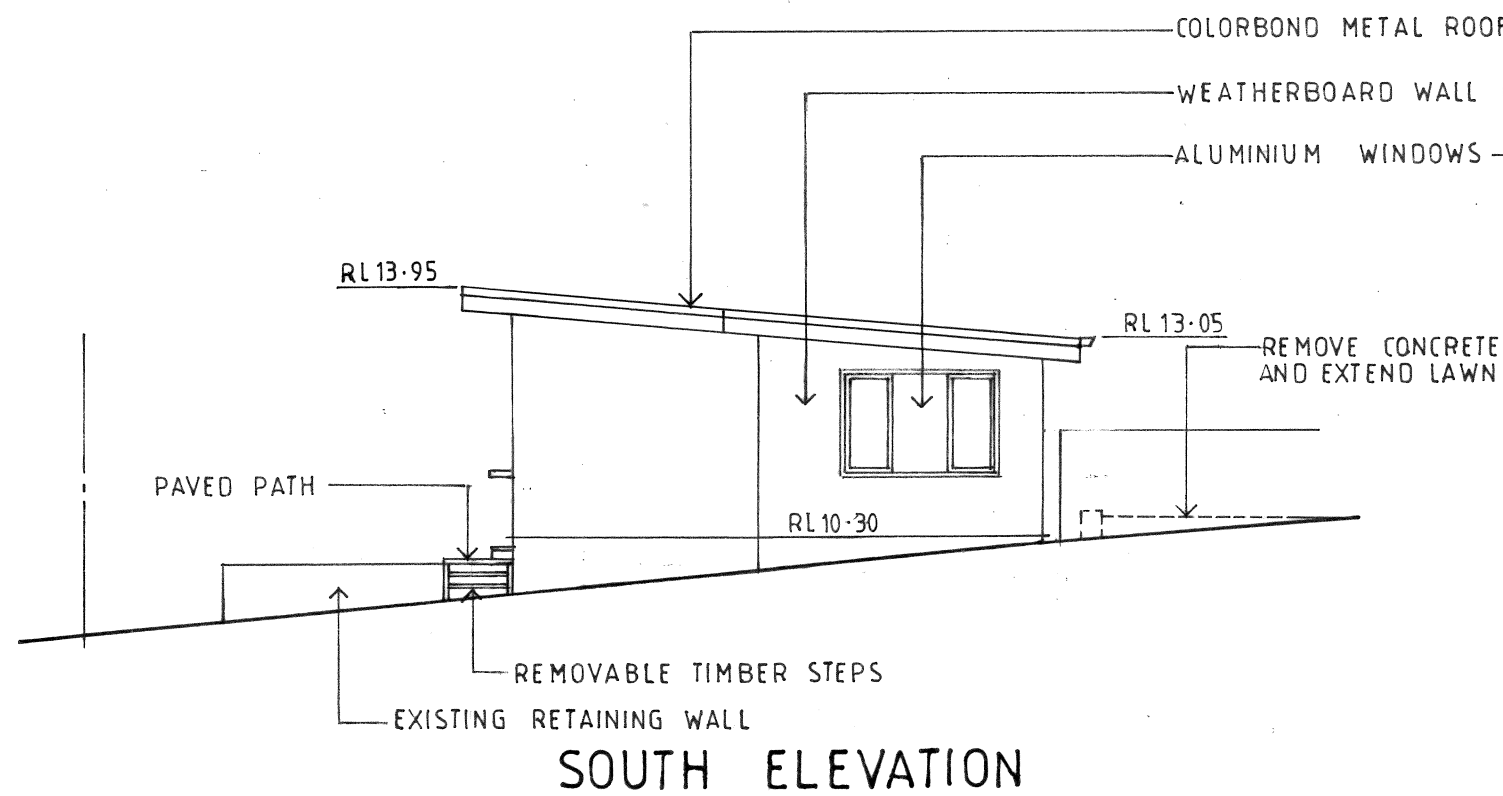
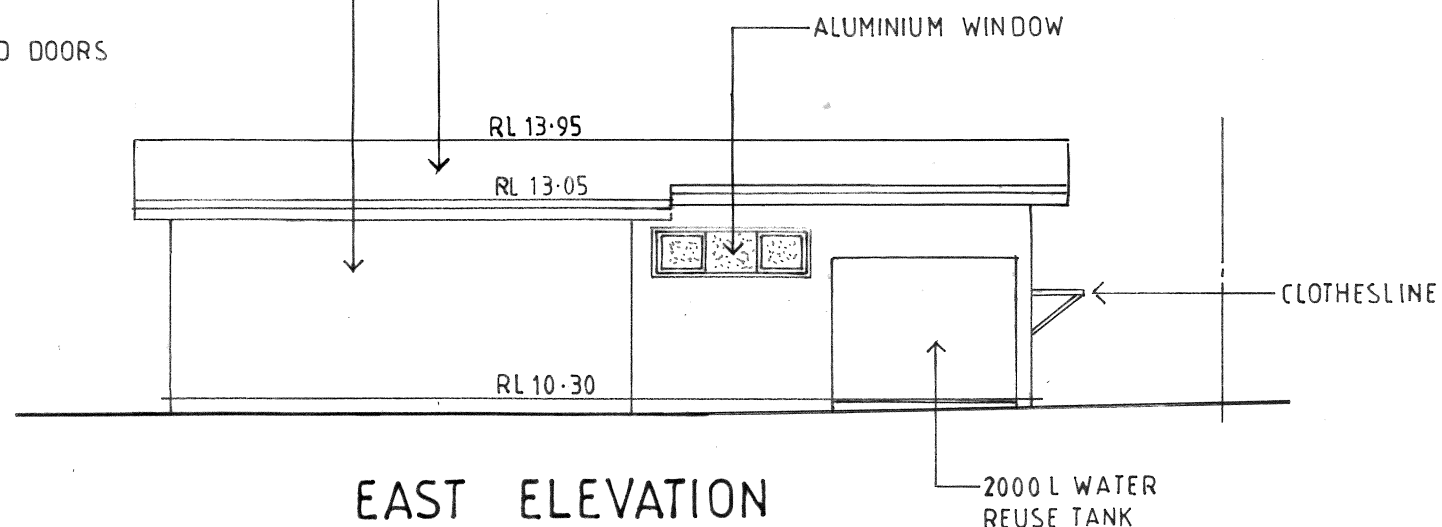
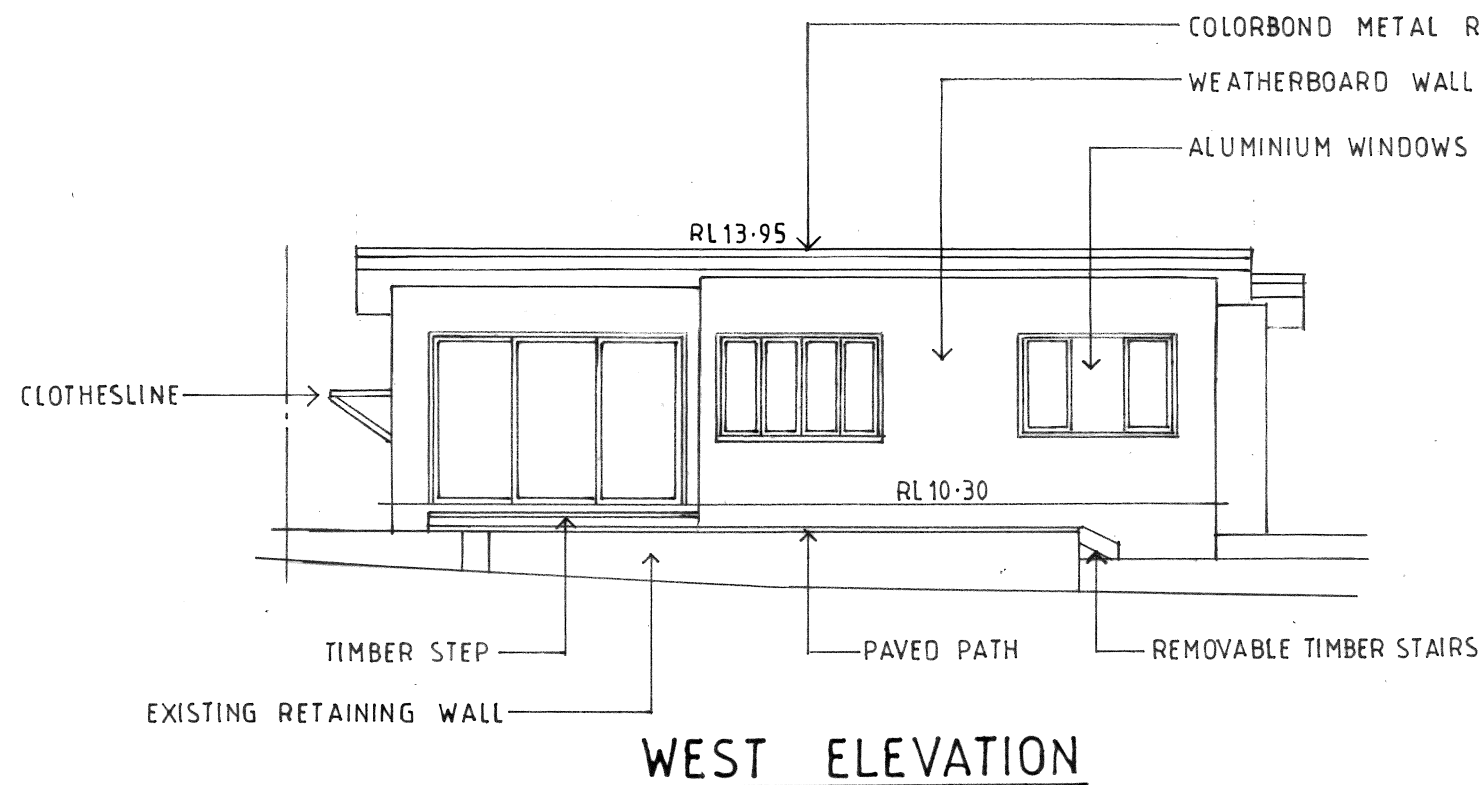
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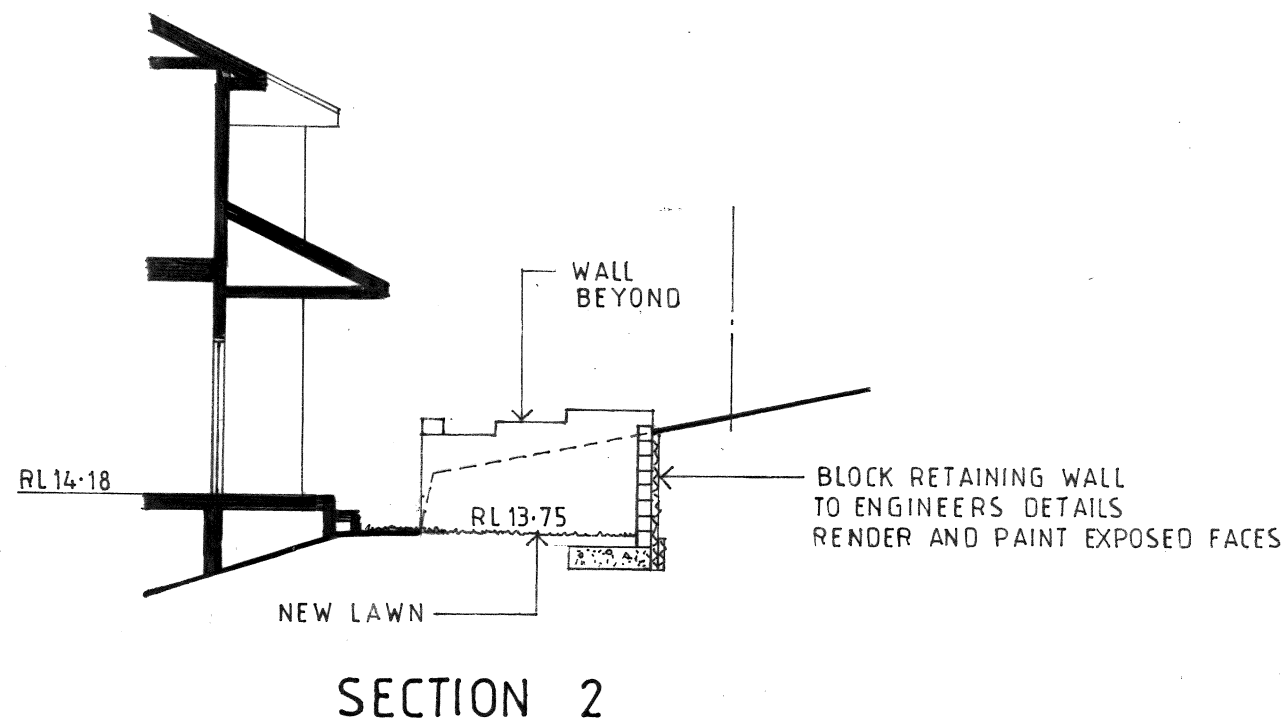
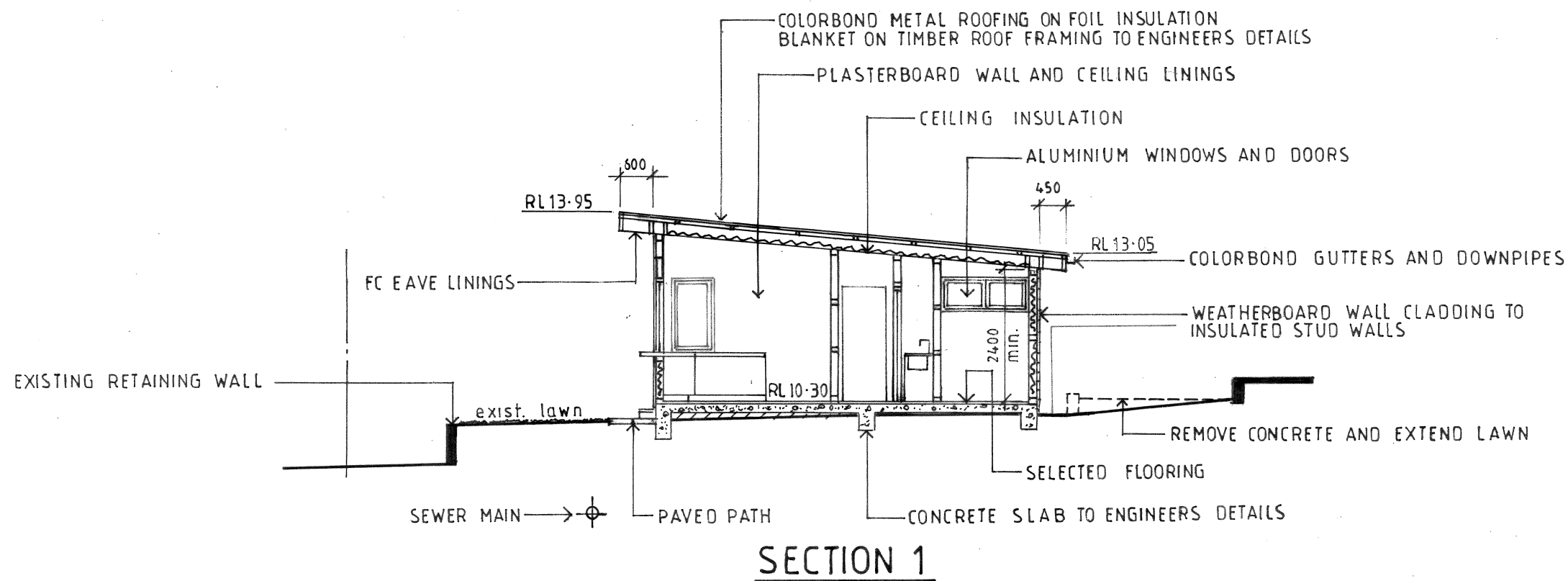
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PROPOSED SECONDARY DWELLING AND RETAINING WALL 56 CRESCENT ROAD, NEWPORT LOT 37L DP402192		
CLIENT JOSH AND REBECCA LISLE		
SECONDARY DWELLING ELEVATIONS		
DATE APRIL 2024	DRAWN J.WRIGHT	DRG. NO. 04-24-CRE
SCALE 1:100	ISSUE: DA	SHEET NO. 3



Notes

1. All dimensions to be checked on site by builder prior to the commencement of works. Figured dimensions to be used. Do not scale drawing. All dimensions in millimetres unless shown otherwise.
2. Concrete works to be in accordance with AS3600 and Engineers details.
3. All timber framing to AS1684 & 1720 and Engineers details where relevant.
4. All steelwork to AS4100 and Engineers details.
5. All brickwork and blockwork to be in accordance with AS3700.
6. All new glazing to be in accordance with AS1288. Windows and doors to be installed in accordance with manufacturers specifications. Flashing details to comply with the relevant exposure condition for each window or door.
7. All works generally to be in accordance with local council bylaws and the Building Code of Australia.
8. All work to be left in a safe and stable condition at the end of each day.



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**PROPOSED SECONDARY DWELLING
AND RETAINING WALL**

56 CRESCENT ROAD, NEWPORT
LOT 37L DP402192

CLIENT

JOSH AND REBECCA LISLE

SECTIONS AND NOTES

DATE APRIL 2024	DRAWN J.WRIGHT	DRG. NO. 04-24-CRE
SCALE 1:100	ISSUE: DA	SHEET NO. 4

