APPROVED
CONSULTING
ENGINEERS

ABN 90 645 409 801
ACN 645 409 801

FLOOD RISK REPORT

FOR PROPOSED ADDITIONS AT

1054 BARRENJOEY ROAD PALM BEACH

JOB NO: 2022053 (Issue A – 11/08/2022)

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Contents

1 – Introduction

Approved Consulting Engineers has completed a review of the proposed development at 1054 Barrenjoey Road, Palm Beach and determined that the site is located within 1% AEP flood extent as predicted by the *'Avalon To Palm Beach Floodplain Risk Management Study And Plan 2017'* (MHL, 2017). The proposed landscape architectural plans prepared by 'Volker Klemm Landscape Design' (Revision C – dated: 03/22, drawing no: CDC 01) detail external landscaping works at the rear of the existing site, including an inground pool.

This report has been prepared in accordance with part B3.11 of '*Northern Beaches Council' Pittwater 21 Development Control Plan,* the flood information provided by Northern Beaches Council, the *'Avalon To Palm Beach Floodplain Risk Management Study And Plan 2017'* (MHL, 2017) and the NSW floodplain development manual.

1.0 - Flood Information Summary

Background Information	
Council Report Issue Date	Northern Beaches (Pittwater) 11/08/2022 – Issue A
Flood Information Report date	23/05/2022
Flood Study Reference	Avalon to Palm Beach Floodplain Risk Management Study and Plan 2017 (MHL)
Flood Behaviour	Mainstream Flooding and Overland Flows
1% AEP Flood Information	
Flood Level	5.50m AHD (rear of site) 3.37m AHD (front of site)
Flood Depth	0.28m (maximum)
Velocity	0.87 m/s (maximum)
PMF Flood Information	
Flood Level	6.42m AHD (rear of site) 3.50m AHD (front of site)
Flood Depth	0.40m (maximum)
Velocity	1.38 m/s

2 - Flood Risk Report

Flood Planning Summary	
Flood Risk Precinct Hazard Level	*Medium Risk* *H2*
Flood Emergency Response Strategy (Onsite Response)	Not required (note: less then H3 Hazard)
Flood Planning Level (note: since 1% AEP depth is less then 0.3m adopt PMF as FPL)	0.4m Depth above existing surface levels
Existing Dwelling Floor Level	Ground Floor = 3.42 m AHD
Degree of Inundation	80% (1% AEP event)
Flood Storage	No Reduction *(refer section 2.1)*
Flood Levels	No anticipated increase
Recommendations For Structural Design	*Refer section 2.2*
Recommended Construction Materials	*Refer section 2.3*
Ground Floor Requirements	NA
Stormwater Management	*Refer section 2.4*
Waterproofing	*Refer Section 2.5*
Flood Warning	No signage recommended
Hazardous Materials Storage	Above FPL *(refer section 2.6)*

2.1 - Flood storage

- The drawings provided by '*Volker Klemm Landscape Design'* detail landscaping to the rear of the property including a pool. As per council requirements the pool coping level is to be provided flush with the existing surrounding surface levels.
- The tiled entertainment area at the rear of the dwelling is shown at RL 4.65m AHD and will ensure no net reduction in flood storage. (Issue A – 11-08-2022)
- The rear landscaping planter boxes to the western end of the pool is detailed lower than the surrounding natural surface levels and will not reduce flood storage.
- The proposed Garage storage addition located at the front (western) end of the main dwelling is at RL 3.51m AHD and the subfloor, including perimeter walls are open. This will ensure floodwaters can flow under the building unimpeded. (Issue A – 11-08-2022)
- If the above recommendations are incorporated into the proposed development, this will ensure no net reduction in flood storage across the site, in accordance with the requirements of the DCP.

2.2 – Structural Requirements

- Perimeter fencing must be designed to be open and to withstand flood forces up to the 1% AEP Flood event (including debris impact).
- The proposed works are to be certified by a structural engineer as adequate to withstand forces from flood waters and debris impact up to the FPL.

2.3 - Recommended Construction Materials

- The proposed development must be constructed as a flood compatible building, and wet flood proofed below the FPL.
- Below the FPL standard lining materials, such as timber and plasterboard may be used in accordance with section 3.10.3 of the NCC and the ABCB handbook 'Construction of Buildings in Flood Hazard Areas.'
- Standard Building Materials (concrete, steel, timber and/or brickwork) are to be used above and below the FPL.

2.4 - Stormwater Management

- To be incorporated as per council requirements and AS3500.3.
- Since the site is located adjacent to the existing overland flow path within 'McKay Reserve' and floodwaters enter the site via the side and rear boundary. Surface and subsoil drainage (in particular – the rear yard) should be addressed in the design to ensure that any runoff is diverted around the building to Barrenjoey Road downstream. We recommend a suitably qualified engineer is engaged to prepare a 'stormwater management plan' for the site.

2.5 - Waterproofing methods

- All electrical equipment is to be fitted with circuit breakers.
- All conduits below the FPL are to be free draining, with 1% (minimum) fall.
- Switchboard and main circuit unit to be fitted above the FPL
- Other valuable materials or possessions are to be stored above the FPL
- Owner and occupant are to acknowledge that a reasonable extent of damage to fittings below the FPL is to be expected during the flood events.

2.6 - Hazardous Material Storage

- The owner and occupant are to acknowledge that all hazardous materials are to be stored at or above the FPL.

We have provided the above report in accordance with the flood information provided by council and have assessed the site and proposed development in accordance with the flood related DCP requirements. If further clarification is required, please contact *'Approved Consulting Engineers Pty Ltd.'*

Cameron Haack
Director BE (Civil) MIE Aust NER RPEQ (24684)
Approved Consulting Engineers P/L

FLOOD INFORMATION REQUEST

FLOOD INFORMATION REPORT – COMPREHENSIVE

Property: 1054 Barrenjoey Road PALM BEACH NSW 2108
Lot DP: Lot 6C DP 13374
Issue Date: 23/05/2022
Flood Study Reference: Avalon to Palm Beach Floodplain Risk Management Study and Plan 2017, Manly Hydraulics Laboratory

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Flood Information for lot [1]:

Flood Risk Precinct – See Map A

Flood Planning Area – See Map A

Maximum Flood Planning Level (FPL) [2, 3, 4]: 6.29 m AHD

1% AEP Flood – See Flood Map B

1% AEP Maximum Water Level [2, 3]: 6.07 mAHD

1% AEP Maximum Depth from natural ground level[3]: 0.35 m

1% AEP Maximum Velocity: 0.87 m/s

1% AEP Hydraulic Categorisation: N/A **See Flood Map D**

Probable Maximum Flood (PMF) – See Flood Map C

PMF Maximum Water Level [4]: 6.42 m AHD

PMF Maximum Depth from natural ground level: 0.47 m

PMF Maximum Velocity: 1.38 m/s

PMF Hydraulic Categorisation: N/A **See Flood Map E**

Flooding with Climate Change (See Flood Map F)

The following is for the 30% Rainfall intensity increase and 0.9m Sea Level Rise Scenario:

1% AEP Maximum Water Level with Climate change [3]: 6.08 m AHD

1% AEP Maximum Depth with Climate Change[3]: 0.38 m

1% AEP Maximum Velocity with Climate Change[3]: m/s

Flood Life Hazard Category – See Map G

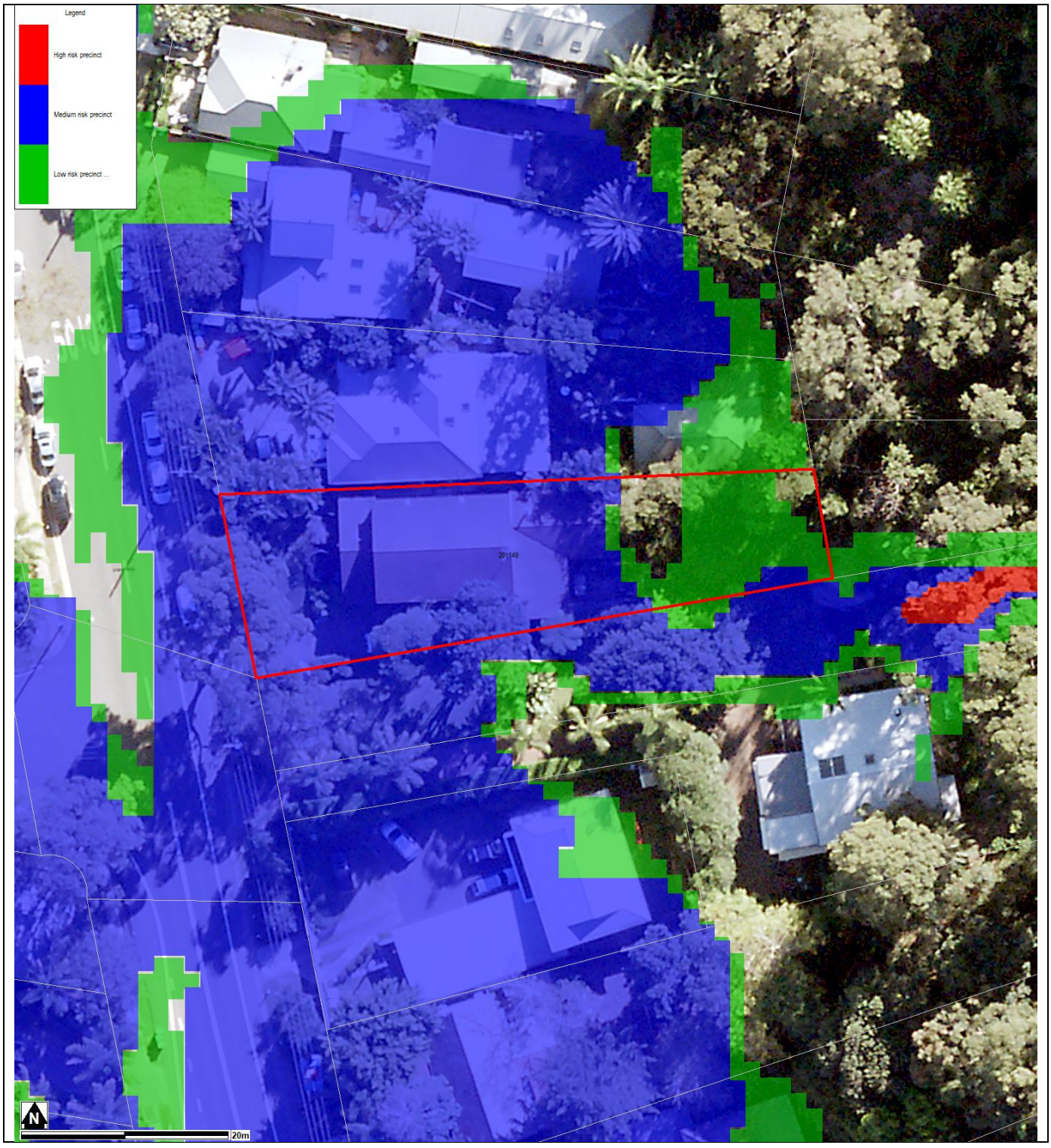
Indicative Ground Surface Spot Heights – See Map H

[1] The flood information does not take into account 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.

General Notes:

- 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 website.

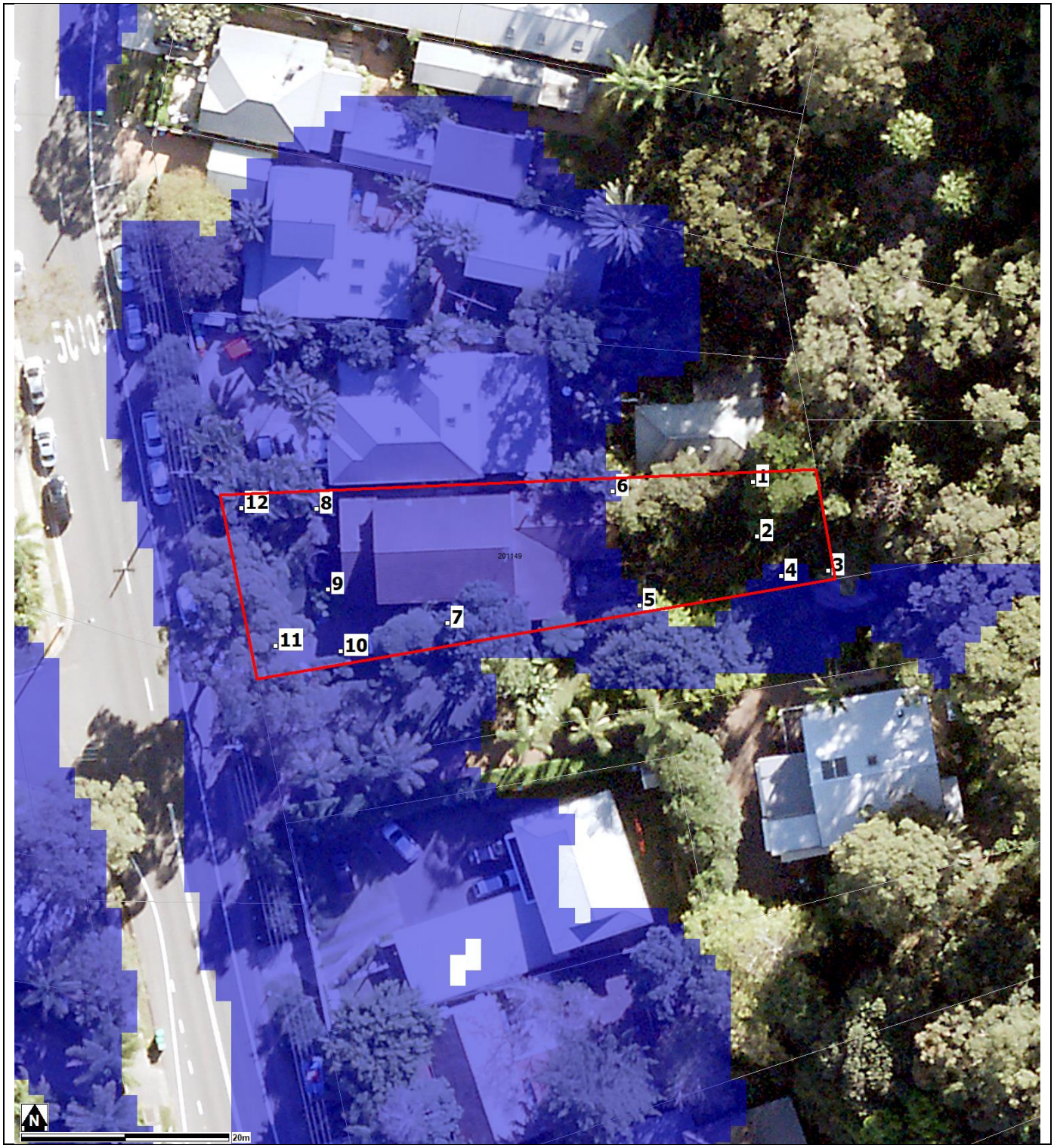
FLOOD MAP A: FLOOD RISK PRECINCT MAP



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.

FLOOD LEVEL POINTS



Note: Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: Avalon to Palm Beach Floodplain Risk Management Study and Plan 2017, Manly Hydraulics Laboratory) and aerial photography (Source: NearMap 2014) are indicative only.

Flood Levels

ID	5% AEP Max WL (m AHD)	5% AEP Max Depth (m)	1% AEP Max WL (m AHD)	1% AEP Max Depth (m)	1% AEP Max Velocity (m/s)	Flood Planning Level (m)	PMF Max WL (m AHD)	PMF Max Depth (m)	PMF Max Velocity (m/s)
1	N/A	N/A	N/A	N/A	N/A	N/A	4.61	0.18	0.44
2	N/A	N/A	N/A	N/A	N/A	N/A	5.03	0.25	0.77
3	N/A	N/A	N/A	N/A	N/A	N/A	6.42	0.20	1.19
4	N/A	N/A	5.50	0.16	0.68	6.00	5.55	0.24	1.09
5	N/A	N/A	4.16	0.13	0.60	4.66	4.23	0.21	0.91
6	N/A	N/A	3.64	0.15	0.34	4.16	3.71	0.22	0.50
7	3.33	0.17	3.36	0.19	0.24	3.87	3.48	0.32	0.40
8	3.34	0.19	3.37	0.22	0.19	3.88	3.50	0.35	0.37
9	3.31	0.19	3.34	0.22	0.22	3.87	3.47	0.34	0.42
10	3.28	0.21	3.31	0.24	0.24	3.80	3.43	0.36	0.45
11	3.27	0.25	3.29	0.28	0.31	3.79	3.42	0.40	0.52
12	3.33	0.23	3.36	0.26	0.31	3.87	3.49	0.39	0.52

WL – Water Level
PMF – Probable Maximum Flood
N/A = no peak water level/depth/velocity available in flood event

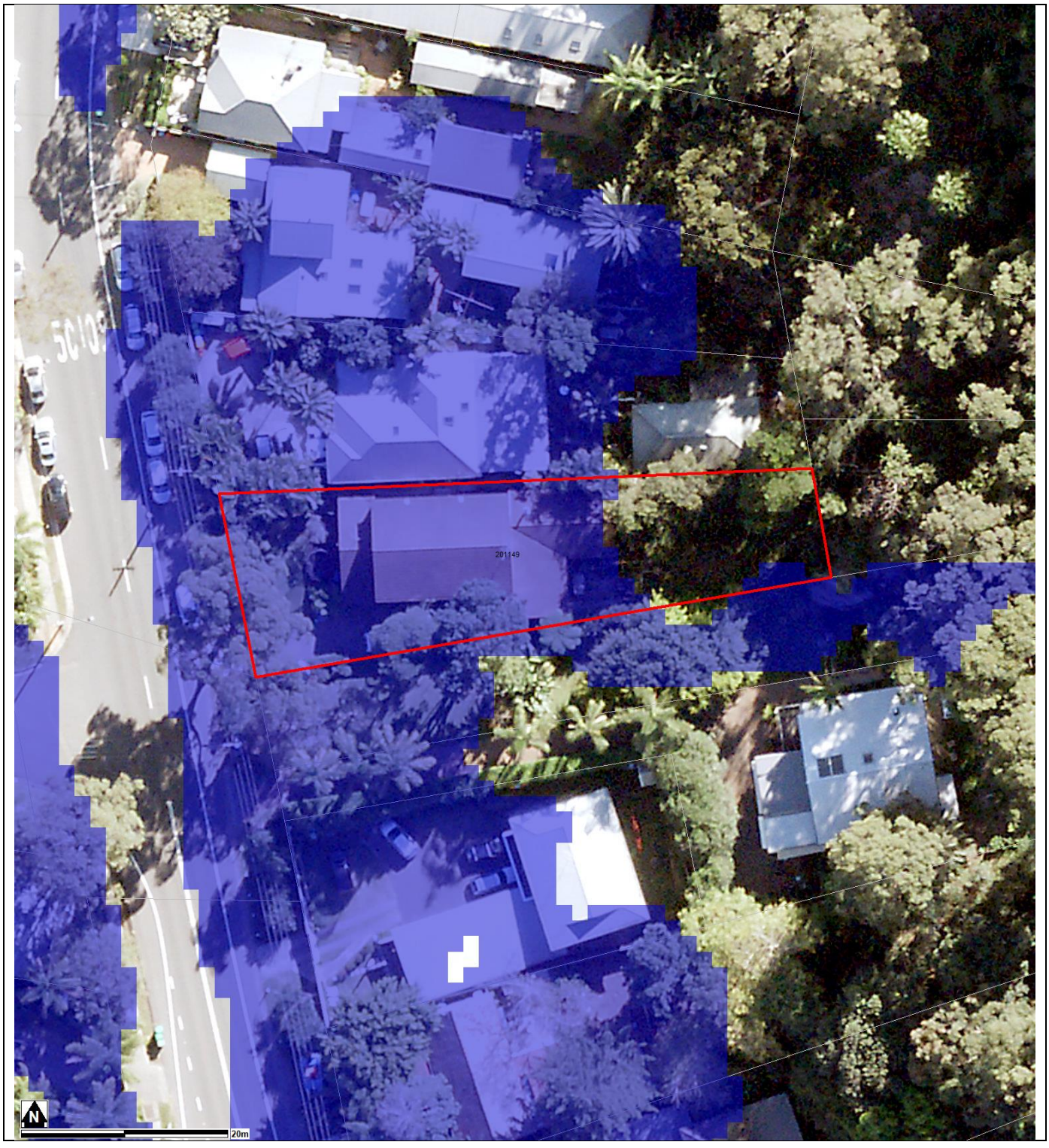
Climate Change Flood Levels (30% Rainfall intensity and 0.9m Sea Level Rise)

ID	CC 1% AEP Max WL (m AHD)	CC1 % AEP Max Depth (m)
1	N/A	N/A
2	4.97	0.19
3	N/A	N/A
4	5.49	0.18
5	4.19	0.15
6	3.66	0.16
7	3.39	0.22
8	3.40	0.25
9	3.37	0.25
10	3.34	0.27
11	3.32	0.31
12	3.39	0.29

WL – Water Level
PMF – Probable Maximum Flood
N/A = no peak water level/depth/velocity available in flood event.

A variable Flood Planning Level might apply. Freeboard is generally 0.5m above the maximum 1% AEP water level. However for overland flow with a depth less than 0.3m and a VelocityxDepth product less than 0.3m^2/s, a freeboard of 0.3m may be able to be justified.

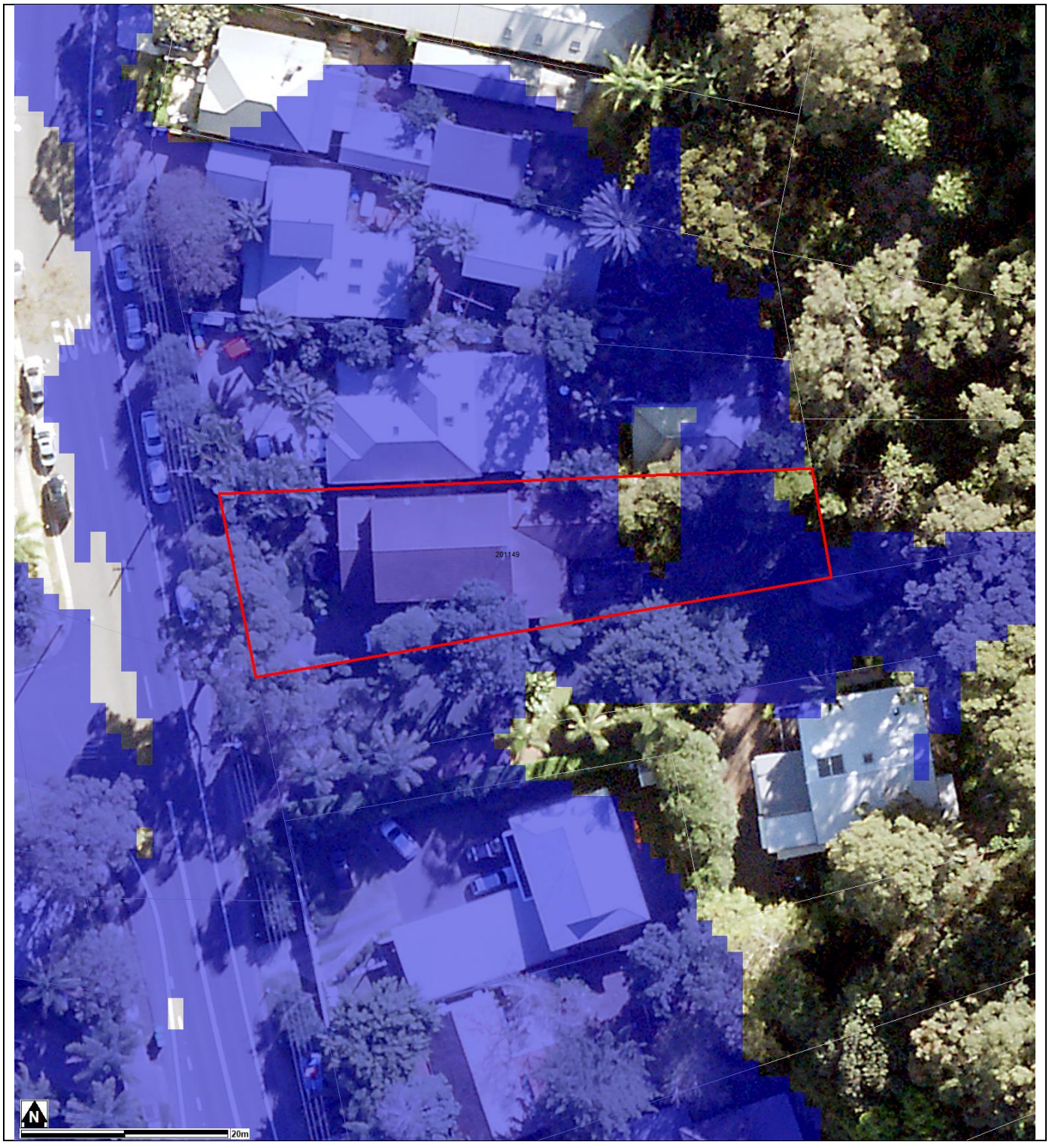
FLOOD MAP B: FLOODING - 1% AEP EXTENT



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: Avalon to Palm Beach Floodplain Risk Management Study and Plan 2017, Manly Hydraulics Laboratory) and aerial photography (Source Near Map 2014) are indicative only.

FLOOD MAP C: PMF EXTENT MAP



Notes:

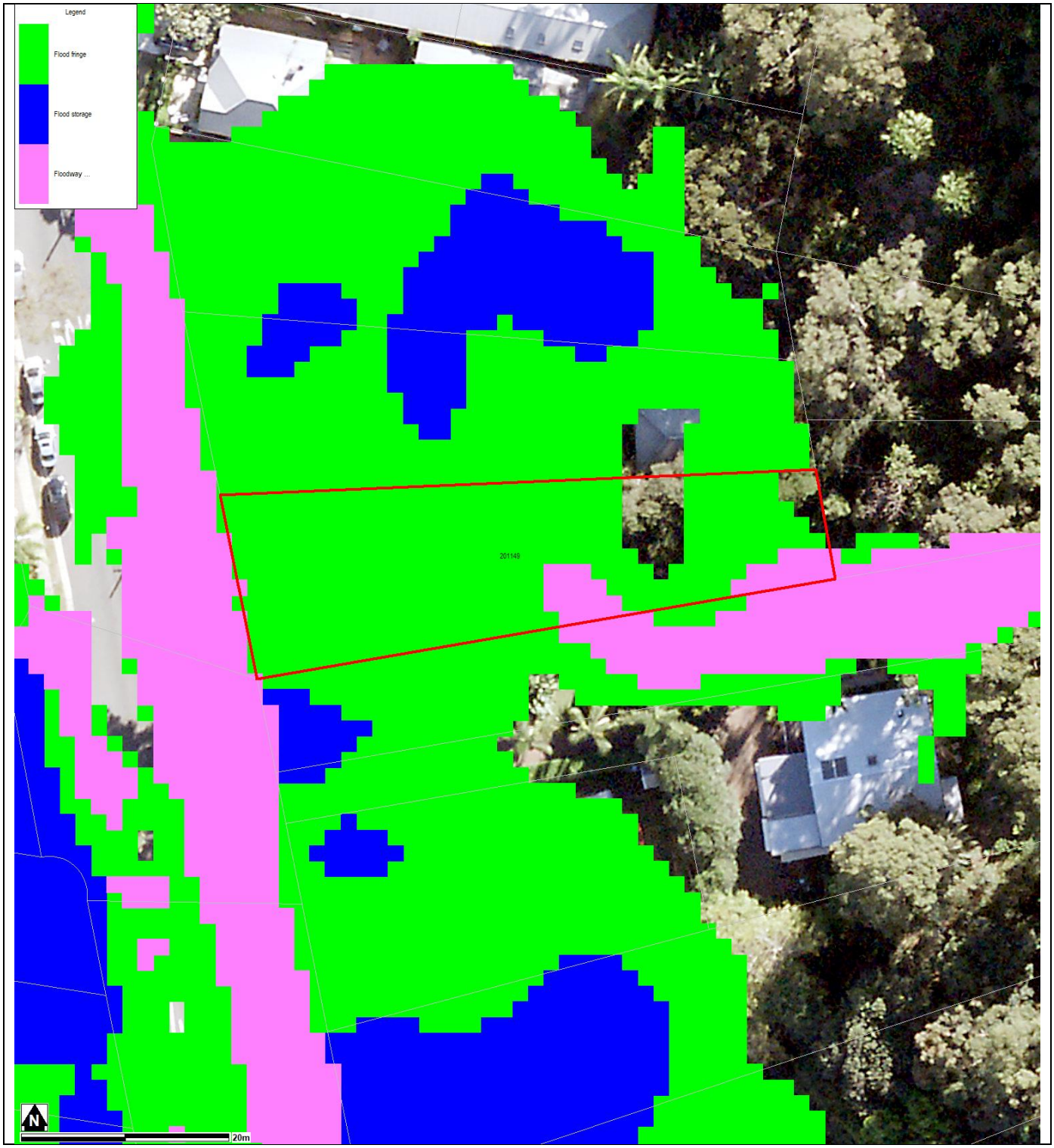
- Extent represents the Probable Maximum Flood (PMF) flood event
- Extent does not include climate change
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: Avalon to Palm Beach Floodplain Risk Management Study and Plan 2017, Manly Hydraulics Laboratory) and aerial photography (Source: NearMap 2014) are indicative only

FLOOD MAP D: 1% AEP FLOOD HYDRAULIC CATEGORY EXTENT MAP

Notes:

- Extent represents the 1% annual Exceedance Probability (AEP) flood event
- Extent does not include climate change
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: Avalon to Palm Beach Floodplain Risk Management Study and Plan 2017, Manly Hydraulics Laboratory) and aerial photography (Source: NearMap 2014) are indicative only

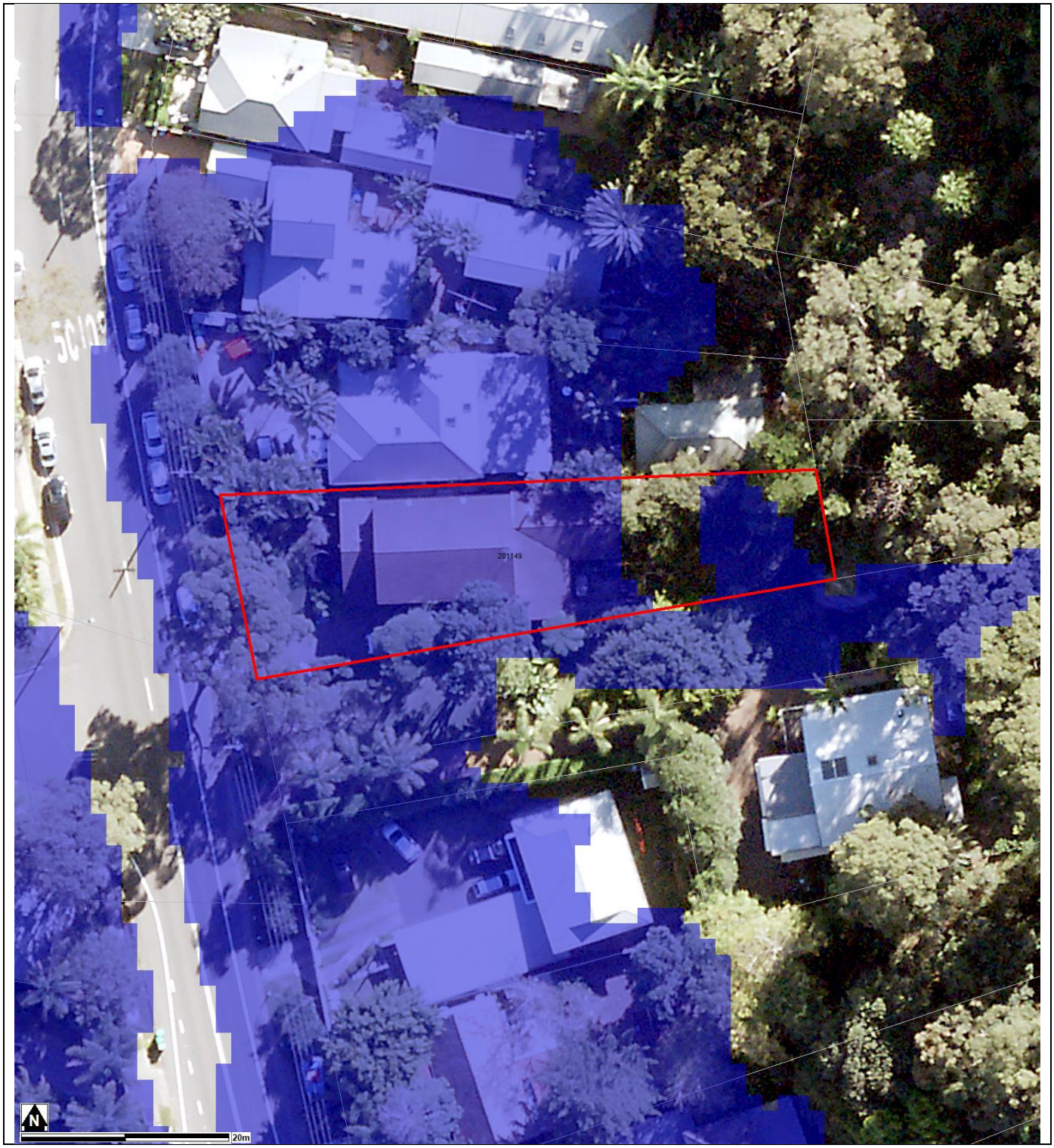
FLOOD MAP E: PMF FLOOD HYDRAULIC CATEGORY EXTENT MAP



Notes:

- Extent represents the Probable Maximum Flood (PMF) event
- Extent does not include climate change
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: Avalon to Palm Beach Floodplain Risk Management Study and Plan 2017, Manly Hydraulics Laboratory) and aerial photography (Source: NearMap 2014) are indicative only

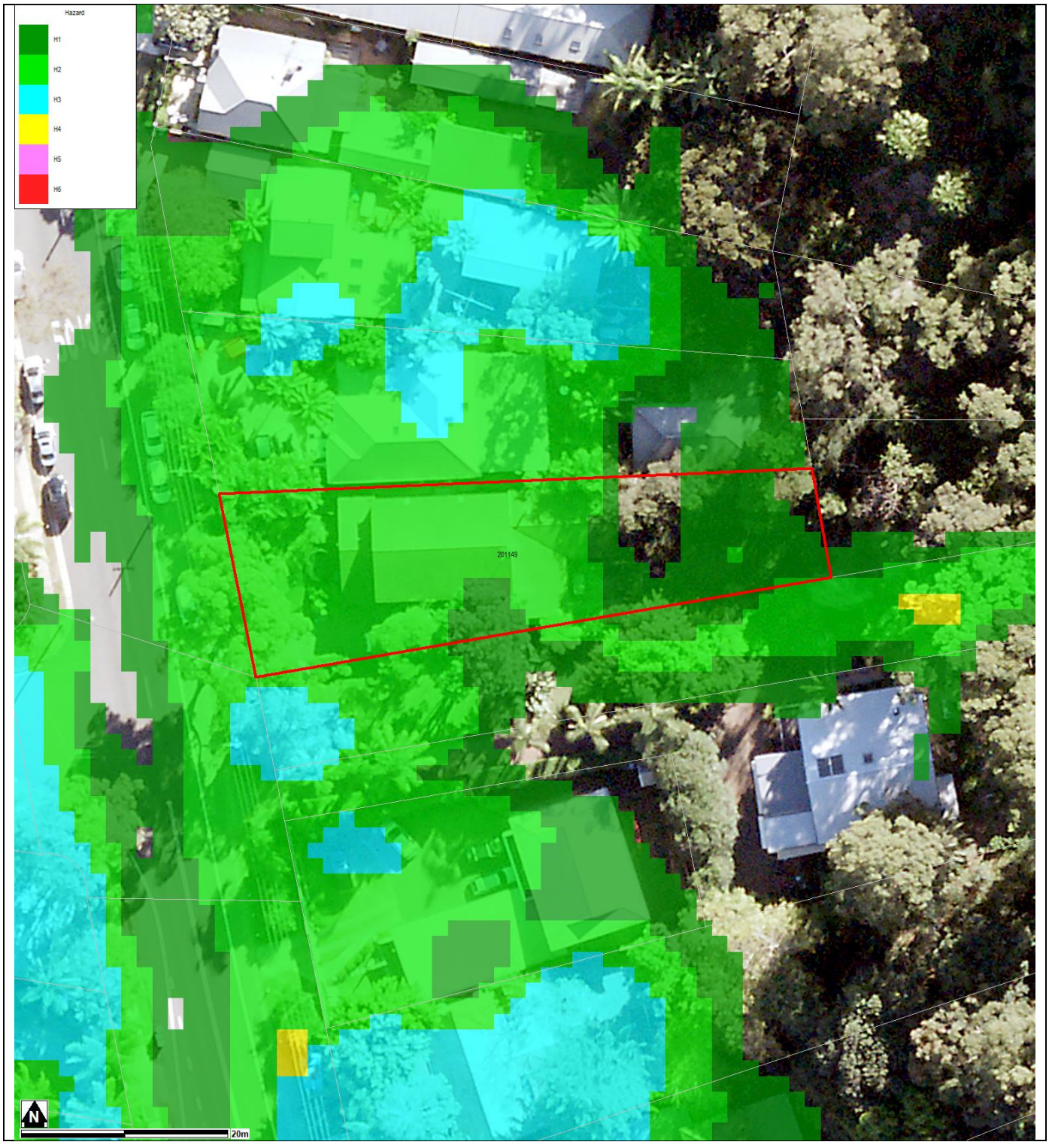
FLOOD MAP F: FLOODING – 1% AEP EXTENT PLUS CLIMATE CHANGE



Note:

- Extent represents the 1% annual Exceedance Probability (AEP) flood event including 30% rainfall intensity and 0.9m Sea Level Rise climate change scenario
- Flood events exceeding the 1% AEP can occur on this site.
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: Avalon to Palm Beach Floodplain Risk Management Study and Plan 2017, Manly Hydraulics Laboratory) and aerial photography (Source: NearMap 2014) are indicative only

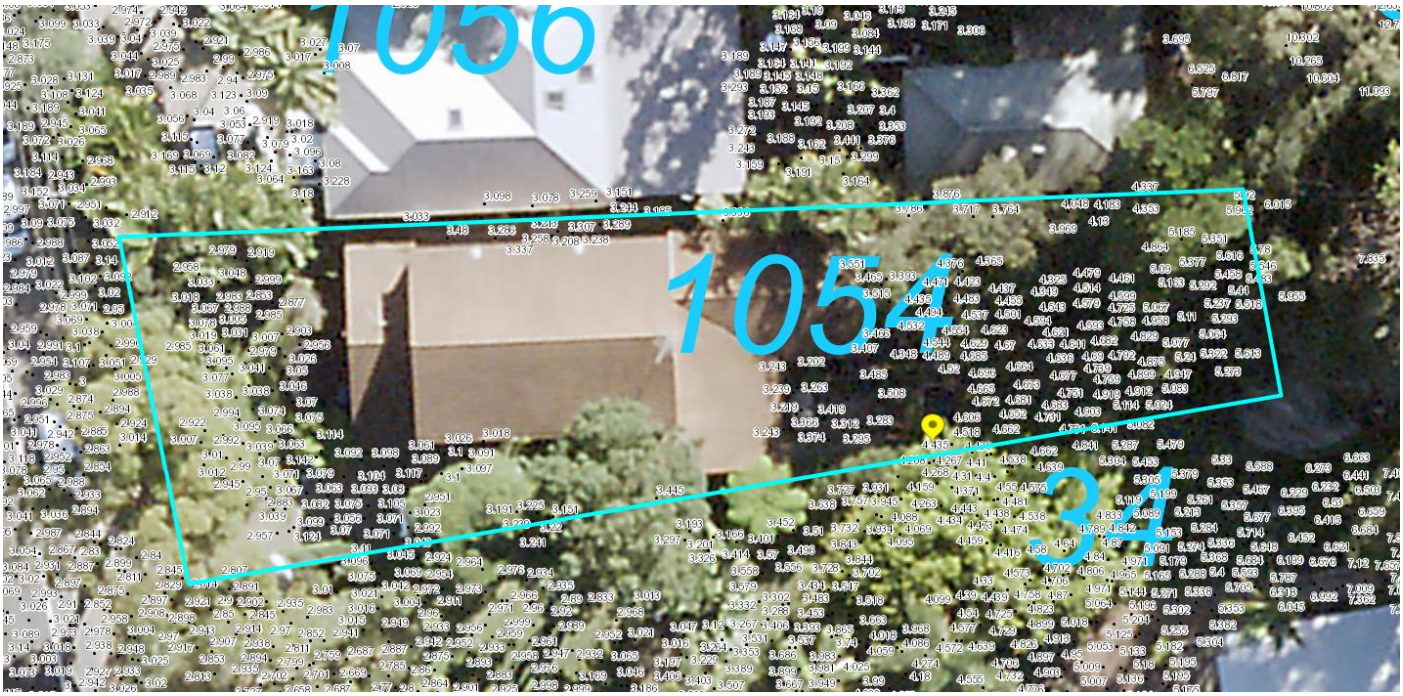
FLOOD MAP G: FLOOD LIFE HAZARD CATEGORY



Notes:

- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: Avalon to Palm Beach Floodplain Risk Management Study and Plan 2017, Manly Hydraulics Laboratory) and aerial photography (Source Near Map 2014) are indicative only.

MAP H: INDICATIVE GROUND SURFACE SPOT HEIGHTS



Notes:

- The surface spot heights shown on this map were derived from Airborne Laser Survey and are indicative only.
- Accuracy is generally within ± 0.2m vertically and ± 0.15m horizontally, and Northern Beaches Council does not warrant that the data does not contain errors.
- If accuracy is required, then survey should be undertaken by a registered surveyor.

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) – 6.3 Flood Planning	Manly DCP (2013) – 5.4.3 Flood Prone Land
Warringah LEP (2011) – 6.3 Flood Planning Warringah LEP (2000) – 47 Flood Affected Land *	Warringah DCP (2011) – E11 Flood Prone Land
Pittwater LEP (2014) – 7.3 Flood Planning Pittwater LEP (2014) – 7.4 Flood Risk Management	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. 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 floor level is above the Probable Maximum Flood level
- 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

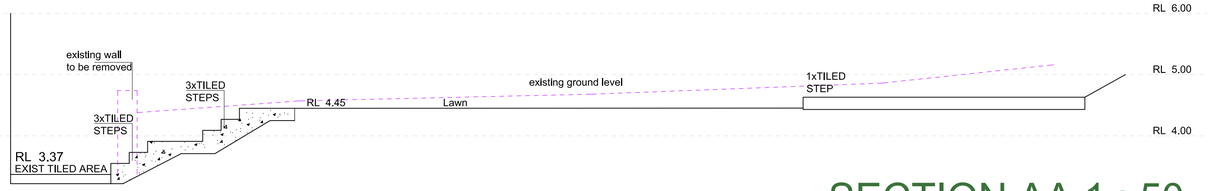
2. Flood analysis
   - 1% AEP flood level
   - Flood Planning Level (FPL)
   - Probable Maximum Flood (PMF) level
   - Flood Risk Precinct, ie High, Medium or Low
   - Flood Life Hazard Category
   - Mapping of relevant extents
   - Flood characteristics for the site, eg depth, velocity, hazard and hydraulic 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.

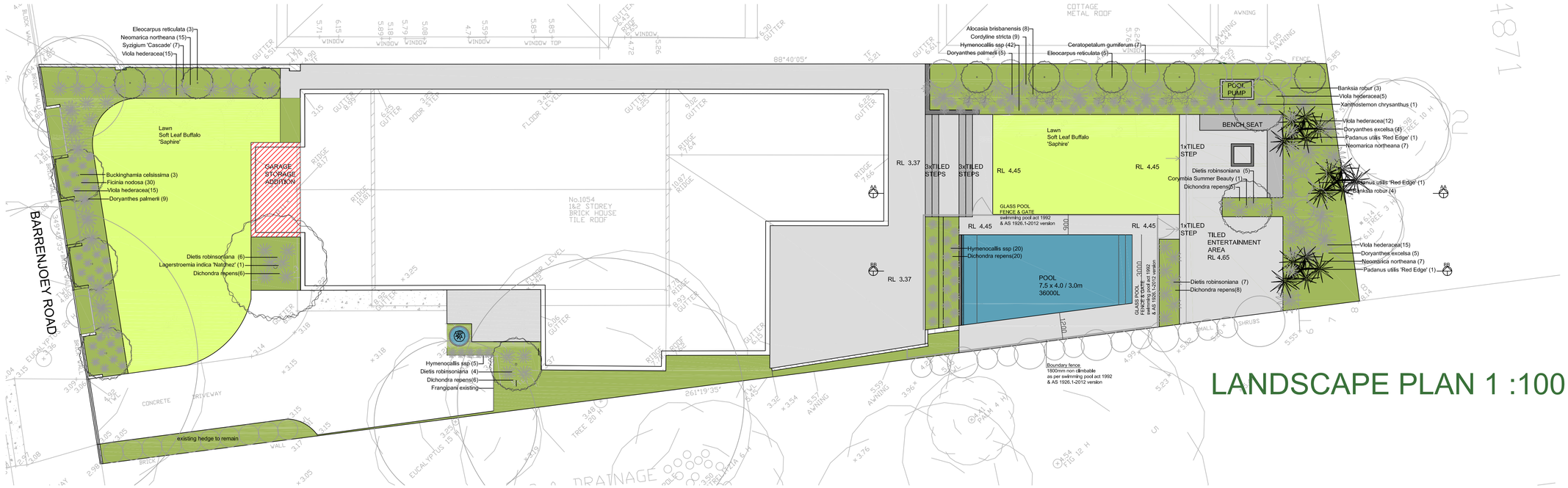
3. Assessment of impacts
- Summary of compliance for each category of the DCP, as per the table below.

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

ARCHITECTURAL PLANS



SECTION AA 1 : 50

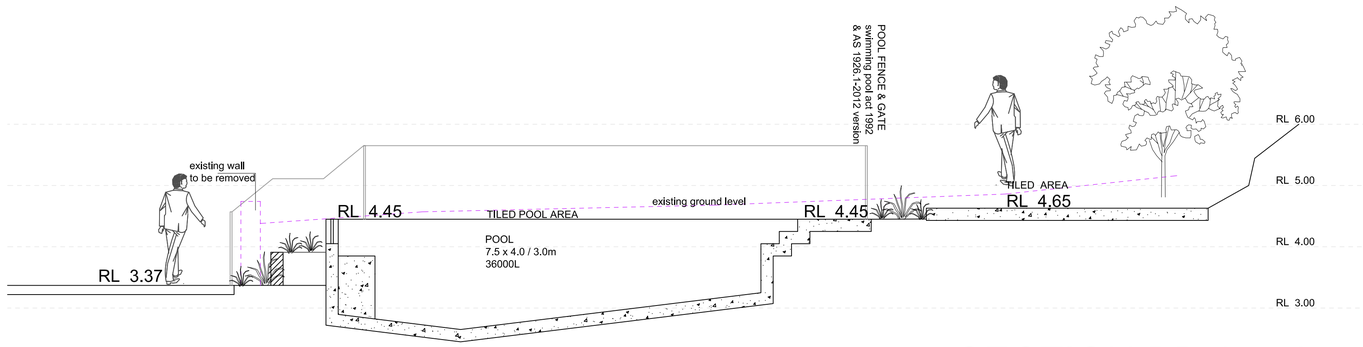


LANDSCAPE PLAN 1 :100

PLANT LIST

botanical name	common name	quantity	pot size
TREES			
Buckinghamia celsissima	ivory curl flower	3	25l
Corymbia Summer Baeuty	dwarf flowering eucalypt	1	25l
Elaeocarpus reticulatus	blueberry ash	8	25l
Lagerstroemia indica'Natchez'	crape myrtle white	1	45l
Xanthostemon chrysanthus	golden penda	1	25l
Pandanus uttilis	screw pine	3	25l
SHRUBS			
Banksia robur	swamp banksia	7	200mm
Ceratopetalum gummiferum	nsw Christmas bush	7	25l
Syzygium 'Cascade'	minature weeping lillypilly	7	25l
GRASSES			
Ficinia nodosa	knobby club-rush	30	150mm
PERENNIALS			
Alocasia brisbanensis	elephant's ear	8	200mm
Cordyline petiolaris	broadleaf palm lily	9	200mm
Dietes robinsoniana	wedding iris	22	200mm
Doryanthes excelsa	gymea lilly	9	25l
Doryanthes palmeri	giant spear lily	14	25l
Hymenocallis	sacred lily of the Incas	67	150mm
Neomarica northeana	walking iris	29	200mm
GROUNDCOVERS			
Dichondra repens	native kidney weed	47	150mm
Viola hederacea	australian native violet	62	150mm

NOTE:
80% OF ALL SUGGESTED PLANT SPECIES ARE NATIVE OR LOCAL SPECIES



SECTION BB 1 : 50

LANDSCAPE CALCULATIONS

SITE AREA	809.0 m2	
HARD STAND (incl. Pool 35m2)	283 0 m2	
HOUSE FOOTPRINT	252.0 m2	
TOTAL AVAILABLE SOFT LANDSCAPE AREA	274.0 m2	34%

POOL SAFETY :
All Pool Fencing and included boundary fence will be built
to SHOW COMPLIANCE with relevant legislative requirements and relevant Australian
Standards (including but not limited) to: (i) Swimming Pools Act 1992; (ii) Swimming Pools Amendment Act 2009;(iii) Swimming Pools Regulation 2008; (iv) Australian Standard AS1926 Swimming Pool Safety; (v) Australian Standard AS1926.1 Part 1: Safety barriers for swimming pools (vi) Australian Standard AS1926.2 Part 2: Location of safety barriers for swimming pools

WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES SHOWN ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL SERVICES ARE SHOWN. THE CONTRACTOR MUST VERIFY ALL SERVICES ON SITE PRIOR TO ANY EXCAVATION WORKS.

Notes:
This Drawing is for design guidance only. Final details must meet site conditions, relevant authorities and applicable building standards. Verify all dimensions on site and with detailed site survey prior to off site fabrication

VOLKER KLEMM LANDSCAPE DESIGN

PO BOX 760 AVALON NSW 2107 TEL/FAX 02 9973 3797 MOBILE 0403 193 337

project

1054 Barrenjoey Rd.
PALM BEACH

drawn	Scale	date
VK	1 : 100 @ A1	07/22

Scale

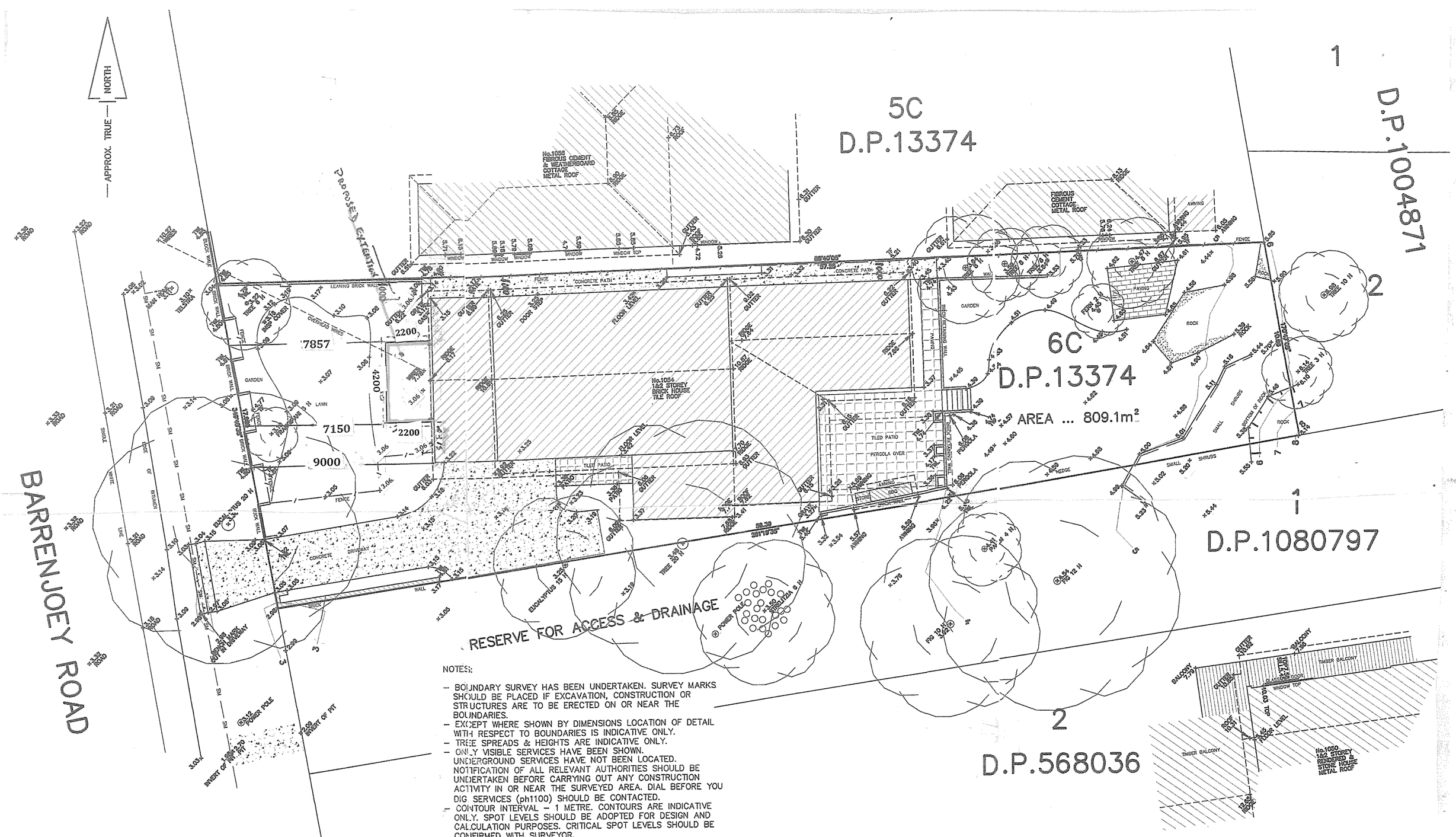
DA LANDSCAPE PLAN

Drawing No

DA 01

Revision

C



NOTES:

- BOUNDARY SURVEY HAS BEEN UNDERTAKEN. SURVEY MARKS SHOULD BE PLACED IF EXCAVATION, CONSTRUCTION OR STRUCTURES ARE TO BE ERECTED ON OR NEAR THE BOUNDARIES.
- EXCEPT WHERE SHOWN BY DIMENSIONS LOCATION OF DETAIL WITH RESPECT TO BOUNDARIES IS INDICATIVE ONLY.
- TREE SPREADS & HEIGHTS ARE INDICATIVE ONLY.
- ONLY VISIBLE SERVICES HAVE BEEN SHOWN. UNDERGROUND SERVICES HAVE NOT BEEN LOCATED. NOTIFICATION OF ALL RELEVANT AUTHORITIES SHOULD BE UNDERTAKEN BEFORE CARRYING OUT ANY CONSTRUCTION ACTIVITY IN OR NEAR THE SURVEYED AREA. DIAL BEFORE YOU DIG SERVICES (ph1100) SHOULD BE CONTACTED.
- CONTOUR INTERVAL – 1 METRE. CONTOURS ARE INDICATIVE ONLY. SPOT LEVELS SHOULD BE ADOPTED FOR DESIGN AND CALCULATION PURPOSES. CRITICAL SPOT LEVELS SHOULD BE CONFIRMED WITH SURVEYOR.
- DO NOT SCALE FROM THIS PLAN. DIMENSIONS SHOULD BE USED.
- NO PART OF THIS SURVEY MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM OR TRANSMITTED IN ANY FORM, WITHOUT THE WRITTEN PERMISSION OF THE COPYRIGHT OWNER EXCEPT AS PERMITTED BY THE COPYRIGHT ACT 1968.
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- THIS NOTICE MUST NOT BE ERASED.
- ORIGIN OF LEVELS: S.S.M.12815 R.L 3.40 A.H.D. (SCIMS Accuracy E)
- COPYRIGHT © ADAM CLERKE SURVEYORS PTY LTD 2022
- THIS PLAN HAS BEEN PREPARED FOR THE EXCLUSIVE USE OF JACQUELINE & PAUL GILL
- PLAN PREPARED BY REGISTERED SURVEYOR FOR DEVELOPMENT APPLICATION PURPOSES ONLY.

A Clerke
Adam Clerke
Registered surveyor No: 8490

LEGEND:

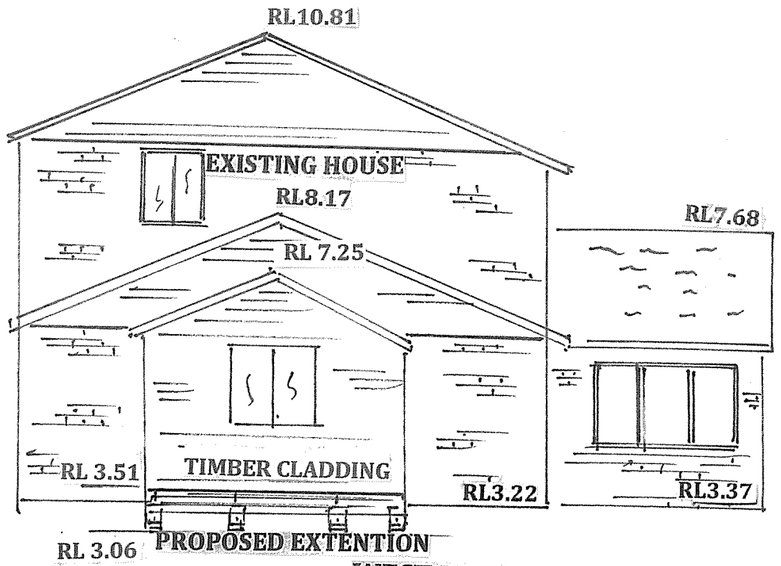
- TWL .. TOP OF WALL
- TF .. TOP OF FENCE
- —— SM —— INDICATIVE POSITION OF SEWER MAIN (NOT VISIBLE). POSITION TO BE CONFIRMED BY SYDNEY WATER.
- WINDOW, RIDGE & GUTTER HEIGHTS HAVE BEEN OBTAINED BY INDIRECT METHOD AND ARE ACCURATE TO ± 0.05m.
- ——/—— FENCE
- SUBJECT LAND AFFECTED BY COVENANT (C390469)
- TRUNK Ø SPREAD – INDICATIVE TREE SPREAD AND TRUNK DIAMETERS

ADAM CLERKE SURVEYORS PTY LTD
Incorporating PAUL KEEN & COMPANY
LAND & ENGINEERING SURVEYORS
P.O. BOX 175 NEWPORT NSW 2106
TEL..9918 4111 E..adam@adamclerkesurvey.com.au

DETAILS AND LEVELS OVER
LOT 6C IN D.P.13374

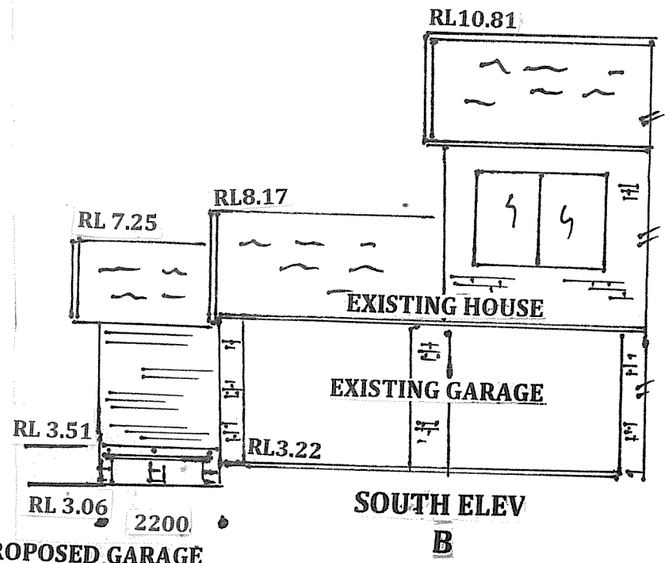
1054 BARRENJOEY ROAD, PALM BEACH

DATE... 9/02/22 REF... 1022
SCALE...1:100(A1) DATUM...A.H.D



WEST ELEV

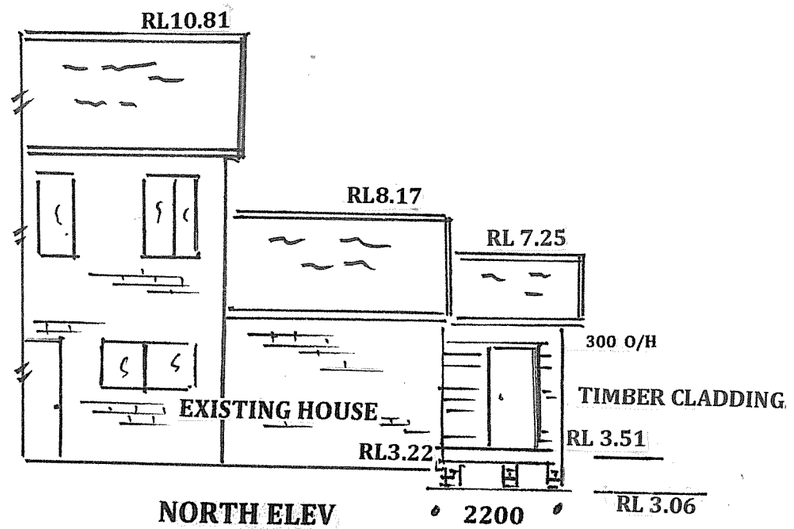
A



PROPOSED GARAGE
STORAGE ADDITION

SOUTH ELEV

B



NORTH ELEV

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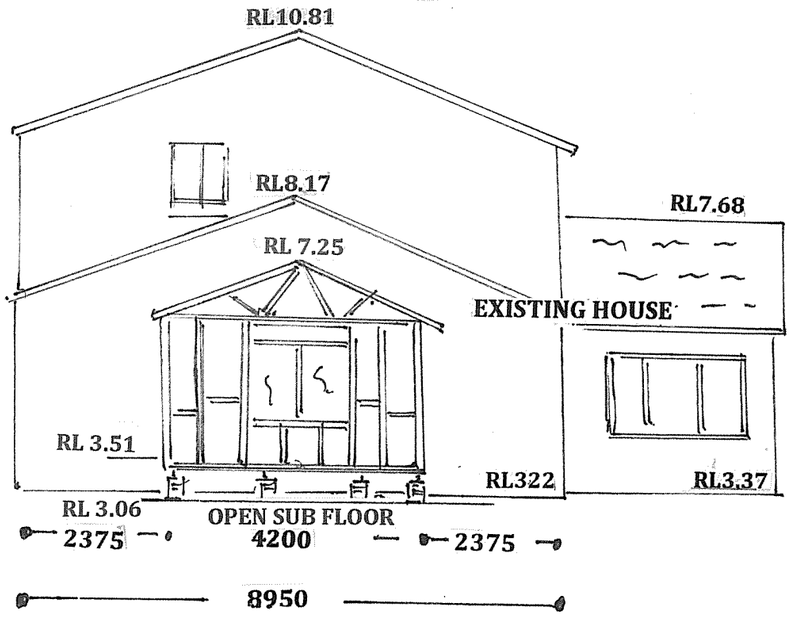
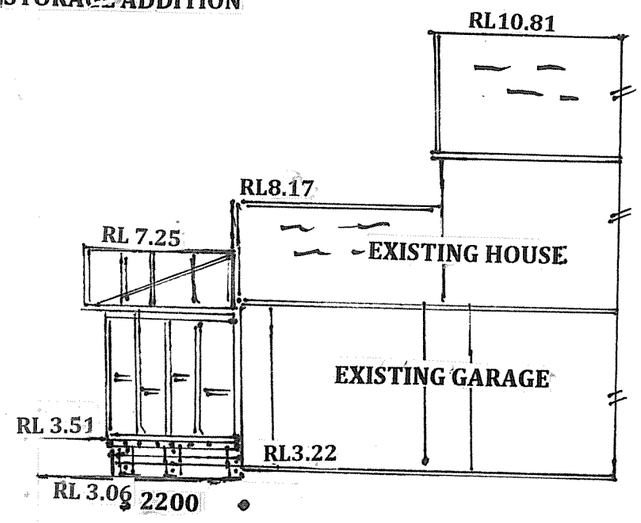


PROPOSED GARAGE
STORAGE ADDITION

WEST ELEV

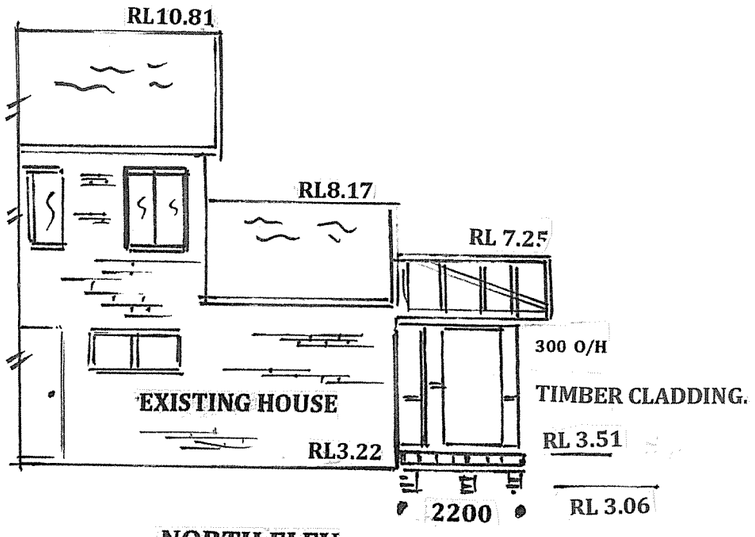
A



PROPOSED GARAGE
STORAGE ADDITION
TIMBER FRAME
CLADDED
TRUSS ROOF /CEMENT TILE

SOUTH ELEV

B



NORTH ELEV

C

SCALE 1 : 100	PROPOSED EXTENTION
PROPOSED GARAGE STORAGE ADDITION TIMBER FRAME / TRUSS ROOF /CEMENT TILE TIMBER CLADDING	P.GILL & J GILL 1054 BARRENJOEY RD PALM BEACH 2108 NSW P. (02) 99744981 Paul M. 0429097333 E.gillaquatic@gmail.com Jacqui M. 0417322761

C

2200

1000

RL3.22

2375

7.857

PROPOSED GARAGE STORAGE ADDITION

RL3.06

A

4200

7.150

RL 3.51

2375

RL3.22

2200

BARRENJOEY ROAD.

EXISTING BRICK WALL

EXISTING GARAGE

EXISTING HOUSE

PROPOSED POOL

N

W

E

S

B

BEARERS @ 1400 CENTRES
JOISTS @ 450 CENTRES
RED ALERT LVL 100 X 75
RED ALERT LVL 100 X 45
19MM MARINE PLY FLOOR.
RL 3.51
19MM.
100
100
231
BRICK PIERS
RL3.06
300
GROUND.
300
PAD FOOTINGS. PR1
450
450.

OPEN SUB FLOOR PLAN AND DETAILS

SCALE 1 : 100 SCALE 1 : 20

PROPOSED GARAGE STORAGE ADDITION

TIMBER FRAME / TRUSS ROOF /CEMENT TILE

PROPOSED EXTENTION

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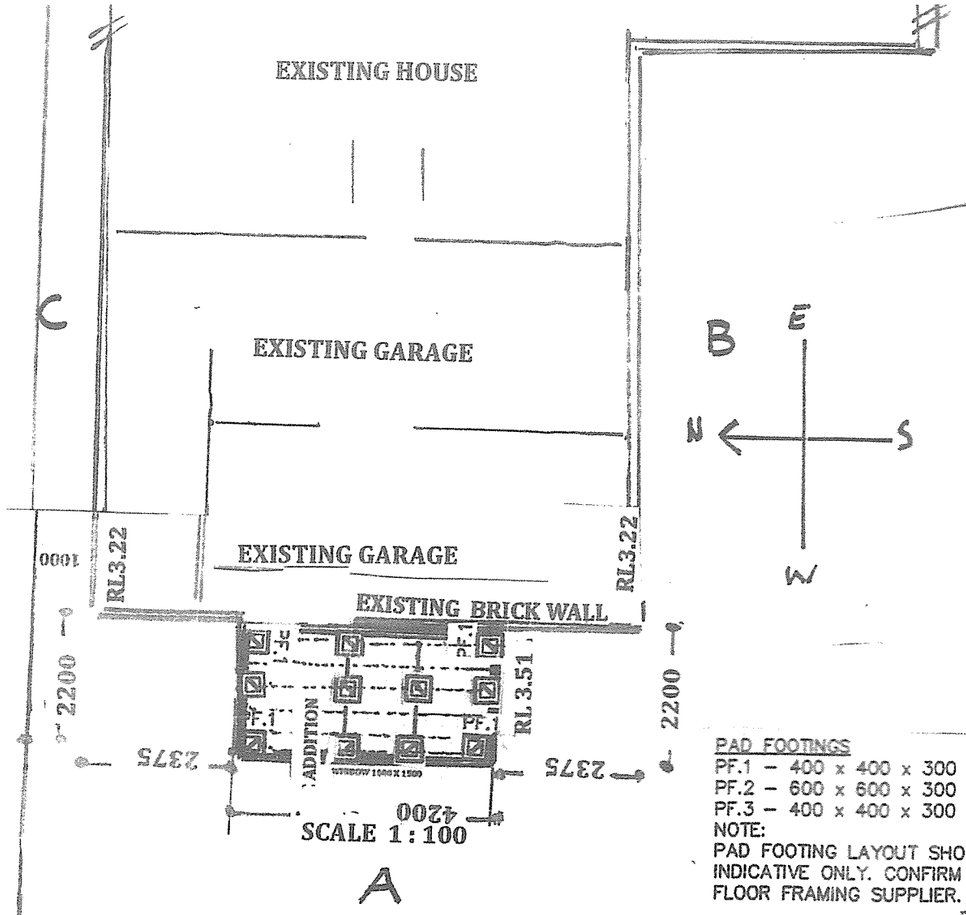


SCALE 1 : 100

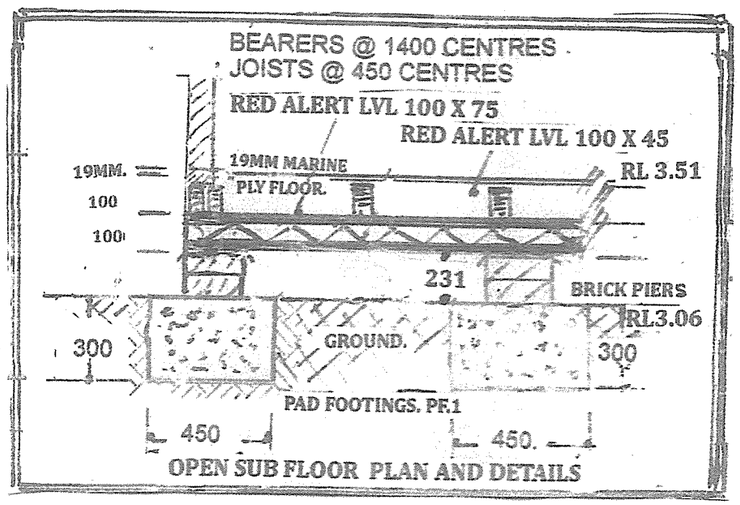
PAD FOOTINGS
PF.1 – 400 x 400 x 300 DEEP
PF.2 – 600 x 600 x 300 DEEP
PF.3 – 400 x 400 x 300 DEEP
NOTE:
PAD FOOTING LAYOUT SHOWN IS INDICATIVE ONLY. CONFIRM WITH FLOOR FRAMING SUPPLIER.

FOOTING PLAN (1:100)

DOMESTIC CONSTRUCTION
The site classification is Class 'A' (Stable) in accordance with AS 2870 'Residential Slabs and Footings Code'. Care shall be taken to ensure that excavations for services or other excavations adjacent to the structure will not undermine the footings.

FOUNDATIONS
Footings have been designed for an allowable bearing of 100 kPa on sand.
Footings shall be located centrally under walls or columns unless noted otherwise.
The foundation material shall be approved by the Inspecting Authority prior to construction proceeding.
Any loose or soft material found in excavations shall be referred to the Engineer for advice before proceeding.

DESIGN GUST WIND SPEED
The design wind loading category for this site is assessed as N1, in accordance with AS 4055.



SCALE 1 : 20

STRIP FOOTING NOTES.
All strip footings are to be founded on consistent natural sand material throughout. Step strip footings in brick courses to suit falls in natural ground and to maintain consistent foundation. Reinforcement to be carried across full width of adjoining footings at all corners and intersections

UNDER-SLAB FILL
Under-slab fill shall be clean sharp sand or similar material spread and compacted in layers of not more than 150mm thickness. Each layer is to be well compacted using a vibrating plate compactor.

TIMBER FRAMING NOTE
All timber framing and connections shall be in accordance with AS 1684 (2006) Residential Timber Framing Code
All exposed timbers to have a durability class of 2 or better or preservative treated to H3. level.

ARTICULATED BRICKWORK
The site is classified as Class A. In accordance with the Cement and Concrete Association publication TN-61 'Articulated Walling', articulation joints in walls up to 2.7m high are required only to minimize the effects of brick growth.
Articulation joints should be provided in all straight runs of brickwork 5.0m or more in length and at junction of new and existing

TERMITE PROTECTION
This drawing does not specify the methods of termite control for this project. Halcrow & Associates are not responsible for the method chosen. It is the builders responsibility to ensure that the termite control's used are in accordance with AS3660.1 "Protection of Buildings from Subterranean Termites" and it is the owners responsibility to conduct regular inspections of the termite control

NOTES –

GENERAL
These drawings are to be read in conjunction with Architectural and other consultants drawings and S

DO NOT SCALE. All dimensions shall be obtained fr Architects drawings unless specifically shown hereon

All workmanship and materials shall be in accordan requirements of the current editions, including amer the Building Code of Australia, relevant S.A.A. Stan Codes of Practice and the By-Laws of the Local G Authority except as varied by the Contract Docume

Design Live Loads are as follows: –
Roof = 0.25 kPa
Floors = 3.0 kPa

Loads have been assessed in accordance with AS/N

The site of the works shall be stripped of all grass, vegetable matter and compressible topsoil.

The ground or finished surface level surrounding the have its surface at least 150mm lower than the sl or as shown on the various drawings and be graded the slab edge to the site drainage system.

FOUNDATIONS
Footings have been designed for an allowable bearin of 100 kPa on SAND
Foundation material shall be approved prior to const proceeding.

DOMESTIC CONSTRUCTION
Site classification is Class 'S' to AS 2870.
Footing system designation is 'ST' & 'SOG'.

The owners attention is drawn to the C.S.I.R.O. publi "A Guide to Home Owners on Foundation Maintenanc Footing Performance".

CONCRETE
Concrete shall have the following properties in accor AS3600: –

	FOOTINGS & PIERS	SLABS
Characteristic Strength F'c	20	25
Slump	80	80
Max. Aggregate Size	20	20

Cement Type A

Minimum lap to fabric shall be largest cross wire sp 25mm.

Lengths of reinforcing shall not be scarfed more the Lengths shall be fabricated using specified dimension concrete covers. Splices in reinforcing bars shall be only in the positions shown.

The sizes of bar chairs shall be selected to suit the cover to reinforcing. Place sufficient supports under reinforcement to maintain correct position during cor The maximum spacing of supports shall be 900mm i direction beneath fabric.

All concrete sizes shown are minimum and do not ir thickness of applied finishes. Do not make unspecifi construction joints without the approval of the Engin not place conduits, pipes, etc., within the concrete c

A vapour barrier of 0.2mm polythene shall be placed all floor slabs. The plastic shall be lapped a minimu 200mm and taped at all joints and around all plumb fittings.

COVER TO REINFORCEMENT	
Footings	
Slabs	

PROPOSED GARAGE STORAGE ADDITION

TIMBER FRAME / TRUSS ROOF /CEMENT TILE

TIMBER CLADDING

PROPOSED EXTENTION

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